

**DIRECTORATE OF EDUCATION**  
**Govt. of NCT. Delhi**

**SUPPORT MATERIAL**  
**(2023-2024)**

**Class : XI**

**HOME SCIENCE**

Under the Guidance of

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Secretary (Education)

**Mr. Himanshu Gupta**  
Director (Education)

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अशोक कुमार, भा.प्र.से  
सचिव ( शिक्षा )

ASHOK KUMAR, IAS  
Secretary (Education)



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Dated : 24.11.2023 / 2018/1095

### Message

"Children are like wet cement, whatever falls on them makes an impression."

Haim Ginott

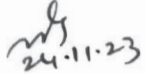
Embracing the essence of this quote, the Directorate of Education, GNCT of Delhi is unwavering in its commitment to its core mission of delivering high-quality education to all its students. With this objective in mind, DoE annually develops support materials meticulously tailored to suit the learning needs of students from classes IX to XII.

Every year, our expert faculty members shoulder the responsibility of consistently reviewing and updating the Support Material to synchronize it with the latest changes introduced by CBSE. This continuous effort is aimed at empowering students with innovative approaches and techniques, fostering their problem-solving skills and critical thinking abilities. I am confident that this year will be no exception, and the Support Material will greatly contribute to our students' academic success.

The support material is the result of unwavering dedication of our team of subject experts. The Support Material has been specially curated for our students, with the belief that its thoughtful and intelligent utilization will undoubtedly elevate the standards of learning and will continue to empower our students to excel in their examinations.

I wish to congratulate the entire team for their invaluable contribution in creating a highly beneficial and practical Support Material for our students.

I extend my best wishes to all our students for a promising and bright future.

  
24.11.23  
(Ashok Kumar)

**HIMANSHU GUPTA, IAS**  
Director, Education & Sports

No. PS/DE/2023/349  
Date: 29/11/2023



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### MESSAGE

It brings me immense pleasure to present the support material for students of classes IX to XII, meticulously crafted by our dedicated subject experts. Directorate of Education is committed to empower educators and students alike by providing these resources free of cost for students of all government and government aided schools of Delhi.

The support material is an appreciable effort to align the content with the latest CBSE patterns. It has been carefully designed as a resource to facilitate the understanding, acquisition and practice of essential skills and competencies outlined in the curriculum.

The core of this support material lies in providing a framework for adopting an analysis-based approach to learning and problem-solving. It aims to prompt educators to reflect on their teaching methodologies and create an interactive pathway between the child and the text.

In the profound words of Dr A.P.J. Abdul Kalam, **“Educationists should build the capacities of the spirit of inquiry, creativity, entrepreneurial and moral leadership among students and become their role model.”**

The journey of education is ongoing; it's the process, not just the outcome, which shapes us. This support material endeavours to be that catalyst of change for each student of Directorate of Education.

Let us embark on this transformative journey together, ensuring that every student feels equipped not only with the knowledge but also, with the skills and mindset to thrive in the 21st century.

I wish you all the best for all your future endeavours.

  
(HIMANSHU GUPTA)



**Dr. RITA SHARMA**  
Additional Director of Education  
(School/Exam)



सत्यमेव जयते

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D.O. No. DE.:5/22.8/Exam/Mexay/SH/  
2013/1096  
Dated: ....24.11.2023.....

### **MESSAGE**

The persistent efforts of the Directorate in making the course material more accessible and student-friendly are evident in the conscientious preparation of the Support Material. Our team consistently adapts to the evolving educational landscape, ensuring that the Support Material for the various subjects of classes 9 to 12 align with the latest CBSE guidelines and syllabi prescribed for the annual examinations.

The Support Material encapsulates crucial subject-specific points and facts, tailored to suit the students, all presented in a lucid language. It is our firm belief that these resources will significantly augment the academic prowess of our students, empowering them to excel in their upcoming examinations.

I extend my heartfelt congratulations to the diligent officials and teachers whose dedication and expertise have played a pivotal role in crafting this invaluable content/resource.

I convey my best wishes to all our students for a future brimming with success. Remember, every page you read is a step towards an enlightened tomorrow.

*Rita Sharma*

**(Dr Rita Sharma)**



**DIRECTORATE OF EDUCATION  
GOVT. of NCT, DELHI**

**SUPPORT MATERIAL  
(2023-2024)**

**HOME SCIENCE  
CLASS : XI**

**For Free Distribution**

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## भारत का संविधान उद्देशिका

हम, भारत के लोग, भारत को एक <sup>1</sup>[संपूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य] बनाने के लिए, तथा उसके समस्त नागरिकों को :

सामाजिक, आर्थिक और राजनैतिक न्याय,  
विचार, अभिव्यक्ति, विश्वास, धर्म  
और उपासना की स्वतंत्रता,  
प्रतिष्ठा और अवसर की समता

प्राप्त कराने के लिए,  
तथा उन सब में

व्यक्ति की गरिमा और <sup>2</sup>[राष्ट्र की एकता  
और अखंडता] सुनिश्चित करने वाली बंधुता  
बढ़ाने के लिए

दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख  
26 नवंबर, 1949 ई. को एतद्वारा इस संविधान को  
अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977 से) "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977 से) "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

# THE CONSTITUTION OF INDIA

## PREAMBLE

**WE, THE PEOPLE OF INDIA**, having solemnly resolved to constitute India into a <sup>1</sup>**[SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC]** and to secure to all its citizens :

**JUSTICE**, social, economic and political;

**LIBERTY** of thought, expression, belief, faith and worship;

**EQUALITY** of status and of opportunity; and to promote among them all

**FRATERNITY** assuring the dignity of the individual and the <sup>2</sup>[unity and integrity of the Nation];

**IN OUR CONSTITUENT ASSEMBLY** this twenty-sixth day of November, 1949 do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

1. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)
2. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Unity of the Nation" (w.e.f. 3.1.1977)



# भारत का संविधान

## भाग 4क

# नागरिकों के मूल कर्तव्य

### अनुच्छेद 51 क

**मूल कर्तव्य** - भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह -

- (क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;
- (ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;
- (ग) भारत की संप्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण बनाए रखे;
- (घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;
- (ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभावों से परे हो, ऐसी प्रथाओं का त्याग करे जो महिलाओं के सम्मान के विरुद्ध हों;
- (च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परिरक्षण करे;
- (छ) प्राकृतिक पर्यावरण की, जिसके अंतर्गत वन, झील, नदी और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति दयाभाव रखे;
- (ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;
- (झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;
- (ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत् प्रयास करे, जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई ऊँचाइयों को छू सके; और
- (ट) यदि माता-पिता या संरक्षक हैं, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य को शिक्षा के अवसर प्रदान करे।



# Constitution of India

## Part IV A (Article 51 A)

### Fundamental Duties


It shall be the duty of every citizen of India —

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wildlife and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;
- \* (k) who is a parent or guardian, to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.

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**Note:** The Article 51A containing Fundamental Duties was inserted by the Constitution (42nd Amendment) Act, 1976 (with effect from 3 January 1977).

\* (k) was inserted by the Constitution (86th Amendment) Act, 2002 (with effect from 1 April 2010).



# **Home Science**

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# **HOME SCIENCE (Code No. 064)**

## **(CLASS – XI)**

### **(2023-2024)**

#### **Preface**

The course in Home Science encompasses five areas namely, Foods and Nutrition, Human Development and Family Studies, Fabric and Apparel, Resource Management and Communication and Extension. All these domains have their specific content in focus that contributes to the study of the individual and the family in Indian social cultural context.

The purpose of Home Science is the creation of an environment and outlook to enable learner to live a richer and more purposeful life, become future ready and develop 21<sup>st</sup> century life skills for work, livelihood and careers. All the domains within the home science discipline provide ample scope for professional avenues of higher education and career opportunities. They range from professions catering to various health and service institutions/agencies, educational organizations, industry and business houses of textiles, garments, food industry, teaching learning materials, ergonomically appropriate equipment and work situations. The subject integrates the application of various sciences and humanities to improve Human Environment, Family Nutrition, Management of Resources and Child Development.

In class XI, the “Self and family” and the “Home” are focal points for understanding the dynamics for individual lives and social interactions.

#### **Learning Objectives:**

The Home Science curriculum at senior secondary level has been framed to enable the learners to:

1. Develop an understanding of the self and one’s role and responsibilities as a productive individual and as a member of family, community and society.
2. Integrate learning across diverse domains and undertake a

critical analysis of issues and concerns specific to family, community and society.

3. Appreciate the discipline of Home Science for professional careers.
4. Acquaint learners with the basic knowledge specific to five domains namely, Foods and nutrition, Human Development and Family studies, Fabric and Apparel, Resource Management and Communication and Extension.
5. Develop functional skills in the five domains for career and employment.
6. Equip learners for enrichment and higher studies.

**Learning outcomes:**

After undertaking the course students will be able to:

1. Function as a productive and responsible individual in relation to self, family, community and society.
2. Apply the basics of human development with specific reference to self, family and community.
3. Utilize the skills of judicious management of various resources.
4. Be sensitized to fabric and apparel, their selection and care.
5. Inculcate healthy food habits and lifestyle to enable prevention and management of diseases.
6. Become alert and aware consumer.
7. Appreciate the potential of entrepreneurship and other varied professional opportunities to make informed career choices.

# HOME SCIENCE (2023-2024)

## CLASS XI

### Introduction:

In class XI, the “Self and family” and the “Home” are focal points for understanding the dynamics for individual lives and social interactions. The curriculum is divided in five units. Unit I introduces the concept of home science. Unit II begins with the stage of adolescence and related concerns. Unit III deals with the expanding interactions of the adolescent with others in family, school, community and society, and the needs emerging from each of these contexts. Unit IV and V focus on childhood and adulthood respectively.

Course Structure:

Theory & Practical

Time: 3 Hrs.

Theory: 70 Marks

Practical: 30 Marks

No.	Units	Marks	No. of Pd.
1.	Introduction to Home Science	02	04
2.	Understanding oneself: Adolescence	20	35
3.	Understanding Family, Community and Society	15	35
4.	Childhood	15	24
5.	Adulthood	18	28
	<b>Total</b>	<b>70</b>	<b>126</b>
	<b>Practical</b>	<b>30</b>	<b>28</b>
	<b>Grand Total</b>	<b>100</b>	<b>154</b>



## **Class –XI**

Theory : 70 Marks

### **Unit I : Introduction to Home Science**

### **Unit II : Understanding oneself: Adolescence**

Ch.- Understanding the Self.

- A. 'Who am I'?
- B. Development and Characteristics of the Self (Development characteristics and needs of adolescents)
- C. Influences on Identity

Ch.- Food, Nutrition, Health and Fitness

Ch.- Management of Resources

Ch.- Fabric Around us

Ch.- Media and Communication Technology

### **Unit III: Understanding family, community and society**

Ch.- Concerns and needs in diverse contexts:

- a. Nutrition, Health and Hygiene
- b. Resources Availability and Management

### **Unit IV: Childhood**

Ch.-Survival, Growth and Development

Ch.- Nutrition, Health and Wellbeing

Ch.- Our Apparel

### **Unit V: Adulthood**

Ch.- Health and Wellness

Ch.- Financial Management and Planning

Ch.- Care and Maintenance of Fabrics

# **HOME SCIENCE (2023-24)**

## **CLASS XI**

### **UNIT I: INTRODUCTION TO HOME SCIENCE**

- What is Home Science
- Areas of Home Science
- Home Science is important for both boys and girls
- Career options of Home Science

### **UNIT II: UNDERSTANDING ONESELF: ADOLESCENCE**

*Unit II focus on the stage of adolescence – the stage of life to which you belong at present. This unit deals with understanding your own self in terms of your personal and social identity, your nutritional and health requirements, management of basic resources of time and space, fabrics around you, and your communication skills. The last chapter of the unit situates the adolescent in the context of the family and larger society, thereby linking it to the next unit that deals with the individual in relation to her/his family, school, community and society.*

### **CHAPTER : UNDERSTANDING THE SELF**

- What is Self?
  - Personal dimension
  - Social dimension
  - Self- concept
  - Self esteem
  
- What is Identity?
  - Personal identity
  - Social identity

- Self during Infancy: characteristics
- Self during early childhood: characteristics
- Self during middle childhood: characteristics
- Self during adolescence: characteristics
  - Identity development
  - Identity crisis
  - Real vs Ideal self
- Influences on identity
  - Developing a sense of self and identity
  - Influences on formation of identity
    - Biological and physical changes
    - Socio-cultural context
    - Emotional changes
    - Cognitive changes

## **CHAPTER : FOOD, NUTRITION, HEALTH AND FITNESS**

- Introduction
- Definition of
  - Food
  - Nutrition
  - Nutrients
- Balanced diet
  - Definition
  - RDA
- Health and Fitness
- Using Basic food Groups for planning Balanced Diets
  - Food guide pyramid.

- Vegetarian food Guide
- Dietary patterns in Adolescence
  - Irregular meals and skipping meals
  - Snacking
  - Fast foods
  - Dieting
- Modifying diet related behaviour
  - Diet journal
  - Exercise
  - Substance use and abuse
  - Healthy eating habits
  - Snacks
  - Drinking water
- Factors influencing eating behaviour
- Eating disorders at adolescence
- Key terms and their meaning

## **CHAPTER : MANAGEMENT OF RESOURCES**

- Introduction
- Classification of resources
  - Human /non-human resources
  - Individual / shared resources
  - Natural / community resources
- Human and non-human resources
  - **Human resources**
  - Knowledge
  - Motivation/ interest

- Skills/ strength/ aptitude
- Time
- Energy
  - **Non-human resources**
- Money
- Material resources
- Individual and shared resources
  - Individual resources
  - Shared resources
- Natural and community resources
  - Natural resources
  - Community resources
- Characteristics of resources
  - Utility
  - Accessibility
  - Interchangeability
  - Manageable
- Managing Resources
  - Management process
  - Planning
  - Steps in planning
  - Organising
  - Implementing
  - Controlling
  - Evaluation

## **CHAPTER : FABRIC AROUND US**

- Definition of yarns, fibres, textile products, finishing.
- Introduction to fibre properties
- Classification of textile fibres
  - Filament/staple fibres
  - Natural/Manufactured (manmade) fibres
- Types of Natural Fibres
  - Cellulosic fibres
  - Protein fibres
  - Mineral fibres
  - Natural rubber
- Types of Manufactured Fibres
  - Regenerated cellulosic fibres
  - Modified cellulosic fibres
  - Protein fibres
  - Non-cellulosic fibres
  - Mineral fibres
- Some Important fibres and their properties
  - Cotton
  - Linen
  - Wool
  - Silk
  - Rayon
  - Nylon
  - Polyester
  - Acrylic



- Elastomeric fibres
- Yarns
- Yarn processing
  - Cleaning
  - Making into a sliver
  - Attenuating, drawing out and twisting
- Yarn terminology
  - Yarn number
  - Yarn twist
  - Yarn and thread
- Fabric production
  - Weaving
  - Knitting
  - Braiding
  - Nets
  - Laces
- Textile Finishing
  - Finishing with colour
  - Printing

## **CHAPTER-MEDIA COMMUNICATION TECHNOLOGY**

- Communication and Communication Technology
  - What is Communication?
  - Classification of communication
  - How does communication takes place

- What is media?
  - Media classification and functions
- What is communication technology?
  - Classification of communication technologies
  - Modern communication technologies

### **UNITIII: UNDERSTANDING FAMILY, COMMUNITY AND SOCIETY**

*The chapters in Unit II were all addressed to you for the understanding of self and of the factors that influence your decision making. Let us now move on to understanding the family, the community and the society that you are a part of. In the first section- the focus will be on relationships and interactions with significant others, i.e. those important to you in these contexts. The second section- will discuss concerns and needs, such as those of health, work, resources, education and textile tradition in the adolescent's diverse social contexts.*

### **CHAPTER : CONCERNS AND NEEDS IN DIVERSE CONTEXTS**

#### **A. NUTRITION, HEALTH AND HYGIENE**

- Health and its Dimensions
  - Social health
  - Mental health
  - Physical health
- Health care Indicators of Health
- Nutrition and Health
- Importance of nutrients
- Factors affecting nutritional well being
  - Food and nutrient security
  - Care for the vulnerable

- Good health for all
- Safe environment
- Nutritional Problems and their consequences
  - Malnutrition
  - Under nutrition
  - Over nutrition
- Hygiene and Sanitation
  - Personal Hygiene
  - Environmental Hygiene
  - Food Hygiene
  - Water safety-Qualities of potable water, methods of water purification(Boiling, chlorine, storage and electric filter , RO)
  -

## **B. RESOURCES AVAILABILITY AND MANAGEMENT**

- Time Management
  - Definition of time plan
  - How good is your time management (Activity)?
  - Steps in making time plan
  - Tips for effective time management
  - Tools in time management---Peak load period, Work curve, Rest /break periods, Work simplification
- Space Management
  - Space and the home
  - Principles of space planning

## **UNIT IV: CHILDHOOD**

*The theme of this unit is 'Childhood'. You may wonder why did the book address the adolescent years first and childhood later. Well, it is because if you as an adolescent understand issues about yourself first, it would be easier to grasp the issues that are concerned with the stage of childhood and later with adulthood. In this unit you will be studying about children's growth and development, critical concerns about their health and nutrition, education and clothing. As we would like children with disabilities to be an inclusive part of our society, the chapters provide us important information on their needs and ways to meet them.*

### **CHAPTER : SURVIVAL GROWTH AND DEVELOPMENT**

- The meaning of survival
- Growth and development
- Areas of development
  - Physical development
  - Motor development
  - Cognitive development
  - Sensory development
  - Language development
  - Social development
  - Emotional development
- Good Nutrition
- Stages in development
  - Neonate
    - Reflexes

- Sensory capabilities
- Development across stages from infancy to adolescence
  - Physical and motor development
  - Language development
  - Socio –emotional development
  - Cognitive development
    - Mental processes involved in thinking
    - Stages of cognitive development
      - ❖ Sensory motor stage
      - ❖ Pre-operational stage
      - ❖ Concrete operational stage
      - ❖ Formal operational stage

## **CHAPTER : NUTRITION, HEALTH AND WELL-BEING**

- Introduction
- Nutrition, Health and Well-being during infancy (birth – 12 months)
  - Dietary requirements of infants
  - Breast feeding
  - Benefits of breast feeding
  - Feeding the low birth weight infants
  - Complementary foods
  - Guidelines for complementary feeding
  - Immunization
  - Common health and nutrition problems in infants and young children

- Nutrition, Health and well-being of preschool children (1-6 years)
  - Nutritional needs of preschool children
  - Guidelines for healthy eating for pre-schoolers
  - Planning balanced meals for preschool children
  - Some examples of low-cost snacks
  - Feeding children with specific needs
  - Immunization
- Nutrition, Health and well-being of school-age children (7-12 years)
  - Nutritional requirements of school children
  - Planning diets for school-age children
  - Factors that influence diet intake of preschool-age and school-age children
  - Healthy habits
  - Health and nutrition issues of school age children

### **CHAPTER: OUR APPAREL**

- Clothing functions and the selection of clothes
  - Modesty
  - Protection
  - Status and prestige
  - Adornment
- Factors affecting selection of clothing in India
  - Age
  - Climate and season
  - Occasion



- Fashion
- Income
- Understanding children’s basic clothing needs
  - Comfort
  - Safety
  - Self help
  - Appearance
  - Allowance for growth
  - Easy care
  - Fabrics
- Clothing requirements at different childhood stages
  - Infancy (birth to six months)
  - Creeping age (6 months to one year)
  - Toddlerhood (1-2 years)
  - Preschool age (2-6 years)
  - Elementary school years (5-11 years)
  - Adolescents (11-19 years)
  - Clothes for children with special needs

## **UNIT V: ADULTHOOD**

***With the advent of adulthood, the adolescent passes through the portal of what may be termed as the “real world”. One enters the world of higher education, work and marriage, and gets involved in establishing one’s own family. Hence responsibilities of the individual increases manifold. In this unit you will learn about the major factors that play a role in determining the quality of adult life, these being health and wellness, financial planning and management, maintenance***

*of fabrics and apparel that one uses personally as well as in the home and appreciation of different perspectives in communication. The unit concludes with the chapter on individual responsibilities and rights, not only for one's own self, but also in relation to the family and larger society.*

## **CHAPTER : HEALTH AND WELLNESS**

- Importance of health and fitness
- Healthy & Unhealthy diet
- BMI
- Do's and Don'ts for health promoting diets
- Fitness
- Importance of exercise and physical activities in adulthood
- Wellness
- Qualities of a person who is rated high on wellness
- Dimensions of wellness
  - Social aspect
  - Physical aspect
  - Intellectual aspect
  - Occupational aspect
  - Emotional aspect
  - Spiritual aspect
  - Environmental aspect
  - Financial aspect
- Stress and coping with stress
- Simple techniques to cope with stress
  - Relaxation

- Talking with friends/family
- Reading
- Spirituality
- Music
- Hobby
- Yoga

## **CHAPTER : FINANCIAL MANAGEMENT AND PLANNING**

- Financial management
- Financial planning
- Management
- Money and its importance
- Family Income
  - Money income
  - Real income: Direct and Indirect income
  - Psychic income
- Income management
- Budget
- Steps in making budget
- Advantages of planning family budgets
- Control in money management
  - Checking to see how well the plan is progressing
    - Mental and mechanical check
    - Records and accounts
  - Adjusting wherever necessary
  - Evaluation

- Savings
- Investment
- Principles underlying sound investments
  - Safety to the principle amount
  - Reasonable rate of interest
  - Liquidity
  - Recognition of effect of world conditions
  - Easy accessibility and convenience
  - Investing in needed commodities
  - Tax efficiency
  - After investment service
  - Time period
  - Capacity
- Savings and investment avenues
  - Post office
  - Banks
  - Unit Trust of India
  - NSC
  - Mutual funds
  - Provident funds
  - Chit fund
  - Life insurance and medical insurance
  - Pension scheme
  - Gold, house, land
  - Others (new schemes)

.....

- Credit
- Need of credit
- 4C's of credit: character, capacity, capital means, collateral

## **CHAPTER : CARE AND MAINTENANCE OF FABRICS**

- Mending
- Laundering
  - Stain removal
    - Vegetable stains
    - Animal stains
    - Oil stains
    - Mineral stains
    - Dye bleeding
  - Techniques of stain removal
    - Scraping
    - Dipping
    - Sponging
    - Drop method
  - Reagent for stain removal
  - Common stains and method of removing
- Removal of dirt: the cleaning process
  - Soaps and detergents
  - Methods of washing: friction, kneading & squeezing, suction, washing by machine
- Finishing

- Blues and optical brighteners
- Starches and stiffening agents
- Ironing
- Dry cleaning
- Storage of textile products
- Factors affecting fabric care
  - Yarn structure
  - Fabric construction
  - Colour and finishes
- Care label

**NOTE:**

- **Wherever required latest data/figures to be used.**
- **Latest RDA's to be used.**

## HOME SCIENCE (CODE 064)

### PRACTICALS FOR CLASS XI

1. Understanding oneself with reference to:
  - a) Physical development in terms of age, height, weight, hip and chest circumference.
  - b) Sexual maturity (Age at menarche, Development of breasts : girls). Growth of beard, change in voice: boys)
2. Observe developmental norms: (Physical, Motor, Language and social -emotional) birth to three years.
3. List and discuss 4-5 areas of agreement and disagreement with
  - a) Mother
  - b) Father
  - c) Siblings/ Friends
  - d) Teacher
4.
  - a) Record own diet for a day
  - b) Evaluate qualitatively for adequacy
5. Preparation of different healthy snacks for an adolescent suitable in her/his context.
6.
  - a) Record one day's activities relating to time use and work
  - b) Prepare a time plan for yourself
7. Plan a budget for a given situation/purpose.
8.
  - a) Record the fabrics and apparel used in a day
  - b) Categorize them according to functionality
9. Relationship of fibre properties to their usage:
  - a) Thermal property and flammability
  - b) Moisture absorbency and comfort
10.
  - (a) Analyze label of any one garment with respect to: Clarity, fiber content, size and care instructions.
  - (b) Prepare one care label of any garment.
  - (c) Analyze two different fabric samples for color fastness.

**Scheme for practical examination**

**30 marks**

1. Observe developmental norms: (Physical, Motor, Language and social emotional) birth to three years.

5 marks

**OR**

List and discuss 4-5 areas of agreement and disagreement with

- a) Mother
- b) Father
- c) Siblings/ Friends
- d) Teacher

2. Preparation of healthy snacks for an adolescent. 7marks

3. Plan a budget for a given situation/purpose. 3 marks

4. Prepare a time plan for yourself. 3 marks

5. Relationship of fibre properties to their usage: 5 marks

- a) Thermal property and flammability
- b) Moisture absorbency and comfort

**OR**

Prepare one care label of any garment.

6. File 5 marks

7. Viva 2 marks

Prescribed textbook: Human Ecology and Family Sciences  
(For class XI): Part I and Part II



**QUESTION PAPER DESIGN 2023-24**  
**HOME SCIENCE (CODE NO. 064)**  
**CLASS – XI**

TIME : 3 HOURS

MAX. MARKS : 70

<b>S.No.</b>	<b>Typology of Questions</b>	<b>Total Marks</b>	<b>% Weightage</b>
1.	Knowledge and understanding based questions terms, concepts, principles, or theories; Identify, define or recite interpret, compare, contrast, explain, paraphrase information)	28	40%
2.	Application – or knowledge/concepts based questions  (Use abstract information in concrete situation, to apply knowledge to new situations. Use given content to interpret a situation, provide an example, or solve a problem)	21	30%
3.	Formulation, analysis, Evaluation and creativity based question (Appraise, judge, and / or justify the value or worth of a decision or outcome, or to predict outcomes)  Classify, compare, contrast, or differentiate between different pieces of integrate unique piece of information from a variety of sources	21	30%
	<b>TOTAL</b>	<b>70</b>	<b>100</b>

Note : Internal Choice of 30% will be given

Easy – 20%

Average – 60%

Difficult – 20%

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**Note :- Chapter No. 7, 8, 9, 10 (b, d, e), 13, 18 and 19 (deleted chapters for session 2023-24)**

## Chapter – 1

# INTRODUCTION TO HOME SCIENCE

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### **Definition of Home Science –**

Home Science is an interdisciplinary field that aims to empower its students to enhance their own quality of life and that of other individuals and families according to the changing needs of society. Home science was not intended to be a subject only about the home.

### **History of Home Science –**

- Various subjects were included under Home Science in 1932 for example food and nutrition, clothing etc.
- In 1932, this subject Home Science was started in Lady Irwin College which is situated in Delhi.
- ‘Lady Irwin College’ is the first college of Home Science which was inaugurated by Sarojini Naidu, Rajkumari Amrit and Kamla Devi Chattopadhyay.
- Currently colleges offering Home Science at graduation level in Delhi are...

1.Lady Irwin College

2.Institute of Home Economics

3.Lakshmi Bai College

4.Bhagini Nivedita College

5.Vivekananda College

### **Home Science has 5 fields –**

- Food and Nutrition

- Human Development
- Fabric and Apparel
- Communication and Extension
- Resource Management

### **Home Science is important for both girls and boys –**

- In ancient times the work done at home was mostly done by female members of the family.
- To bring awareness to the role of women and their responsibilities, it was observed that young females should study Home Science. The goal was that home and society both need to be given importance.
- At school level the subject Home Science was not chosen by boys because it has Food and Nutrition, and laundry as a subject, which was considered to be meant for girls. This is a myth about Home Science as it is an interdisciplinary subject and contemporary in content.
- Now people have started to understand that this subject is not only for girls. This subject educates one regarding the role and responsibilities of our family and society.

### **Scope of Home Science –**

#### **1. Foods & Nutrition**

- Clinical nutritionist
- Dietician
- Chef
- Production Manager
- Research work

2. **Human Development**

- Care giver in creche
- Teacher in Nursery School
- Counsellors
- Special Educator

3. **Fabric and Apparel**

- Textile Designer
- Footwear Designer
- Visual Merchandise Designer
- Fashion Designer

4. **Resource Management**

- Interior Decorator
- H.R. Manager
- House Keeping

5. **Communication & Extension**

- Journalist
- Research
- Media and Communication

**Very Short Answer Questions**

**(1 Mark)**

**Q1.** In which college the study of Home Science was first started at higher level?

- A. Lady Shri Ram College
- B. Lady Harding
- C. Lady Irwin
- D. Lady the Irwin

Ans. C) Lady Irwin

**Q2.** How many fields does home science subject have?

- A. Six
- B. Five
- C. Three
- D. Four

Ans. B) Five

**Q3.** In which year Lady Irwin College was established?

- A. 1952
- B. 1960
- C. 1944
- D. 1932

Ans. D) 1932

**Q4.** Which of the following is not the field of Home Science?

- A. Food and Nutrition
- B. Human Development
- C. Fabric and Apparel
- D. Agriculture Science

Ans. D) Agriculture Science

**Q5.** Home Science subject is essential for boys because –

- A. In this we learn the role and responsibilities of family

- B. In society interaction between human and its environment
- C. This is not only related to home but this is an interrelated subject
- D. All of the above

Ans. D) All of the above

**Q6.** In which state Lady Irwin College is situated?

- A. Mumbai
- B. Delhi
- C. Bihar
- D. Punjab

Ans- B) Delhi

**Short Answer Questions**

**(1 Mark)**

**Q1.** What do you mean by Home Science? Explain different fields of Home Science?

Ans. Home Science is an interdisciplinary field that empowers its students to enhance their quality of life and that of other individuals and families.

Home science has 5 fields:-

- Food and Nutrition
- Human Development
- Fabric and Apparel
- Communication and Extension
- Resource Management

**Q2.** Why is Home Science important for both girls and boys?

Ans. Home Science is important for both girls and boys because in this subject we learn the roles and responsibilities of family and society and both boys and girls shoulder these responsibilities.

**Q3.** Among different fields of Home Science explain the scope of any one field?

Ans. Human Development

- Caregiver in Creche
- Teacher in Nursery School
- Counsellors
- Special Educator

\*\*\*\*



## Chapter – 2

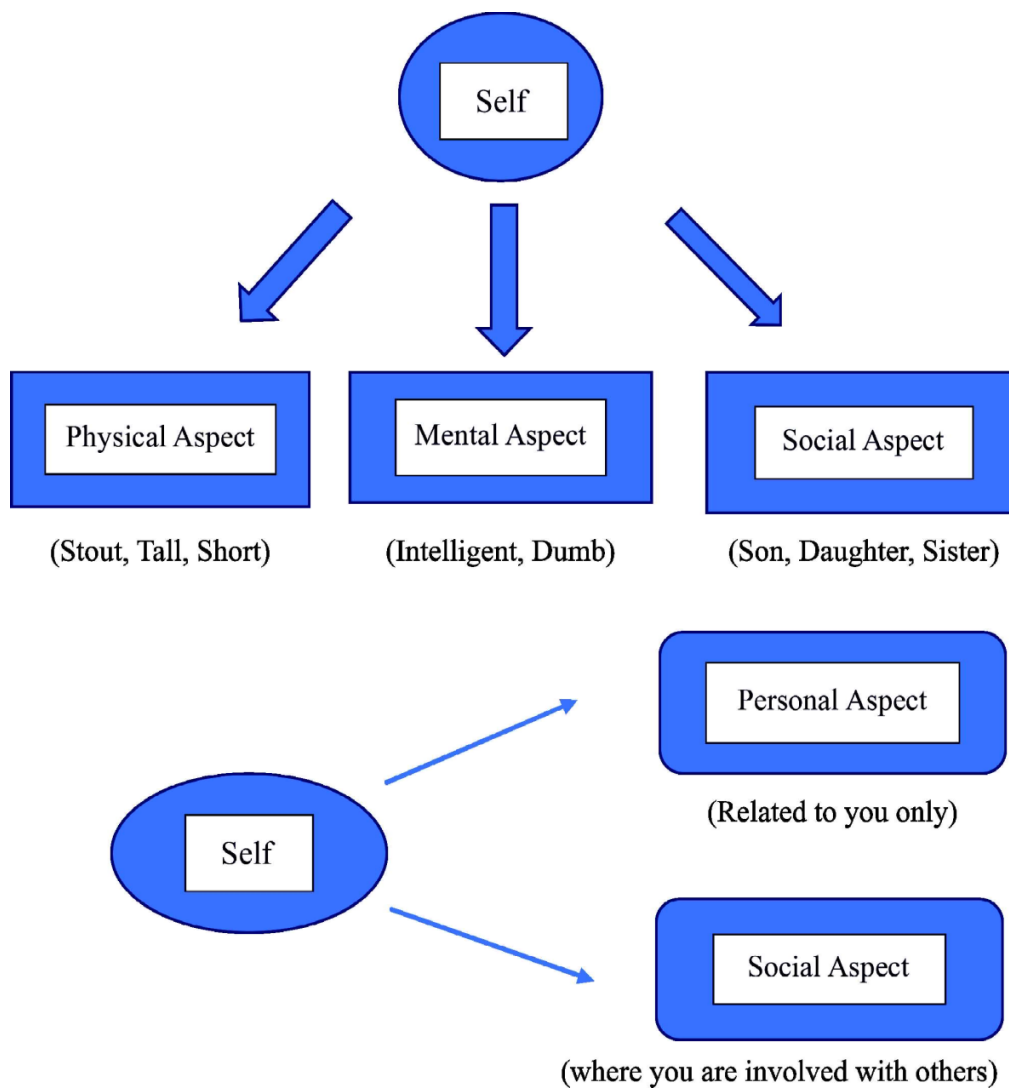
# UNDERSTANDING THE SELF

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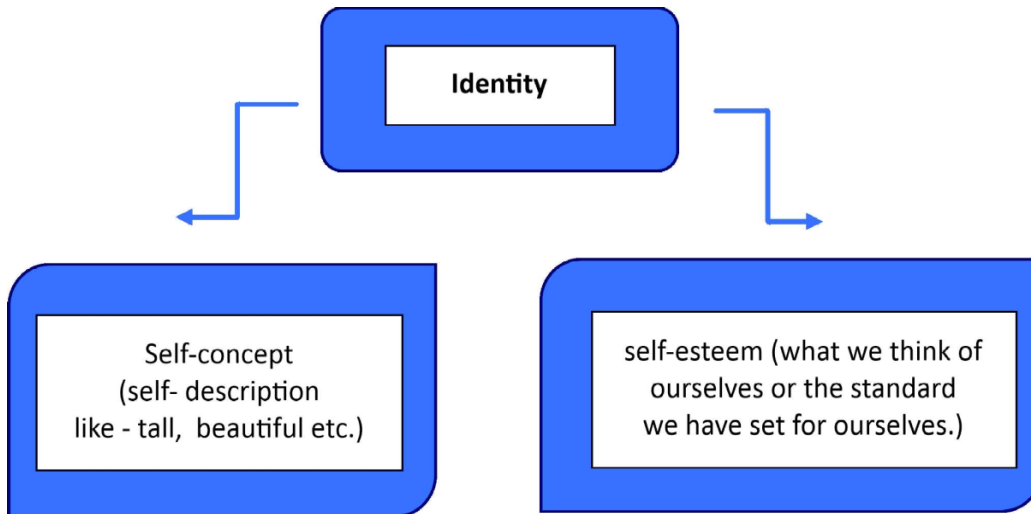
### INTRODUCTION :-

1. **SELF** – Who am I / who we are.

The idea that we hold of ourselves is the notion of the self.



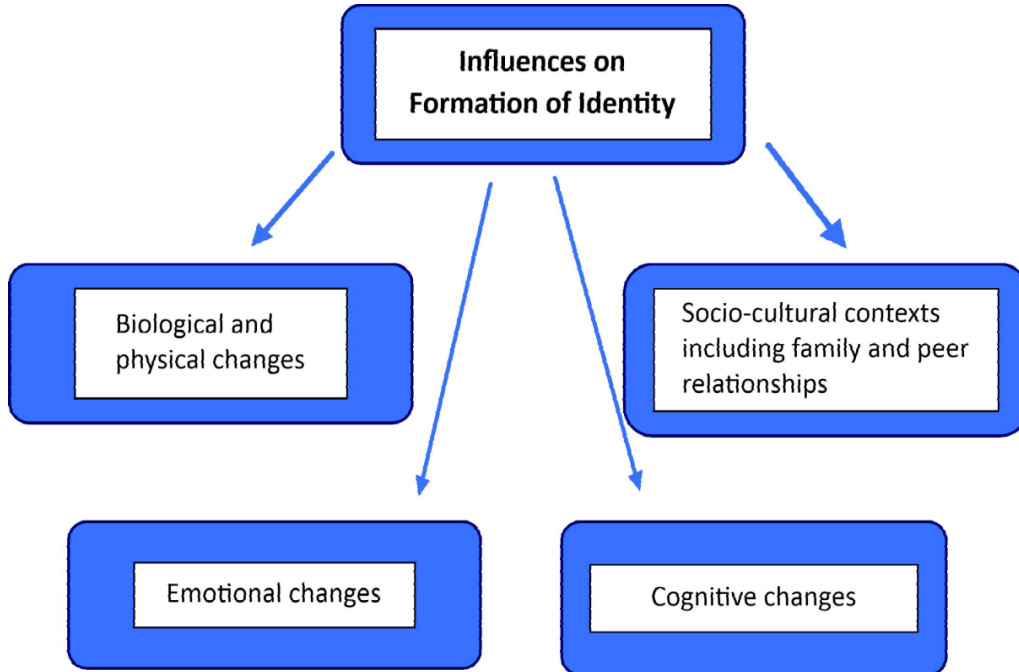
2. **Identity** - A sense of who we are, which we carry throughout our lives.



3. **Development of Self in Infancy**- It is multidimensional in nature. It undergoes changes as person grows from an infant to an adult. Self starts developing in Infancy and by 18 months, they start self-recognition like my, mine, me.
4. **Self during Early Childhood**- They use physical description of their self like – “tall” or “big”. Their self-understanding contains active descriptions of themselves Ex. ‘I can ride a bicycle’.
5. **Self during Middle Childhood**- In this stage the child’s self-evaluation becomes more complex. The child shifts towards describing himself / herself in terms of internal characteristics, “I am good at making friends’. Children begin to make social comparisons also, ‘I can run faster than Kiran’. Now the self-description becomes more realistic as compared to preschool child.
6. **Self during Adolescence** – Self-understanding becomes increasingly complex during adolescence period. In this stage there is enhanced focus on the development of self. The person is intensely concerned with understanding of himself / herself. Towards the end of adolescence, the individual creates a sense of selfhood and identity and say “This is who I am’.

- In this stage the adolescent's rebel against being treated like a "child" but at the same time seek comfort as a child would.
  - Parents may often tell adolescents to behave like "Grown-ups" but their actions indicate that they are not grown up.
  - Adolescents experiences "Role Confusion" or "Identity Confusion"
  - They also experience contradictory feelings and emotions in this stage.
- 7. Characteristics of an Adolescent's sense of Self** - description during this period is abstract, Ex. Quiet, sensitive, cool- headed etc.
- Self during adolescence had several contradictions like- "I am calm but get easily disturbed".
  - They experience a fluctuating sense of self and understanding of their own self fluctuates over situations and over time.
  - The sense of adolescence contains the "Ideal Self" and the "Real Self". The Ideal Self becomes more prominent now.
  - Adolescents are self- conscious and preoccupied with themselves.
- 8. Influences on Identity –**
- Development of Self- self develops as a result of what you learn about yourself through others and what others tell you about yourself.
  - Self is not something that you are born with but which you create and development as you grow.
  - In Infancy - as the child grows, he tends to define self by the experience she receives.
  - Developing a sense of self and identity- each one of us had unique combination of genes.
  - We all have different experiences.
  - Even if we have similar experiences, we respond to them in different ways.

## 9. CLASSIFICATION –



### 10. Biological and Physical Changes-

- During adolescence there are certain biological and physical changes taking place in particular sequence in the body. This leads to attainment of sexual maturity. Menarche usually is considered the point of sexual maturity in girls. Production of spermatozoa is considered as mark of puberty in boys.
- The time when sexual maturity is reached is called Puberty
- For girls, this period ranges from 11 to 13 years.
- In boys, this period ranges from 13-15 years.

### 11. Socio- cultural contexts-

- Physical changes in the body and social expectations influences the identity formation during Adolescence. In traditional society, onset of

puberty places many restrictions on the girls whereas the boys retain their freedom of movement.

- In Indian context, Adolescents are dependent on their parents and families exerts control on their children.
- Increase in choices and exposure to alternate lifestyles may bring adolescents in conflict with parents and society. Socio-cultural context also influences adolescent's self.
- Firm and affectionate parenting fosters healthy development of identity. Such parenting style fosters independence and self-reliance in children.
- Peer pressure can be both positive and negative in this stage
- Family atmosphere should promote individuality and connectedness in adolescence, as it is important for the development of identity.

## **12. Emotional changes-**

Many emotional changes are due to the biological and physical changes occurring in the body. A sense of pride with the way one is developing will contribute positively to the adolescent's sense of self. If one keeps negative self-image than the person feels insecure.

## **13. Cognitive changes-**

- The child has no sense of separate identity during early childhood years.
- Self-description during middle childhood is also not concrete.
- During adolescence self-descriptions are fairly realistic. They can differentiate between "Ideal and Real Self".
- Adolescents can think in abstract terms now. Ex. Possible careers and can plan for studies accordingly.
- Thus, it is a significant stage for development of an Identity. They can imaginatively link up their present with future, they imagine for themselves.

**Multiple Choice Questions**

**(1 Mark)**

Q 1. Related to the concept of self are two other concepts \_\_\_\_\_ and \_\_\_\_\_ .

- a) Person and identity
- b) Identity and personality
- c) Identity and feelings
- d) Development and realization

Ans. b) Identity and personality

Q 2. Your relationship and role with others refer to \_\_\_\_\_ of self.

- a) Social aspect
- b) Emotional aspect
- c) Physical aspect
- d) Cognitive aspect

Ans. a) Social aspect

Q 3. Personal aspect of self is associated with \_\_\_\_\_ only.

- a) Others
- b) You
- c) Yours
- d) Theirs

Ans. b) You

Q 4. Self-concept and self- esteem are elements of \_\_\_\_\_ .

- a) Identity
- b) Feelings
- c) Pride
- d) Self- rating

Ans. a) Identity

Q 5. In development from infant to \_\_\_\_\_ there are changes in self too.

- a) Infancy
- b) Childhood
- c) Adulthood
- d) Adolescent

Ans. d) Adolescent

Q 6. \_\_\_\_\_ starts in about 18 months of age in infants.

- a) Others recognition
- b) Self-image recognition
- c) Recognition of self body
- d) Others image recognition

Ans. b) Self-image recognition

Q 7. “I am tall” example of self is given in which stage of life?

- a) Adolescence
- b) Early childhood
- c) Old age
- d) Childhood

Ans. b) Early childhood

Q 8. In \_\_\_\_\_ they can differentiate between “Ideal Self” and “Real Self”.

- a) Adolescence
- b) Adulthood
- c) Middle childhood
- d) Infancy

Ans. c) Middle childhood

Q 9. The anxiety to understand Self is seen more in \_\_\_\_\_ stage.

- a) Adolescence
- b) Middle childhood
- c) Infancy
- d) Adulthood

Ans. a) Adolescence

Q 10. Menarche usually is considered the point of \_\_\_\_\_ in girls.

- a) Sexual maturity
- b) Cognitive maturity
- c) Physical maturity
- d) Emotional maturity

Ans. a) Sexual maturity

### **Very Short Answer Questions**

**(1 mark)**

Q 11. What do you understand by Self?

Ans. The idea that we hold of ourselves is the notion of the self. It refers to the totality of a person's experiences, ideas, thoughts etc.

Q 12. What do you mean by Self- concept?

Ans. It is a description of self, includes our qualities, feelings and thoughts.

Q 13. What do you mean by Self- esteem?

Ans. It is the judgement of ourselves according to the standards we have set. This is largely influenced by society.

Q 14. What do you mean by Personal Identity?

Ans. Attributes of a person that make her different from others.

Q 15. What is Social Identity?

Ans. Those aspects of the person that link her to a group- professional, social or cultural.



Q 16. At what age, self- recognition starts in Infancy?

Ans. At 18 months, they start self- recognition and use words like my, mine, me.

Q 17. By which age the child starts recognizing himself in photo?

Ans. By 2 Years of age.

Q 18. By which age the child starts speaking fluently?

Ans. By 3 years of age.

Q 19. A child in early childhood overestimates themselves in describing self. Explain with example?

Ans. I am never scared.

Q 20. At what stage self-evaluation becomes more complex?

Ans. During middle childhood.

Q 21. Which stage of life is important for the development of identity?

Ans. Adolescence because in this stage there is enhanced focus on development of self.

Q 22. Growth spurt is the characteristic of which stage of life?

Ans. Infancy and adolescence stage.

Q 23. How does adolescent describe self?

Ans. They describe self on the basis of inner aspects of their personality. Ex. Quiet, sensitive, cool headed etc.

Q 24. Explain with examples how adolescent's self carries contradictions?

Ans. Examples –

- “I am calm but easily gets disturbed”.
- “I am quiet and also talkative”.

Q 25. What do you mean by Puberty?

Ans. The time when sexual maturity is achieved is called puberty.

Q 26. What do you mean by affectionate parenting?

Ans. It means that the parents are warm, loving and supportive of the child's effort and accomplishment.

Q 27. Define adolescence?

Ans. When the child is between childhood and adulthood is called adolescent stage. This is also the stage of maximum growth spurt.

Q 28. What do you mean by cognitive changes?

Ans. Changes in thinking that takes place from infancy to adolescence are called as cognitive changes.

Q 29. What is peer pressure?

Ans. Adolescence is the period when there is strong need for support and acceptance from peers. This is the period when adolescents tend to lean more towards their friends.

Q 30. What do you mean by ideal self?

Ans. When adolescence want to develop themselves in the ideal way example - when a short girl wants to increase her height.

### **Short Answer Questions**

**(2 marks)**

Q 31. Write two concepts related to self-identity?

Ans. Two concepts related to self are

Identity – How you are different from others.

Personality – self aspect, which are associated with you only.

Q 32. Give definition of self?

Ans. It refers to the totality of a person experiences, ideas, thoughts and feelings with regard to herself.

Q 33. Write the characteristics of self during early childhood?

Ans. During this stage the child uses physical description of their self and material possessions to differentiate themselves from others. for example- 'tall, big'. They did not do comparisons with others in this stage.

Q 34. What is the difference between ideal self and real self?

Ans. Ideal self - what they want to have or think are most important for them example- ‘I want to be tall’ .

Real self- actual competencies they have example- ‘I am actually quite short’.

Q 35. In all the cultures, adolescence is filled with disagreements and dilemmas. Explain.

Ans. This is true that in all cultures, adolescence is accompanied with dilemmas as to what is done, how it is done, to become independent, career, identity, disagreement from parents on various subjects etc. can be seen in this stage.

Q 36. Tell about description of self during adolescence. In which stage do they feel stress on their internal qualities?

Ans. Self-description during the period of adolescence - they lay emphasis on themselves on abstract or inner aspects of their personality. They may use words as quiet, sensitive, cool headed, brave, truthful or emotional for themselves.

Q 37. How does development of self take place during adolescence?

Ans. This is an ongoing process. Self develops as a result of what you learn about yourself through experiences and what others tell you about yourself.

Q 38. Classify the influences on the formation of Identity?

Ans. Classification –

- a. Biological and physical changes
- b. Socio-cultural contexts including family and peer relationships
- c. Emotional changes
- d. Cognitive changes

Q 39. How development of Identity is different in our culture as compared to western culture?

Ans. Development of Identity -

- a. In Indian context majority of adolescents are fairly dependent on parents, whereas in western culture adolescents are expected to be fairly independent
- b. Adolescents are expected to move away from the family to set up their own home in western context whereas in Indian context, parents exercise their control over them.

**Long Answer Questions**

**(3 Marks)**

Q 40. Describe self during Infancy stage?

Ans. Self during Infancy –

- a. Infant doesn't realize that he or she is separate and distinct from others example – 'if they bring hand in front of his face and look at it, he does not realize that these are his hands'.
- b. Around 18 months of age self-image recognition emerges.
- c. Infants begin to use personal pronouns like- 'I, me, mine'.
- d. They also begin to recognize themselves in photographs by two years of age.

Q 41. Why is adolescence a critical time for identity development?

Ans. Adolescence is a period critical for identity development because there is an enhanced focus on development of self. This is because of three reasons-

- a. This is time when person is preoccupied with trying to know oneself.
- b. Towards end of adolescence, individual creates a lasting sense of selfhood and identity and can say, 'this is who I am'.
- c. The individual identity is influenced by rapid biological changes and changing social demands.

Q 42. Rinku and Tinku are twins. How will you say that their identity is different or not?

Ans. We all have different identity. If there are twins then also their sense of self would be different from each other. There are several reasons for it –

- Each one of us have a unique combination of genes.
- Each one of us have different experiences.
- Even if we have similar experiences, we respond to these in different ways.

Q 43. In adolescence one can experience peer pressure. Explain this?

Ans. Adolescence is a period when there is a strong need for support and acceptance from their peers. Adolescent may tend to lean towards their friends as compared to their parents. Peer pressure can have both positive and negative effects.

Positive effect - when adolescents progress in right direction and are aware of their career and healthy competition ahead.

Negative effect – When they indulge in harmful behavior such as smoking, drugs or alcohol.

#### **Very Long Answer Questions**

**(4 Marks)**

Q 44. Explain the physical and biological changes occurring in boys and girls?

Ans. The period of adolescence is marked by universal physical and biological changes in the body. These changes lead to attainment of sexual maturity which is called Puberty. Following is the list of changes in girls and boys-

- Girls- Initial enlargement of breasts
  - Straight pigmented pubic hair
  - Age of maximum growth
  - Menarche
- Boys- Growth of testes
  - First ejaculation of semen
  - Age of maximum growth
  - Voice changes

Q 45. Explain how a family can help in the sense of Identity of adolescence?

Ans. During adolescence, identity formation is enhanced by family relationships. Where there is firm and affectionate parenting, it fosters healthy development of identity. Here the parents often praise the child, show enthusiasm in his activities and respond sensitively to his feelings. However, adolescents try to spend more time with their peer group and sometimes have difference of opinion with the parents. The parents should understand that youth have their own emotions and should be respected for their decisions and should encourage their small accomplishments. This will also boost their confidence level.

**(5 Marks)**

Q 46. Write the characteristics of self during early childhood?

Ans. Following are the five main characteristics of children's understanding of themselves-

- They use physical descriptions of themselves and use simple words like- 'tall or big'.
- The clothes they wear or the toys / objects they have, their self-description involves that also.
- They describe themselves in terms of things they can do example- 'I can ride a cycle', 'I can count'.
- Self-description is in concrete terms example- 'I have a television'.
- They often overestimate themselves Ex.- "I know all the poems", but may not remember them completely.
- They are unable to recognize that they can possess different attributes, example - they can be 'good and bad', 'mean and nice' at different points in time.

Q 47. How does self, develops during middle childhood?

Ans. During this period, self-evaluation becomes more complex. There are five following changes –

- Child describes herself in terms of internal characteristics example-“I am good at making friends’ .
- Child description include, social description and identity.
- Defines themselves in terms of groups they belong to, example- ‘I am in the music Choir in school’ .
- Begin to make social comparison example- ‘I can run faster than Kiran’.
- Begin to distinguish between their real self and ideal self. Can differentiate between their actual competencies and those they want to achieve.
- The self-description become more realistic as compared to preschool child. This is due to the ability to see things and situations from the point of view of others.

Q 48. Rahul is a youth and seems to be in a dilemma. Give him suggestions regarding this stage?

Ans. Dilemma and confusion are normal characteristics of adolescence stage. Also, Rahul should be made to understand that he can discuss his problems with his parents, friends and teachers. All people have different outlook to solve their problems, he should discuss his dilemmas with others and should exert control over his emotions.

Characteristics of this stage are –

Adolescents likely to emphasize the inner aspect of the personality while describing themselves and they use words as – truthful, brave, sensitive etc.

In this stage, youth is busy in developing his own identity and behaves like grown up people, but in several instances, they have been told that you are not grown up, you are not experienced and behave like a kid. So they feel that there is dilemma in their societal roles.

Adolescence experiences fluctuating sense of self. They experience diverse situations and respond to different experiences. They describe themselves in a conflicting manner like- 'I am calm but gets very easily disturbed'.

In this stage adolescents have the 'ideal self and the real self', but ideal self becomes more prominent now. They would like to develop ideal self for themselves for example - A girl may want to be tall but is actually quite short.

Youth are very conscious about their outlooks and are preoccupied with their image. This gives them a feeling of always being 'on stage', that they are always being noticed. This is the reason why most of the adolescents are over concerned about their physical appearances.

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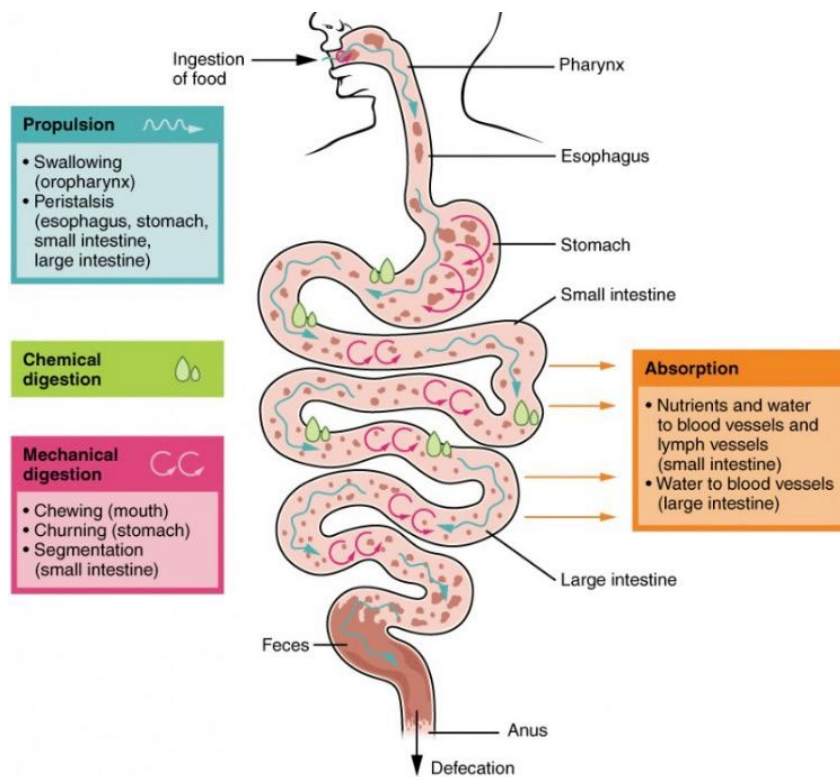


**Chapter - 3**  
**FOOD, NUTRITION, HEALTH AND FITNESS**

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**INTRODUCTION :-**

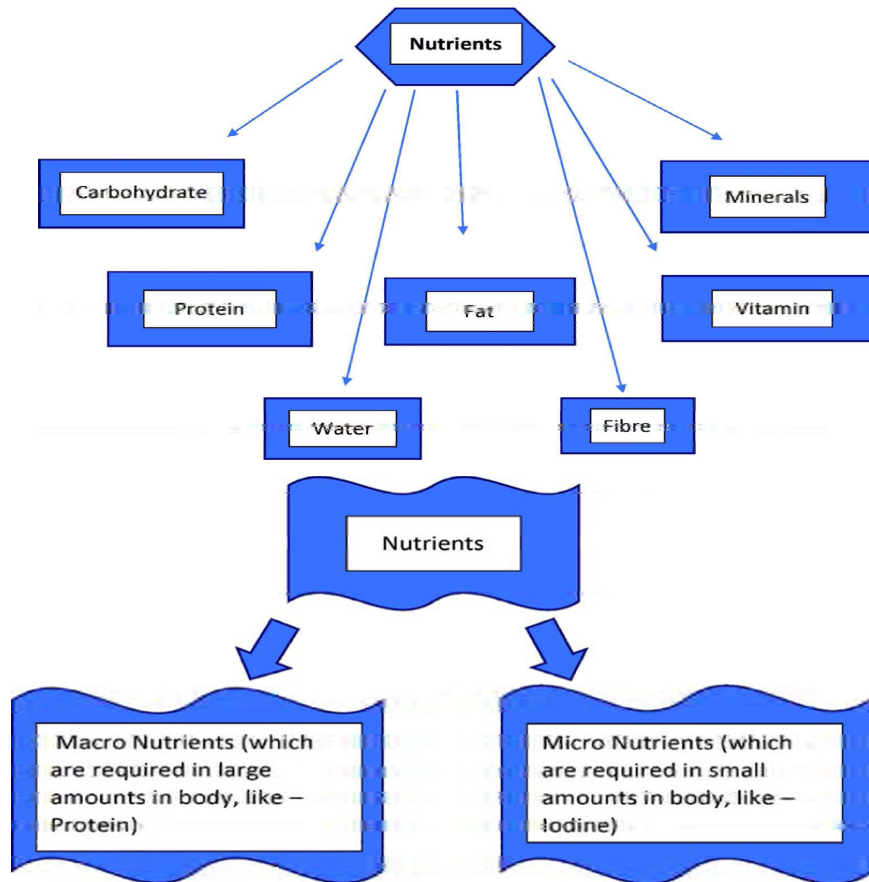
- Food is anything solid or liquid which when swallowed, digested and assimilated in the body provides it with essential substances called nutrients. Food supplies energy, enables growth and repair of tissues and organs. It also protects the body from diseases and regulates body functions.



- Nutrition is the science of foods, nutrients and other substances they contain and of their actions within including ingestion > digestion > absorption > utilization by the body.

### Dimensions of Nutrition

- **Nutrients** - constituent in food that must be supplied to the body in suitable amount. These include carbohydrates, proteins, fats, minerals, vitamins, water and fibre (roughage).



- **Balanced Diet** - Includes a variety of foods in adequate amounts and correct proportions to meet the daily requirement of all essential nutrients such as protein, carbohydrates, fats, vitamins, minerals, water and fibre.

It helps to promote and preserve good health and also provide safety margin or reserve of nutrients to with stand short durations of deprivation.

- **RDA** - Recommended Dietary Allowances

**RDA = requirements + margin of safety**

**RDA (Recommended Dietary Allowances) for Indians as per ICMR Hyderabad  
RECOMMENDED DIETARY ALLOWANCES FOR INDIANS**

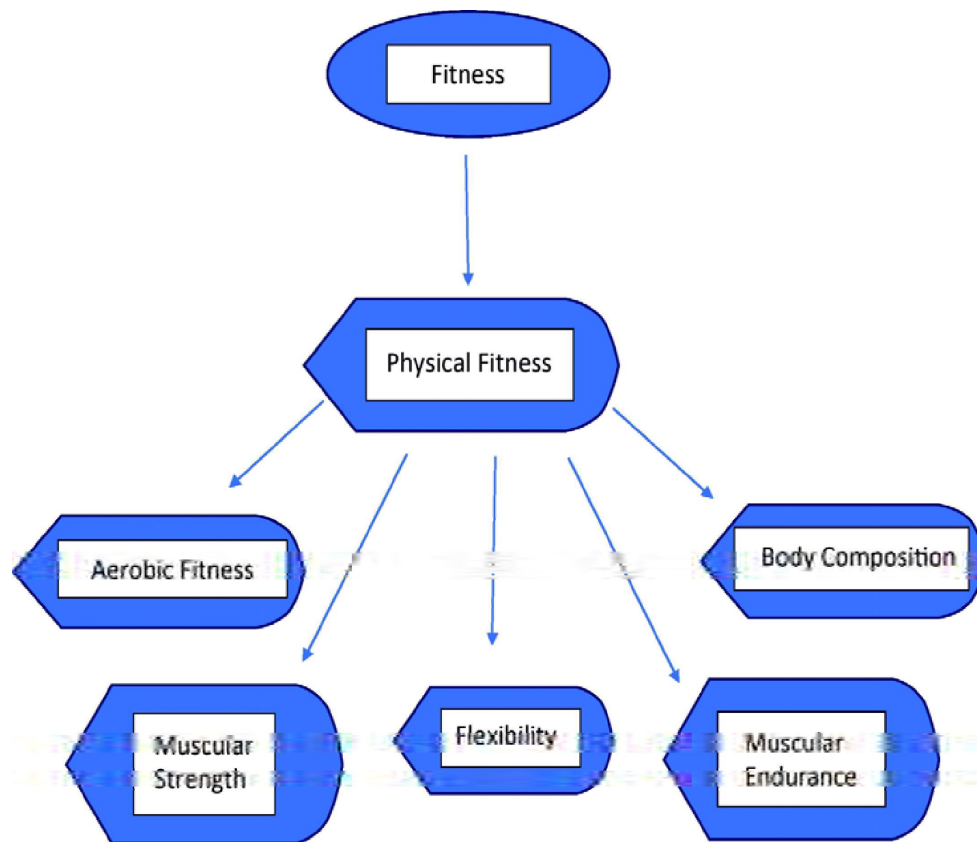
Group	Particulars	Body weight kg	Net energy Kcal/d	Protein g/d	Visible fat g/day	Calcium mg/d	Iron mg/d	Vitamin $\mu\text{g}/\text{kg}$		Thiamine mg/d	Riboflavin mg/d	Nicotinic acid mg/d	Pyridoxine mg/d	Ascorbic acid mg/d	Free folic acid $\mu\text{g}/\text{d}$	Vit B12 $\mu\text{g}/\text{d}$
								Retinol	$\beta$ carotene							
Man	Sedentary work		2425							1.2	1.4	16				
	Moderate work	60	2875	60	20	400	28	600	2400	1.4	1.6	18	2.0	40	100	1
	Heavy work		3600							1.6	1.9	21				
Woman	Sedentary work		1675							0.9	1.1	12				
	Moderate work	50	2225	50	20	400	30	600	2400	1.1	1.3	14	2.0	40	100	1
	Heavy work		2925							1.2	1.5	16				
	Pregnant woman	50	+300	+15	30	1000	38	600	2400	+0.2	+0.2	+2	2.5	40	400	1
	Lactation															
Infants	0-6 months	50	+550	+25				950		+0.3	+0.3	+4	2.5	80	150	
	6-12 months		+400	+18	45	1000	30		3800	+0.2	+0.2	+3				1.5
	0-6 months	5.4	108/kg	2.05/kg		500		350	1200	55 $\mu\text{g}/\text{kg}$	65 $\mu\text{g}/\text{kg}$	710 $\mu\text{g}/\text{kg}$	0.1	25	25	0.2
	6-12 months	8.6	98/kg	1.65/kg						50 $\mu\text{g}/\text{kg}$	60 $\mu\text{g}/\text{kg}$	650 $\mu\text{g}/\text{kg}$	0.4			
Children	1-3 years	12.2	1240	22			12	400	1600	0.6	0.7	8	0.9			0.2-
	4-6 years	19.0	1690	30	25	400	18	400		0.9	1.0	11		40	30	1.0
	7-9 years	26.9	1950	41			26	600	2400	1.0	1.2	13	1.6		40	
Boys	10-12 years	35.4	2190	54	22	600	34	800	2400	1.1	1.3	15	1.6			0.2-
	10-12 years	31.5	1970	57			19			1.0	1.2	13			70	1.0
Boys	13-15 years	47.8	2450	70			41			1.2	1.5	16				0.2-
	13-15 years	46.7	2060	65	22	600	28	600	2400	1.0	1.2	14	2.0		100	1.0
Boys	16-18 years	57.1	2640	78	22	500	50	600	2400	1.3	1.6	17		40	100	0.2-
	16-18 years	49.9	2060	63			30			1.0	1.2	14	2.0		100	1.0

- **Health** - According to WHO (World Health Organization)

Health is the state of complete physical, emotional and social wellbeing, not merely the absence of diseases or infirmity. (1948)



- **Fitness** - is good bodily health, it is the result of regular exercise, proper diet, nutrition and proper rest for physical recovery.



- **Food Groups** - Consist of different foods which have common characteristics. Foods can be grouped on the basis of predominant nutrients present in them.

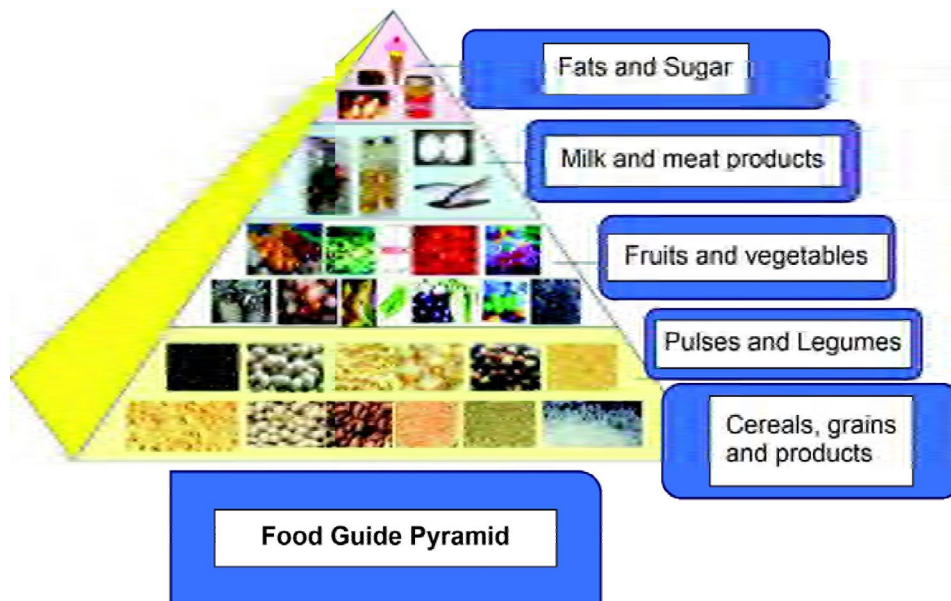
There are 5 basic food groups suggested by Indian Council of Medical Research (ICMR). These include-

- **Cereals, Grains and Products:** Eg: rice, wheat, rice flakes, wheat flour
- **Pulses and legumes:** Eg: bengal, green, black gram, lentils as well as dals and peas.

- **Milk and Meat products:** Eg. milk, cheese, chicken, fish.
- **Fruits and Vegetables:** Eg. mango, papaya, orange, watermelon.
- **Fats and Sugars:** Eg. butter, ghee, hydrogenated oils.







## Vegetarian Food Guide

Vegetarian diets rely mainly on plant foods; grains, vegetables, legumes, fruits, seeds and nuts. Some vegetarian diets include eggs, milk products or both. People who do not eat meat or milk products can still use the daily food guide to create an adequate diet. The pyramid is an outline of what to eat each day, it calls for eating a variety of foods to get the nutrient you need and at the same time right amount of calories to maintain a healthy weight.

- **Dietary Patterns in Adolescence** – During this stage, the nutritional needs of the adolescent vary tremendously but increases due to rapid growth and changes in body composition.

**Irregular Meals and Skipping Meals** – They have irregular meals and generally skip most meals. In some homes with limited resources, they may not even receive adequate number of meals or amounts leading to nutritional deficiency.

**Snacking** – This is generally a survival technique for teens. Many teens fail to eat three meals per day because of skipping meal factor.

**Fast foods** - Adolescence in urban areas are more likely to eat fast food because it is convenient and according to them it is the fashion of the day. It is often packed with ‘fat’ and ‘empty calories’.

**Dieting** - Obesity is becoming a crucial problem in adolescents.

## Modifying Diet related behavior

### Some tips to adopt healthy dietary practices :

- Limiting television viewing (Avoids overeating and undereating).
- Healthy eating habits (eating 3 balanced meals of average size and two nutritious snacks).
- Snacks (nutritious).
- Drinking water (4 to 6 glasses of water each day).
- Diet journal (Keep weekly journal of food and beverage intake).
- Exercise (Essential for healthy life like Walking, cycling, using stairs extra).
- Substance use and abuse, (Nutrition intervention support and counselling play some major role in the physical and psychological rehabilitation process.)

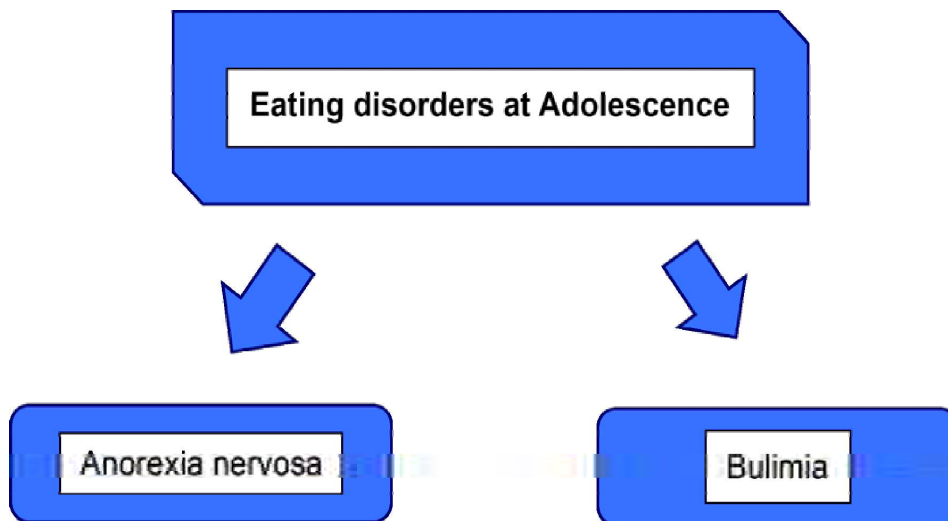
## Factors Influencing Eating Behaviour

During adolescence period the factors influencing on eating habits are numerous and the formation of those habits is extremely complex. Socio - economic, political system, food availability, production and distribution system.



<b>External Factors</b>	<b>Internal Factors</b>
Family unit and family characteristics	Physiological needs
Parenting practices	Body image and self concept
Peers	Personal values and beliefs
Social and cultural	Food preferences and meaning
Norms and values	Psychological development
Mass media, Fast Foods, Food Fats, Nutrition Knowledge	Health
Life Style	Individual food Behaviur

**Eating Disorders at Adolescence-** This stage is associated with the rapid physical growth and body-image development eating disorders are of special concern in this time.



- **Anorexia nervosa** - This disorder is tied to body image distortion that is most commonly seen in adolescence. This is a period when a person is struggling with self-identity and most vulnerable to body image problems. They become obsessed with very thin body and feels pressurized to lose weight.
- **Bulimia** - It often begins in late adolescence after series of unsuccessful weight reduction diets. Here teen indulges in binge eating (over-eating) and inducing purges by vomiting or using laxatives. This is more common in females.

Best defense against these disorders is to learn appreciate one's uniqueness, respecting and valuing oneself will certainly be life saving.

Important dietary interventions include - balanced diet, enhancing dietary fibre intake and using nutrient food supplements to make up losses.

### Multiple Choice Questions

(1 mark)

Q1. Hormonal activities are increased in which stage of human life?

- Childhood
- Adulthood
- Adolescence
- Infancy

Ans. c) Adolescence

Q2. Various types of food provide \_\_\_\_\_ to keep ourselves healthy.

- Nutrients
- Energy
- Heat / Calories
- None of the above

Ans. a) Nutrients

Q3. The science of food and nutrients and its effect on our health is called \_\_\_\_\_.

- a) Nutritious
- b) Nutrition
- c) Clinical nutrition
- d) Dietary allowance

Ans. b) Nutrition

Q4. Macronutrients are required in \_\_\_\_\_ amounts in body.

- a) More
- b) Less
- c) Balanced
- d) Both c) and d)

Ans. a) More

Q5. Foods sharing common characteristics which are grouped together are called \_\_\_\_\_.

- a) Balanced diet
- b) Nutrients
- c) Nutrition
- d) Food group

Ans. d) Food groups

Q6. In pulses and legumes food group, \_\_\_\_\_ is found in abundance.

- a) Protein
- b) Carbohydrates
- c) Vitamins
- d) Fats

Ans. a) Protein

Q7. 1 gram fat provide \_\_\_\_\_ kilo calories of energy.

- a) 4
- b) 9
- c) 6
- d) 7

Ans. b) 9

Q8. Raw fruits and vegetables provide \_\_\_\_\_.

- a) Fibre
- b) Retinol
- c) Vitamin-D
- d) Protein

Ans. a) Fibre

Q9. Girls are especially suffering from \_\_\_\_\_.

- a) Anaemia
- b) ight blindness
- c) Scurvy
- d) Beri-beri Ans.

Ans. a) Anaemia

Q10. A person suffering from \_\_\_\_\_ vomit out excess food by purging.

- a) Anorexia
- b) Night blindness
- c) Bulimia
- d) Anaemia

Ans. c) Bulimia

### **Very Short Answer Question**

**(1 Marks)**

Q11. Give definition of nutrients?

Ans. Constituent in food that must be supplied to the body in suitable amounts.

Q12. What do you mean by activity level?

Ans. Level of activity of person - example- sedentary or light, moderate and heavy. This is related to one's occupation.

Q13. Write full form of RDA?

Ans. Recommended Dietary Allowances

Q14. How RDA is associated with needs?

Ans. RDA = requirements + margins of safety

Q15. What do you mean by health or fitness?

Ans. Fitness keep a person healthy and energetic and prepares him to accept challenges of life effectively and efficiently.

Q16. Why food groups were formed?

Ans. Food groups are formed to help in planning balanced diet.

Q17. Why seasonal fruits and vegetables should be used?

Ans. Seasonal fruits and vegetables are nutritious, easily available and full of Vitamin-C and fibre.

Q18. Which nutrients are not present in milk?

Ans. Iron and Vitamin C.

Q19. How much calorie should be contributed by cereals in meals?

Ans. 75% of total calories should be provided by cereals in meals.

Q20. What is Food Pyramid?

Ans. Food pyramid is a graphic representation of daily food guide. This was assigned to depict variety, moderation and also proportions.

Q21. What substitute can be taken by vegetarians for meat?

Ans. Pulses, legumes, seeds, dry fruits or tofu.

Q22. Which diseases can occur in body due to bad dietary habits?

Ans. Chronic diseases like obesity, heart diseases, cancer, diabetes etc.

Q23. Why snacking is popular in adolescence?

Ans. Generally adolescent does not eat 3 meals per day so, snacking is a survival technique for teens. It helps to maintain energy levels in the body.

Q24. How media influences dieting in adolescence?

Ans. Adolescents are bombarded with messages from media that thin is beautiful and they explore ways to achieve a lower body weight.

Q25. Why exercise is essential for adolescents?

Ans. It helps to maintain activity levels and is essential for maintaining healthy life in adolescents.

Q26. How substance abuse can be reduced in adolescence?

Ans. Substance abuse in adolescence can be prevented by nutritional intervention, support and proper counselling.

Q27. What is the influence of Peer group on adolescent?

Ans. Adolescents are more influenced by peer group in this stage. The influence of peers can be a source of support as well as source of stress for them.

Q28. Why ready to eat food is so popular in adolescence?

Ans. Ready to eat food influences eating habits of adolescence as it is available everywhere and is taken by youth several times throughout the day.

Q29. Name the eating disorders found in adolescence?

Ans. Anorexia nervosa and bulimia.

Q30. Renu is not happy with her self-image and wants to lose weight. she has almost stop eating food. Name the disorder she is suffering from?

Ans. Anorexia nervosa.

**Short Answer Question****(2 Marks)**

Q31. Give difference between food and nutrition?

Ans. Food - anything solid or liquid which when swallowed, digested and assimilated in the body provides it with essential substances called nutrients.

Nutrition - science of food and nutrients and the action on health is called nutrition.

Q32. Write the definition of Balanced food?

Ans. Balanced food - includes a variety of foods in adequate amounts and correct proportions to meet the daily requirement of all essential nutrients such as protein, carbohydrates, fats, vitamins, minerals, water and fibre.

Q33. Give difference between RDA and minimum requirement.

RDA stands for "Recommended Dietary Allowance". Allowance of nutrients which covers the needs of practically all healthy individuals. These are not requirements for any individual but guidelines which tell us the amount of nutrients to be consumed

Requirements; It refer to the minimum intake value of a nutrient that is estimated to meet the nutrient requirement of half the healthy individual in a life stage and gender group.

$RDA = Requirements + Margin\ of\ Safety$

Q34. Give difference between macronutrients and micronutrients.

Ans. Macro Nutrients - which are required in large amounts in body, like – Protein, carbohydrates, fats etc.

Micro Nutrients - which are required in small amounts in body, like – Iodine, Iron etc.

Q35. Give difference between health and fitness?

Ans. Fitness is the ability of the body to do physical tasks efficiently.

Health - The state of complete physical, emotional and social wellbeing, not merely the absence of disease.

Q37. Which nutrients are provided by food group - milk and meat products?

Ans. This food group is excellent source of good quality protein. It also provides fat, iron, Vitamin-B, calcium apart from protein.

Q38. How food group helps in planning of balanced diet?

Ans. Food groups are used in both planning and evaluation of balanced diet. While planning for diet, food items are picked from each food groups.

Q39. Why cereal and grain products are kept at the lower level in food pyramid?

Ans. The broad base of a pyramid is made up of cereals and grain products which shows that approximately 75% of total calories should be taken from this group. It also provides complex carbohydrates, fibre and vitamins.

Q40. How dietary pattern changes in adolescence?

Ans. Snacking is generally observed in this stage. For adolescent's, choice of food is more important than time of food or place. Snacking frequently, dieting, consuming fast foods, not taking fresh vegetables and fruits are certain patterns of this stage.

Q41. Tendency of consuming fast food is seen in adolescence. What does this signify?

Ans. Tendency of eating fast food is seen in adolescence and is more popular in teens because these are convenience food and in fashion also. Most of the teens skip their meals and snack in between which is mostly fast food like burger, pizza etc.

Q42. What are the limitations of fast foods?

Ans. Fast food is rich in calories, sodium and fats. Essential nutrients like- calcium, Vitamin-A and Folic acid are generally found in low levels in fast foods.



Q43. Puja is an adolescent who is influenced by dieting. What advice will you give her to leave this habit?

Ans. In adolescence, healthy food habits should be encouraged. Puja should be told to accept healthy lifestyle and healthy eating habits. Daily exercising also keep body fit and energetic.

Q44. What is the importance of exercise in adolescence?

Ans. Exercises are very important for leading a healthy life. This maintains high level of activity in individuals for example – walking, using stairs, exercising thrice in a week, maintain fitness.

Q45. How adolescence and anaemia is related?

Ans. Anaemia disease is generally caused due to the deficiency of iron in food and girls are mostly affected from it. The reason for it is- poverty, insufficient food, diseases, insufficient health Services, menarche are the various factors which lead to anaemia.

**Long Answer Question**

**(3 Marks)**

Q46. What do you mean by balanced diet? While preparing it what points you will keep in mind?

Ans. Balanced diet is one which includes a variety of foods in adequate amounts and correct proportions to meet the days requirement of all essential nutrients. Following points should be taken care of while preparing balanced meals –

- Includes a variety of food items
- Meets the RDA for all nutrient's portions
- Provides a safety margin for nutrients
- Promotes and preserves good health
- Maintain acceptable body weight for height.

Q 47. Explain how the use of food groups simplifies planning of balanced diet ? (NCERT)

Ans. While preparing balanced diet - while planning and assessing balanced diet following guidelines should be adopted –

- Include at least one or a minimum number of servings from each food group in each meal choices within each group as foods within each group are similar but not identical in the total value.
- For vegetarians use suitable combinations to improve protein quality of diet like- cereal, protein variety within group pulse combinations with milk and meat group.
- Include uncooked vegetables and fruits in the meal.
- Include at least one serving of milk to ensure supply of calcium and other nutrients.
- Cereal should not supply more than 75% of total calories.

Q 48. List the difference between snacking and fast food?

Ans. **Snacking** – this is generally a survival technique for teens. Many teens fail to eat three meals per day because of skipping meal factor. This helps in maintain energy level of body.

**Fast foods** - Adolescence in urban areas are more likely to eat fast food because it is convenient and according to them it is fashion of the day. It is often packed with ‘fat’ and ‘empty calories’.

Q49. Explain any three points in how to modify diet related behaviour in adolescence?

Ans. Modifying diet related behaviour in adolescence-

- Limited television viewing - watching television for long hours does not consume calories and it also encourages binge eating. Over eating and under eating is common among those who do this.
- Healthy eating habits – Eat three balanced meals of average size each day plus two nutritious snacks. One must try not to skip meals.
- Drinking water- drinking 8 to 10 glasses of water daily is a good habit. It has no calories and it will create a feeling of fullness. Avoid drinking soft drinks and fruit juices frequently as they are high in calories.

**(4 Marks)**

Q50. The prevalence of Anaemia is high in adolescence. Justify this statement.

Ans. Anaemia is quite prevalent in adolescent stage. Instead of young boys, young girls are affected more with it. In country like-India, due to poverty, inadequate diet, certain diseases and poor access to health services, has increased the rate of anaemia in adolescence.

Interventions for Anaemia –

- Increase intake of iron rich food like- green leafy vegetables, whole grains and cereals, non-veg etc.
- Iron supplements should be distributed in schools.
- Adolescence should be told about anaemia in schools through recreational activities and mass media.
- They should be given information regarding iron rich foods.

Q51. List 10 foods which belong to the protective food groups. Stating reasons for Your choice? (NCERT)

Ans. Foods that are rich in minerals and vitamins are referred to as protective foods that protect the body against the diseases of deficiency.

List of foods : Green leafy or yellow vegetables, citrus fruits, egg, milk, mango, tomato, ripe, watermelon, papaya, spinach, mango, ripe etc.

Q52. Dieting is becoming a crucial problem among adolescence. How can we create awareness among youth regarding dieting?

Ans. Dieting is becoming a crucial problem among adolescence. Intervention is needed to maintain ideal body weight among the entire population. This is also seen that, youth with normal body weight generally try to lose weight as they feel that 'being thin' is in fashion. Media also give message to them regarding losing weight but if dieting is not done under the expert guidance, it can be harmful for youth.

We can generate awareness among youth by following these points –

- Eliminate the term 'diet' and replace it with healthy eating.
- One should regularly incorporate healthy lifestyle and dietary practices in life.
- Good eating habits is a first step towards encouraging healthy diets.
- Regular exercises should also be incorporated to maintain fitness of body. (5 Marks)

Q 53. Write in detail about two eating disorders that may arise at adolescence? What would be the best way to prevent their occurrence? (NCERT)

Ans. In this stage one should give enough stress on eating disorders.

There are two main disorders in this stage-

- Anorexia nervosa - this is generally seen in adolescence, as youth is generally concerned with their body image

development as they are struggling with self-identity. They are vulnerable to body image problems and always feel that they are gaining weight and simultaneously lose confidence also. They develop deficiencies in the body and due to excessive weight loss, could lead to death also.

- Bulimia - This is also a dietary disorder and begins after a series of unsuccessful weight reduction diets. Those suffering with bulimia indulge in binge eating and induces purging by vomiting or using laxatives. It is more common in females and has serious consequences such as convulsions, renal failure, irregular heartbeat and dental erosion.

To get rid of these disorders following points should be kept in mind –

- One should be satisfied with their body image.
- They should respect themselves and give importance to oneself.
- Intake of Balanced meals and maximum fibre should be promoted in meals.
- Positive attitude and high activity.
- Nutrition therapy, psychotherapy (talk therapy) and in some cases medication.

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## Chapter - 4

# MANAGEMENT OF RESOURCES

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### IMPORTANT WORDS :-

**Resource** - Resource are those which are utilized to do any work. In other words for completing our work we need resources like time, energy, knowledge, interest things etc.

**Human Resource** - Human resource are the capabilities and abilities of an individual which can be used only by the person who possesses them e.g. energy, knowledge, skills, time, interest etc.

**Non-Human Resource** - They are material resources which are generated by humans that help us in fulfilling our goals e.g. money, property, cloth, stationery etc.

**Planning**- This is defined as preparing a scheme on the basis of available resources for achievement of a particular goal.

**Organising** - It is collecting and arranging resources in order to complete plan and achieve goal in an effective manner.

**Implementation** - This is defined as plan we have made or doing that activity in reality, carrying out a prepared plan.

**Controlling** - Controlling means while doing any activity when we monitor that ongoing activity we called it controlling.

**Evaluation** - when task is completed and result come out we do evaluation of that results and outcome.

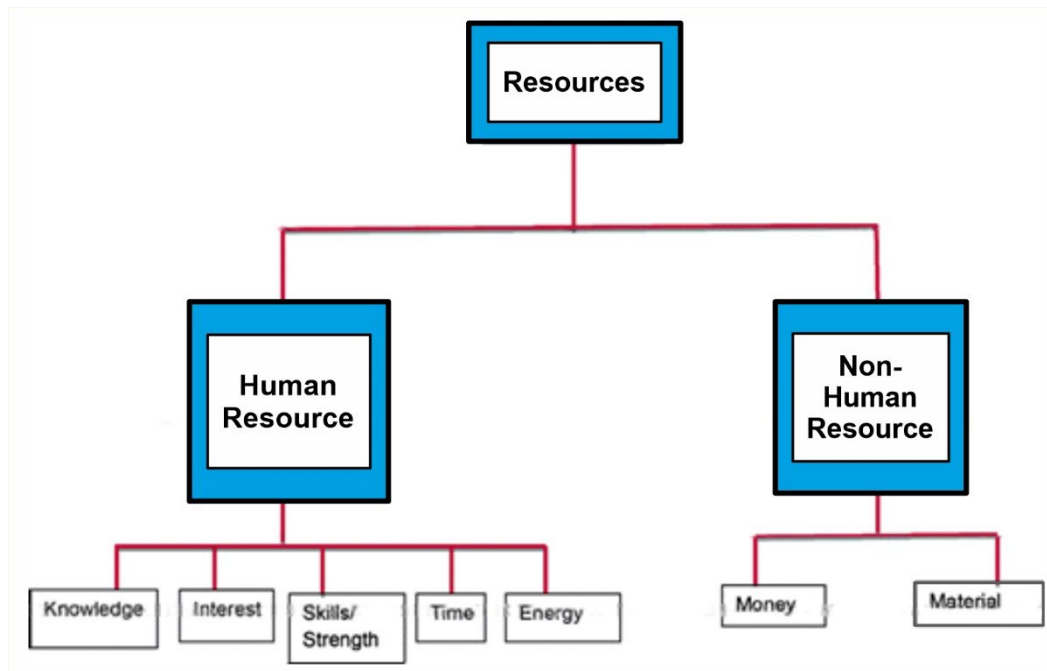
### DEFINITION OF RESOURCE -

Resource is those which we used for completing any work or goal.

### CLASSIFICATION OF RESOURCES

1. Human Resource / Non-Human Resource
2. Individual Resource / Shared Resource

### 3. Natural Resource / Community Resource



**HUMAN RESOURCE** - Human resources are Central for carrying out any activity. Resources can be developed by any person by their abilities and training. For example-gaining knowledge in any work or field.

**This can be of different types-**

- **Knowledge :-** This is the resource one uses throughout one's life and it is necessary for carrying out any activity or goal. For example, a car driver must have knowledge about different part of the car likewise a teacher before teaching should have complete knowledge about the subject.
- **Motivation / Interest :-** This is a very important resource which help us to move forward in life. Interest help people in finding their goal and ways to completing the task or goal. For example, if we have no interest in doing any work still we arrange resources organised things for doing that activity but at the end we may delete this task because we don't have any interest in doing the task.

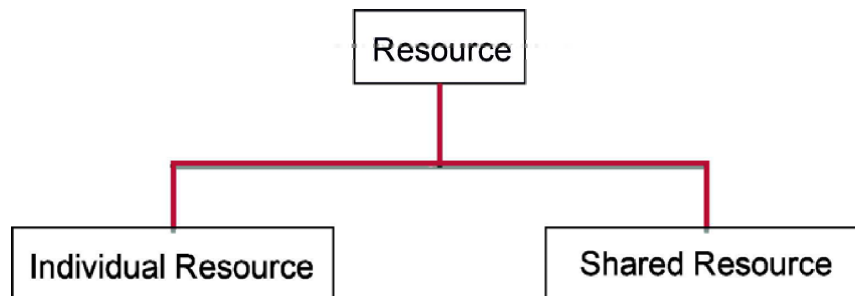
- **Skill /Aptitude / Strength :-** Skill is a resource which differentiate one person from another. People are not perfectly skilled in doing all the activities instead they learn skills according to their interest. For example- making pickle, teaching skills etc.
- **Time :-** Time is a resource which is equally given to us. This depends on us how we use our time as a resource in what ways. For example, in a class of 20 students each subject is divided according to time. This depends on the students how much and in what way they use this class time and learn.
- **Energy :-** Energy depends on person's physical and mental state. This is an important resource because we carry out our all activities by this resource only.

## NON-HUMAN RESOURCE

**Money** - This is a resource which everyone needs to fulfill their goal, desires and complete their work. Money as a resource is not equally available to everyone in equal amount. Money is a limited resource. We need to spend this resource according to our needs and requirements we should not waste money.

**Material Resource** - Material Resource means any material which we used to complete our task for example furniture, clothes, stationary etc. Like for completing school homework we need material resource like-pencil, copy, stationery etc.

### Individual and Shared Resource

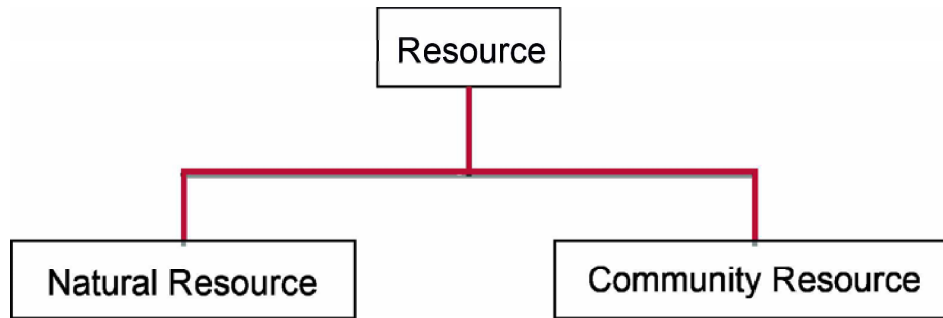




**Individual Resource** - They are those resources, a person relate to them like- My bag, my clothes, my house, my car etc. They can be human and non-human shared resource.

**Shared resources** - These are resources which are available to many members of the community/society. Shared resources can be natural or community based.

### **Natural Resource /Community Resources**



**Natural resource**- The natural resource which is available in our surrounding are called natural resources like plants, water, air etc. These resources are equally present for all the human beings. This depends on the person how they will use these resources in what all ways. We have to use carefully and protect our natural resources.

**Community Resources** -These resources are available to people when they are part of any community. They can be government resources which are provided by government they can be human and non-human resource. Road, park, banquet, hall, post office, library, hospital etc. They all are maintained by community only.

### **Characteristics of Resources-**

We all know our resources are categorized in various categories but there is some similarity in these resources.

### **Different resources and their characteristics are -**

**Utility** - Utility means importance for the usefulness of any resource which

helps us in achieving our goals. Our resources are also important for achieving our goals. For fulfilling our goals we choose our resources on the basis of how much we can utilize from these resources for fulfilling our needs and achieving our goals, for example- In a community, there is a facility of a park, it depends on all the people living, there how much they can utilize this resource and in what manner.

**Accessibility-** This means how resources are easily available to us as compared to other resources. We can also say that resources are easily available to some person and for some it is difficult to find resources. For example-money is not easily available to all the persons. Some will find it easily and some people get after so much struggle.

**Interchangeability** - This mean every resource have substitute. If any resource is not available to us then the substitute of that resource is available. We use to fulfill our goals by organising these resources. If any one resource is not available then we replace that resource and achieve our goals, for example- If we need to go somewhere through our vehicle and our vehicle is not available then we choose the substitute resource that is we go by using local transport.

**Manageable** - For completing a task activity and achieving any goal we need to manage our resources because our resources are limited and for that we need to manage our resources in an effective and useful manner for example in a house we need to light our house according to our requirement we do not waste electricity.

**Managing Resources** - As we know that our resources are limited and for completing and achieving our goals in an effective manner. We need to manage our resources in an effective manner. Managing resources means which resources are available to us in our surroundings. We need to properly and carefully use these resources so that there is no wastage of these resources and we will achieve our goals, for example some people use money in an effective manner by preparing budgets and with planning and some people without planning waste their money by buying anything.

## **Management process involves five steps:**

1. Planning
2. Organising
3. Implementing
4. Controlling
5. Evaluation

### **1. Planning**

- Planning is the first step in any management system. In planning we produce a plan or a scheme for action for achieving our goals by using available resources.
- In planning we need to select course of actions like what is our present situation, where do we need to reach, the gap interval and how we can reach to a desired goals in these parameters we plan our goals.
- Planning have different steps. The basic steps are identifying the problem, identifying different alternatives, choosing between alternatives, acting to carry out the plan, putting the plan into action, accepting the consequences.

For example - If we are planning an Annual Day in our school and our goal is that we will successfully celebrate our annual day which is called our goal. If there are two month left for celebrating annual day that we called interval in a planning system. We plan all the resources which we need for achieving this goal.

**2. Organising** - We collect arrange are resources in order to implement plan in an effective and efficient manner. for example for celebrating annual day we need chairs for sitting we need food, invite guests, we need to prepare all the programs which are going to perform on annual day. We need to do flower arrangement, decoration and for all of these we need to organize resource

**3. Implementation** -Implementation means carrying out the prepared plan. Which ever goal we want to achieve that work or goal is finally implementing, for example - The Annual Day, celebration day for which we have planned. We call it implementation.

**4. Controlling** - Controlling helps to monitor the outcome of activities and make sure that the planner being implemented correctly. By controlling we need to ensure that if there is any problem arises how we need to overcome that problem and achieve our goals, for example - In Annual Day if we invite five guest and six or more will come then we need to arrange the food and sitting for them.

**5. Evaluation-**

- This is the last stage of management process this is very important step which tell us the result of the outcome of the goal which we are managing our planning.
- This gives the feedback that what we have planned for and what result we obtained is there any difference between them or not we need to correct it for future.

For example - We can give feedback that according to a plan the Annual Day celebrated or not and if any problem arises in future we can overcome these issues. So this is a very important step.

**Multiple Choice Questions**

**(1 Mark)**

Q1. \_\_\_\_\_are used for achieving any goal or completing any activity?

- A. Planning
- B. Resources
- C. Organising
- D. Implementation

Ans. (B) Resources

Q2. Money is \_\_\_\_\_ resource?

- A. Human resource
- B. Non-human resource
- C. Natural resource
- D. Community resource

Ans. (B) Non-Human Resource

Q3. Which of the following is human resource?

- A. Money
- B. Transport
- C. Book
- D. Skills

Ans. (D) Skills

Q4. For completing any task we need to do planning for that task. What is the first step of Management process?

- A. Planning
- B. Organising
- C. Implementation
- D. Controlling

Ans. (A) Planning

Q5. \_\_\_\_\_ is a process in which we need to organise resources for achieving our goals?

- A. Planning
- B. Implementation
- C. Controlling
- D. Organising

Ans. (D) Organising

Q6. Radha used to go to school in her school bus if one day that school bus not come to pick her up then she may replace that bus with her Personal car and go to school in her car. These situations tell us about which characteristics of our resource?

- A. Management
- B. Utility
- C. Accessibility
- D. Interchangeability

Ans. (D) Interchangeability

Q7. House is example of which resource?

- A. Natural resource
- B. Physical resource
- C. Human resource
- D. Shared resource

Ans. (B) Physical resource

Q8. In how many ways the sources are categorized?

- A. Three
- B. Two
- C. Four
- D. One

Ans. (A) Three

Q9. How many steps are there in management process?

- A. Four
- B. Three
- C. Two
- D. Five

Ans. (D) Five

- Q10. While doing any activity when we monitor that activity we call it?
- A. Implementation
  - B. Controlling
  - C. Evaluation
  - D. Organising
- Ans. (B) Controlling
- Q11. How many steps are there in planning?
- A. Five
  - B. Three
  - C. Four
  - D. Six
- Ans. (A) Five
- Q12. Which is the last step of management process?
- A. Planning
  - B. Implementation
  - C. Organising
  - D. Evaluation
- Ans. (D) Evaluation
- Q13. \_\_\_\_\_ is a process in which we compare final result from the planned outcome?
- A. Management resource
  - B. Management
  - C. Implementation
  - D. Evaluation
- Ans. (D) Evaluation

Q14 When we are actually performing the planned activity for a goal we call it?

- A. Implementation
- B. Controlling
- C. Organising
- D. Evaluation

Ans. (A) Implementation

Q15. Use of our resources in an effective manner we call it?

- A. Human resource
- B. Management Process
- C. Natural Resource
- D. Implementation

Ans. (B) Management Process

Q16. By identifying the problem we choose our resources this process we call :

- A. Organising
- B. Planning
- C. Controlling
- D. Managing Resources

Ans. (B) Planning

Q17. Which of the following is not the step of management process?

- A. Human resource
- B. Evaluation
- C. Organising
- D. Implementation

Ans. (A) Human resource



Q18. The resources available for personal use of any person, what we call these resources?

- A. Natural resource
- B. Shared resource
- C. Community resource
- D. Individual resource

Ans. (D) Individual Resource

Q19. For doing any activity we learn so many new things. In human resource, this is what kind of resource?

- A. Energy
- B. Knowledge
- C. Time
- D. Skills

Ans. (D) Skills

Q20. The relation between our present state and future state is called

- A. Interval
- B. Knowledge
- C. Time
- D. Energy

Ans. (A) Interval

### Short Questions

(2Marks)

Q1. What do you mean by resources?

Ans. Resources are those which we need for completing any task or achieving any goal for example time, things, energy, interest etc.

Q2. What do you mean by human resources ? Explain with example ?

Ans. Human resources are central for carrying out any activity. Resources can be developed by any person by their abilities and training. For example- gaining knowledge in any work or field.

Q3. In how many ways we categorize resources?

Ans. We categorize one resource in three ways

**Classification of Resources**

1. Human Resource / Non-Human Resource
2. Individual Resource / Shared Resource
3. Natural Resource / Community Resource

Q4. What do you mean by Non-Human Resources ? Explain with example?

Ans. This is a resource which everyone needs to fulfill as their goal and desire to complete their work, for example - money, material etc.

Q5. What do you mean by Management Process? How many steps of management process have?

Ans. **Managing Resources** means which resources are available to us in our surroundings, we need to use them properly and carefully.

**Management process involves five steps:**

1. Planning
2. Organising
3. Implementing
4. Controlling
5. Evaluation

Q6. What do you mean by planning? Explain with example?

Ans. Planning is the first step in any management system in planning. We produce a plan or a screen for action for achieving our goals by using availability of resources.

For example - If we are planning Annual Day in our school and our goal is that we will successfully celebrate our annual day which is our goal. If there are two months left for celebrating annual day that we called interval in a planning system, we plan all the resources which we need for achieving this goal.

Q7. In any Management process what do you mean by evaluation?

Ans. This is the last stage of management process. This is very important step which tell us the result or the outcome of the goal which we are planning.

Q8. “There is always a substitute for each and every resource”. Explain this statement?

Ans. This mean every resource has substitute. If any resource is not available to us then the substitute of that resource is available. We use to fulfill our goals by organising these resources if any one resource is not available then we replace that resource and achieve our goals.

Q9. How natural resources are important? How we have to use these natural resources?

Ans. The natural resource which is available in our surrounding are called natural resources like plants, water, air etc. These resources are equally present for all the human beings. This depends on the person how they will use these resources and in what all ways. We have to use it carefully and protect our natural resources.

Q10. How many steps planning have ?

Ans. Planning has different steps; these basic steps are –

1. Identifying the problem,
2. Identifying different alternatives,
3. Choosing between alternatives,
4. Action to carry out the plan and putting the plan into action
5. Accepting the consequences.

Q 11. Why should resources be managed? (NCERT)

Ans. Resources should be managed due to following reasons:

- **Resources** are limited.
- For completing and achieving our goals we need to manage our resources in an effective and efficient manner.
- Managing resources means which resources are available to us in our surroundings.
- We need to select and manage the resources properly and carefully so that there is no wastage of it and thus helps us in achieving our goals.

**Long Answer** (3 Mark)

Q 1. Classify resources in three different ways giving the definition of each resource and two examples of each (NCERT).

**Classification of resources**

1. Human Resource / Non-Human Resource
2. Individual Resource / Shared Resource
3. Natural Resource / Community Resource

**1. Human resource** - Human resources are central for carrying out any activity. Resources can be developed by any person by their abilities and training, for example - Gaining knowledge and skill in any work or field.

**Non-human resource-**

**Money** - This is a resource which everyone needs to fulfill their goal desire and complete their work. Money as a resource is not equally available to everyone in equal amount. Money is a limited resource we need to spend this resource according to our needs and requirements we should not waste money. Cash in hand and in bank are examples.

**Material Resource** -Material Resource means any material which we used to complete our task for example furniture, clothes, stationary etc. Like for completing school homework we need material resource like pencil, copy, stationery etc.

## 2. Individual and Shared Resource-

**Individual resource** - They are those resources, a person relate to them like-My bag, my clothes, my house, my car etc. They can be human and non-human resource. Person's own knowledge, personal items.

**Shared Resource-** These are resources which are available to many members of the community/society. Shared resource can be natural or community based. Fax machines and printers are examples.

### **Natural resource / Community Resources**

**Natural resource** - The natural resource which is available in our surrounding are called natural resources like plants, water, air etc. These resources are equally available to all of us. We have to use carefully and protect our natural resources. Sunlight, air are examples.

**Community Resources** -These resources are available to people when they are part of any community. They can be government resources which are provided by government they can be human and non-human resource. Like Road, park, banquet hall, post office, library, hospital etc. They all are maintained by community only.

Q 2. Human resources are known as Central for completing any task. Explain this?

Ans. Human resources are Central for carrying out any activity. Resources can be developed by any person by their abilities and training. for example - Gaining knowledge in any work or field.

- This can be developed by any person skills and experiences.
- This helps us in life, interest will help us finding out our goals.

Q 3. What do you mean by Management process? Explain planning as a step of management process?

Ans. **Managing Resources** means which resources are available to us in our surroundings. We need to properly and carefully use these resources so that there is no wastage of these resources and thus achieve our goals, for example - Some people use money in an effective manner by preparing budgets with planning and some

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people without planning their, are wasted by buying anything randomly.

Q 4. Name the steps of the management process. Explain the planning process.

**Management process involves five steps :**

1. Planning
2. Organising
3. Implementing
4. Controlling
5. Evaluation

**Planning-**

- Planning is the first step in any management system. In planning we produce a plan or a screen for action for achieving our goals by using availability of resources.
- In planning we need to select course of actions like what is our present situation where do we need to reach the gap interval and how we can reach to a desired goals in these parameters we have to plan our goals.

Q 5. Differentiate between Natural and Community resources?

<b>Natural Resources</b>	<b>Community Resources</b>
1. The natural resource which is available in our surrounding are called natural resources.	These resources are available to people when they are part of any community.
2. Like plants, water, air etc.	Like road, park, banquet hall, post office, library, hospital etc.
3. These resources are equally present for all the human beings. This depends on the person how they will use these resources.	They can be government resources which are provided by government, they can be human and non-human resource.

### Long Question

(4 Marks)

Q 1. What do you mean by Management process ? Explain in detail?

Ans. **Managing Resources** means which resources are available to us in our surroundings. We need to properly and carefully use these resources so that there is no wastage of these resources and we will achieve our goals, for example - Some people use money in an effective manner by preparing budgets and with planning and some people without planning waste their money by buying anything

Q 2. Explain the steps in the management, using one example to clarify each step? (NCERT)

Ans. **Management process involves five steps :**

1. Planning
2. Organising
3. Implementing
4. Controlling
5. Evaluation

#### **Planning-**

- Planning is the first step in any management system. In planning we produce a plan or a screen for action for achieving our goals by using availability of resources.
- In planning, we need to select course of actions like what is our present situation, where do we need to reach, the gap interval and how we can reach to a desired goal in these parameters we plan our goals.
- For example: celebrating the annual day successfully which is our goal- selecting a theme, events, items required and dividing the responsibilities among the staff members according to their skills and abilities.

**Organising** - We collect and arrange the resources in order to implement plans in an effective and efficient manner, for example - For celebrating annual day we need chairs for sitting, we need food, invite guests, we need to prepare all the programs which are going to perform on annual day, we need to do flower arrangement, we need to do decoration and for all of these we need to organize resources.

**Implementation** - Implementation means carrying out the prepared plan whichever goal we want to achieve that work or goal is finally implementing, for example - The annual day for which we do planning. This is called implementation.

**Controlling** - Controlling helps to monitor the outcome of activities and make sure that the planning is being implemented correctly. By controlling we need to ensure that if any problem arises how can we overcome that problem and achieve our goals for example in annual day if we invite five guest and six or more are arriving then we need to arrange the food and seating arrangement for them accordingly.

**Evaluation-**

- This is the last stage of management process. It is an important step which tells the outcome of the goal which we are managing or planning..
- This gives the feedback that what we have planned for and what result we obtained or if we need to do anything to correct it for future results.

Q3. Explain planning as a management process with the help of an example?

Ans. **Planning-**

- Planning is the first step in any management system. In planning we produce a plan or a screen for action for achieving our goals by using the availability of resources.
- In planning we need to select the course of actions like what is our present situation, where do we need to reach to overcome the gap interval and how we can reach to a desired goal in these

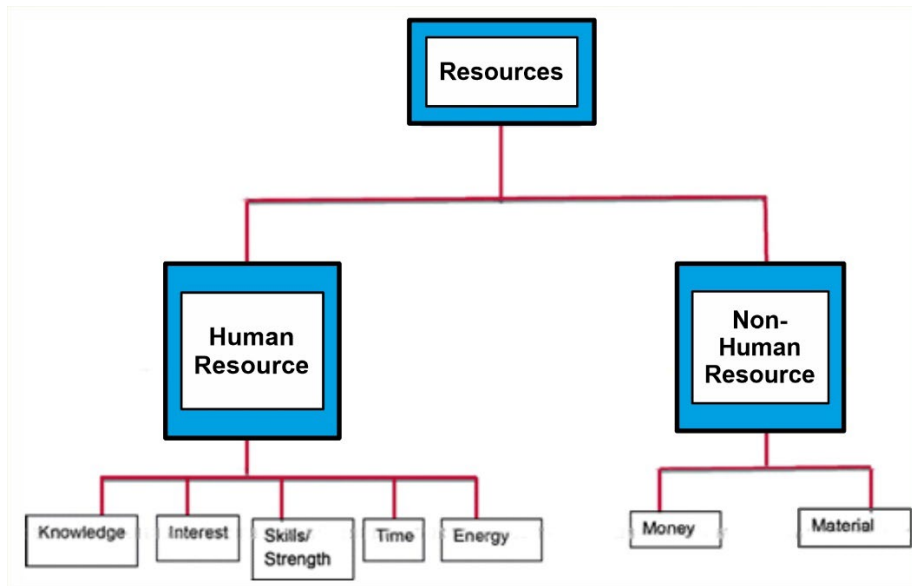


situations we plan our goals.

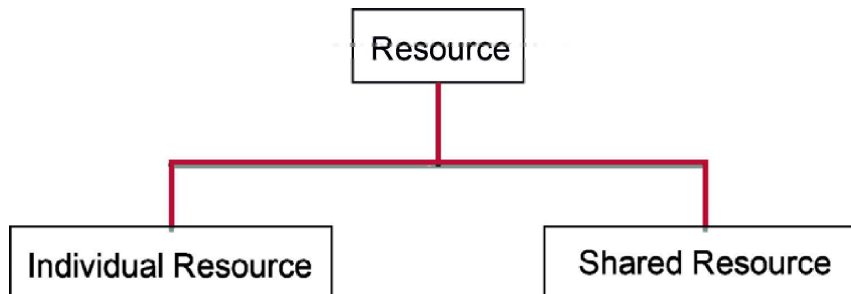
- Planning has different steps-These basic steps are identifying the problem, identifying different alternatives, choosing between alternatives, acting to carry out the plan, putting the plan into action, accepting the consequences.

Q4. With the help of diagram explains the categorization of resources?

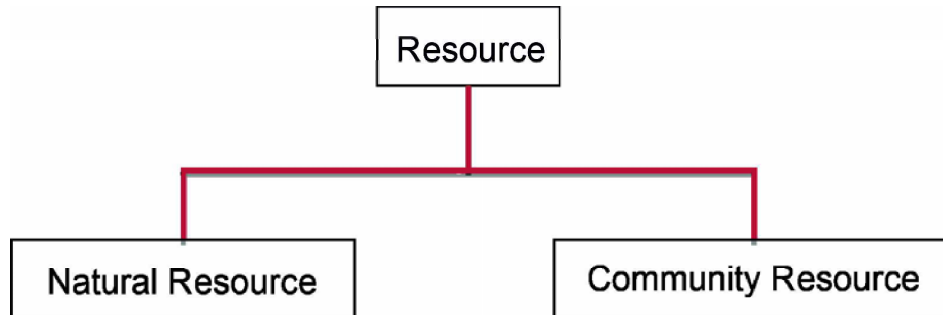
Ans. **Human Resource and Non-Human Resource**



**INDIVIDUAL RESOURCE AND SHARED RESOURCE**



## NATURAL/ COMMUNITY RESOURCE



Q 5. 'All the resources are accessible' explain this statement?

Ans. This means how resources are easily available to us as compared to other resources. We can also say that resources are easily available to some people, and for some it is difficult to find resources. For example - Money is not easily available to all people. Some people will find it easily and for some people it is difficult to achieve.

### Long Answer

(5 Marks)

Q1. What do you mean by Resource Management? Explain any two steps of resource management?

Ans. Managing Resources means which resources are available to us in our surroundings. We need to use these resources properly and carefully so that there is no wastage of these resources and we achieve our goals, for example - Some people use money in an effective manner by preparing budget with planning. Whereas some people waste their money by buying anything without any planning.

1. **Organising** - We collect and arrange our resources in order to implement plans in an effective and efficient manner. For example celebrating for annual day – we need chairs for sitting, we need food, invite guests, we need to prepare all the programs which are going to be performed on annual day, we need to do flower arrangement, decoration and for all of these we need to organize and plan our resources.
2. **Implementation** - Implementation means carrying out the prepared plan for whichever goal we want to achieve. For example. On the annual day, taking action as per the plan is called implementation.

Q2. In your school your annual exam is going to be held and in this annual exam only 3 months are left. You want to achieve good marks in the annual exam so how will you manage your resources for achieving this goal?

Ans. As we know 3 months are left in annual exam and we want to score good marks. For that, first we have to do the planning for achieving our goal. We need to plan a scheme, a time table on a daily basis. We have to study some topics subject wise. We need to list down all the resources which we need for scoring good marks and plan things according to that time span.

- On the basis of our plan, we organize our resources for achieving our goals like we make notes, arrange books for scoring good marks.

- Now, On the day when the exam is to be held, we have to give our 100% for which we have prepared to give these exams for scoring good marks.
- While implementation of goals, controlling will take place simultaneously as we have prepared all the subjects.

After completion of the exams now its the result day and that is the evaluation. We can evaluate what we have planned for scoring good marks, did we achieve that or not. If not we have to plan in a proper manner for future.

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## Chapter - 5

# FABRICS AROUND US

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**FABRICS** are all around us.

- They are an important part of our lives.
- They provide comfort and warmth.
- They have different colours and decorative styles.
- They are found in various textures.
- They are selected as per their end use.

**FIBRES** are very tiny and fine hair like structures; they are the basic building blocks of textiles from which a yarn is formed.

**YARN** is thread-like structure of cotton, silk, etc. which is made by spinning of the fibres. Yarn is also called thread.

All - fibres, yarns and fabrics are called **TEXTILE PRODUCTS** or simply **TEXTILES**.

**TEXTILE FINISHING** :- In textile manufacturing, finishing refers to the processes that convert the woven or knitted cloth into a usable material and more specifically to any process performed after dyeing the yarn or fabric to improve the look, performance, or 'hand' (feel) of the finish textile or clothing. Once ready, the fabric is processed several times to increase the quality of the textile and make it durable. This processing is called textile finishing.

### **FIBRE PROPERTIES**

The properties of fibre determine the properties of the fabric.

- The most essential property is its spinability, i.e., a characteristic which is essential for ease of conversion into yarn and later into fabric.
- Fibre should be economical.

## CLASSIFICATION OF TEXTILE FIBRES

### I. Natural Fibres

### II. Manufactured or Man Made Fibres

#### I. NATURAL FIBRES

Those which are available to us in nature.

There are four types of natural fibres.

**(a) Cellulosic fibres** - Cellulosic fibres are derived from plant cellulose, therefore they are called plant fibres or cellulosic fibres.

1. Seed hair- cotton, kapok
2. Bast fibres – flax (linen), hemp, jute
3. Leaf fibres - pineapple, agave (sisal)
4. Nut husk fibres - coir (coconut)

**(b) Protein fibres** - Protein fibres are derived from living organisms, they are also called Animal fibers.

1. Animal hair - wool, specially hair (goat, camel) fur
2. Animal secretion - silk

**(c) Mineral fibre** - Mineral fibres are derived from natural minerals containing mineral salts are called mineral fibres.

Eg. Asbestos

**(d) Natural rubber** - Natural Rubber is made from natural rubber tree barks and vines juice, or latex. It is also known as 'Indian rubber'.

## **II. MAN-MADE / MANUFACTURED FIBRES**

The man-made fibres are those whose physical and chemical composition as well as their properties can be changed as per the requirement at the time of manufacturing.

- 1. Regenerated Cellulose Fibres**
- 2. Modified Fibres**
- 3. Protein Fibres**
- 4. Non-cellulosic / Synthetic Fibres**
- 5. Mineral Fibres**

### **Process of Manufacturing Man Made or Manufactured Fibres**

- The solid raw materials are converted into a liquid form of a specific viscosity. This may be due to a chemical action, dissolution, heat application or a combination action. This is called the spinning solution.
- This solution is passed through a spinneret – a small thimble shaped nozzle with a series of very small holes, into an atmosphere which hardens it or coagulates it into fine filaments.
- As the filaments harden they are collected and stretched for further fineness and orientation or subjected to further processing like texturization to improve its stretch and / or bulk characteristics.

### **YARN**

**Yarn** can be defined as a continuous strand of textile fibres, filaments or material in a form suitable for knitting, weaving or otherwise intertwining to form a textile fabric.

## YARN PROCESSING

**Spinning** - Yarn processing from natural staple fibres is called spinning. It can also be defined as an act of making thread or yarn from fibres or filaments.

Conversion of fibre into a yarn in yarn processing involves a number of steps :

- (i) **Cleaning** : Natural fibres generally contain extraneous impurities depending upon their source, like seeds or leafy matter in cotton, twigs and dried impurities in wool. These are removed; fibres sorted out and converted into laps (rolled sheets of loose fibres).
- (ii) **Making into a sliver** : Laps are unrolled and subjected to straightening processes which are carding and combing. Carding disentangles the fibres and lays them straight and parallel to one another. This process removes finer impurities and short fibres as well. The lap then passes through a funnel shaped device which helps to convert it into a sliver. Sliver is a rope-like mass of loose fibres, 2-4 cm in diameter.
- (iii) **Attenuating, drawing out and twisting** : Now that the fibres have been converted into a continuous strand, it needs to be made as per the size required. This is called attenuation. Several slivers are combined for uniformity. The slivers are gradually drawn out so that they become longer and finer. If a blended yarn is required (e.g., cotswool-cotton and wool) slivers from different fibres are combined at this stage. The resultant sliver is still of the same size as the original sliver. The sliver after drawing is taken to the roving machine where it is further attenuated till it becomes of its original diameter. It is given a slight twist to keep the fibres together. The next stage is spinning. Here the strand is given the final shape as the yarn. It is stretched to the required fineness and the desired amount of twist given to it and wound on cones.



## YARN TERMINOLOGY

- (a) **Yarn number:** You may have seen certain numbers 20, 30, 40, etc., on the labels of thread reels. If you observe carefully and compare the fineness of the thread you will realise that thread reel with a higher number is finer. There is a fixed relationship between the weight of the fibre and the length of yarn drawn from it. This is designated as a yarn number which becomes the indication of the fineness of the yarn.
- (b) **Yarn twist:** As fibres are transformed into yarn, twist is added to hold the fibres together and is indicated as **t.p.i. (twist per inch)**. Loosely twisted yarns are softer and more lustrous, whereas tightly twisted yarns may show as ridges such as in denim material of jeans.
- (c) **Yarn and thread:** Yarn and thread are very similar and are many times used interchangeably. Yarn is the term usually used in the manufacturing of a fabric, whereas thread indicates a product used to join pieces of fabrics together.

## FABRIC PRODUCTION

**WEAVING** is the oldest form of textile art, which was originally used for making mats and baskets.

A woven fabric consists of two sets of yarns which are interlaced at right angles to each other, to form a compact construction. It is done on machines called looms.

One set of yarns is fitted on the loom, which determines the length and width of the fabric to be woven. These are called **warp yarns**. The loom helps to maintain these yarns at a fixed tension and even space. The second type of yarn, is also known as the Filling or Weft Yarn.

The direction of the yarns in a woven fabric is referred to as Grain.

Warp yarns run along the length wise grain or SELVEDGE. Filling yarns run along the width wise Grain or Weft.

In weaving, the shed is the temporary separation between upper and lower warp yarns through which the weft is woven. The shed is created to make it easy to interlace the weft into the warp and thus create woven fabric. The term SHEDDING refers to the action of creating a shed.

**KNITTING** is the interlooping of at least one set of yarns. It may be done by hand using a set of two needles for flat fabrics or a set of four needles for circular fabrics.

**Utility of knitted fabrics:**

- Knitted fabrics can be made very fast.
- Because of the system of loops they have more elasticity and thus are suitable for fitted articles like vests, underwear, socks, etc.
- They are porous and permit free circulation of air, are comfortable and allow freedom of movement and are therefore ideally suited for sportswear.

**BRAIDING** Braided fabrics have a diagonal surface effect and are made by plaiting three or more yarns that originate from a single location and lie parallel before interlacing occurs. Braids appear in items as shoelaces, ropes, insulation for wires and trimmings.

**NETS** are open mesh fabrics with large geometric interstices i.e. Very small intervening spaces between the yarns. These are made by inter-knotting of yarns by hands or machines.

**LACE** is an openwork fabric consisting of a network of yarns formed into intricate designs. It is a product of a combination of procedures including yarn twisting, interlooping and knotting.

**TEXTILE FINISHING**

A FINISH is any treatment on the fabric which can change its appearance, its textures or its behaviour for specific use.

**GREY CLOTH** - After spinning and weaving process the fabric that is prepared looks messy, muddy, rough and lifeless, along with some fibres and knots, this type of cloth is called grey cloth.

### **Importance of Textile Finishing**

1. To make clothes attractive
2. To increase the utility of textiles
3. To have variation in textiles
4. To make textiles more durable
5. To be able to make similar clothing

### **Types of Textile Finishes**

**Basic Finishes** Finishes that are considered absolutely necessary are known as 'routine' or basic finishes.

The finishes may be **durable** (do not get removed on washing or drycleaning) like dyeing or **renewable** (need to be applied repeatedly as they get removed on washing) like starching or blueing.

A few important finishes depending upon their functions are:

- **Change appearance** : Cleaning (scouring, bleaching), straightening and smoothening (calendering and tentering)
- **Change textures** : Starching or sizing, special calendering

### **Special/Functional Finishes**

These finishes change the behaviour of the fabric.

- **Change behaviour** : Wash and wear, permanent press, water repellent or waterproof, mothproof, flame retardant or fire proof, anti shrink (sanforization).

## **Dyeing and Printing of Fabrics**

Substances that can add colour to the fabric in a manner that it does not easily wash out are known as dyes. The method of dyeing depends on the chemical natures of the fibre and the dye, and the type of effect desired. Colour application can be done:

- At Fibre Stage – for yarns of different colours or designed felts.
- At Yarn Stage – for woven checks, stripes or other woven patterns. Collect five labels of fabrics. Match the information with what you have just read.
- At Fabric Stage – the most common method for solid colour dye, as also for designed dyeing like batik, tie and dye and printing.

**Printing** can be done by hand tools like blocks, stencils or screens and at industrial level like roller printing or automatic screen printing.

Various methods of textile printing :

- Block Printing
- Screen Printing
- Machine Printing
- Stencil Printing

## **SOME IMPORTANT FIBRES**

### **COTTON**

- Cotton is a natural cellulosic, staple fibre.
- Cotton is the shortest fibre with length varying from 1 cm. to 6 cm.
- The yarn or the fabric is dull in appearance and slightly rough to touch.
- Cotton is heavier in weight than most of the other fibres.

- Cotton fibres are the good conductors of heat.
- Cotton has good moisture absorbency and it also dries easily.
- Cotton is comfortable for summer use.
- Cotton fibres lack flexibility.
- Cotton is available in fabrics of all types of weights, fineness, structures and finishes.
- Cotton does not have any effect by alkali but it is destroyed by acid.
- Muslin, cambric, poplin, long cloth (latha), casement, denim, sheeting material and furnishing material are some of the cotton fabrics available in the market.



## **LINEN**

- Linen is a natural cellulosic fibre.
- Most of the properties of linen are similar to cotton.
- Linen fibre is longer and finer than cotton fibres, so the yarn produced is stronger and more lustrous than cotton yarn.
- Like cotton, linen also absorbs moisture readily and, therefore, is comfortable.
- Linen does not absorb dyes very readily and therefore colours produced are not so bright.

## WOOL

- Wool is a natural and protein fibre.
- Wool is obtained from sheep hair. It can also be obtained from other animals like goats, rabbits and camels. These fibres are called specialty hair fibres.
- Removal of hair from the animal is called **shearing**.
- While shearing, effort is made to keep the hair in one piece which is called **fleece**.
- Hair which is used to make wool when extracted from the living animals is called fleece or **clipped wool**. When hairs are extracted from dead animals, it is called **drawn wool**.
- The fibres vary in length from 4 cms. to 40 cms.
- Compared to other fibres wool has low strength but has good resilience, and elastic recovery.
- Wool is very flexible.
- All kinds of woolen garments shrink.
- Woolen fabrics have a tremendous capacity to absorb moisture. It can absorb large amount of water but does not feel wet on the surface.
- Woolen garments are worn in winter only because wool is a good conductor of heat.
- Both alkali and acid have an adverse effect on wool
- Wool is also used as blends with cotton, rayon and polyester, which improves its care and maintenance properties.

## SILK

- Silk is a natural animal fibre derived from silkworms.
- Silk fibre is made up of a natural protein fibroin.

- Silk fibres are the longest of all natural fibers. Their length can go up to several hundred feet.
- Silk has its own natural glow. That is why silk is called the Queen of Textiles.
- The silk fibre is stronger than all natural fibers.
- Silk fibres can absorb moisture very fast.
- Silk fibres are not able to withstand high temperatures as they are very soft.
- Both alkali and acid have a detrimental effect on silk.

### **RAYON**

Rayon is a man-made / manufactured cellulosic fibre. Cellulosic because it is made from wood pulp and manufactured because this wood pulp is treated with chemicals and regenerated into fibres

- In the textile industry, Rayon is also known as viscose rayon or artificial silk, a good alternative to rayon silk.
- Rayon contains almost all the properties of natural fibers.
- Rayon can be mixed with all types of fibers to form mixed fibers.
- Rayon has a higher capacity to absorb moisture than cotton.
- Rayon has the ability to withstand less heat than cotton, so it should be ironed at low temperatures.
- Rayon is a manufactured fibre so the size and shape can be controlled.

### **NYLON**

- Nylon was the first man-made artificial filament fibre made by a chemical method. Nylon is also known as Magic Fibre.
- Nylon filaments are usually smooth and shiny, with uniform diameter.

- Nylon has very good strength and abrasion resistance. Its resistance to abrasion makes it appropriate to be used in brushes, carpets, etc
- Nylon is a highly elastic fibre. Very fine and transparent fibres are used for 'one-size' garments like stockings.
- Nylon fibres are very strong and lightweight.
- The properties of absorbancy in nylon fibers are not same.
- Nylon filaments are conductors of heat as excess heat has a bad effecton the nylon fibres.
- Nylon is a popular fabric used in apparels, socks, undergarments, swim suits, gloves, nets, sarees, etc. It is a leading fibre in the manufacturing of hosiery and lingerie. For outer wear it may be blendedwith other fibres.

## **POLYESTER**

- Polyester is another manufactured synthetic fibre. It is also referred to as Terylene or Terene.
- Polyester fibre has a uniform diameter, smooth surface and rod like appearance. Polyester can be made in any strength, length and diameter as per the requirements of the end use.
- Polyester fibre is partially transparent and lustrous.
- The moisture regain of polyester is very low, i.e., it does not absorb water easily. Thus, it is not very comfortable to wear in hot and dry summer months.
- The most advantageous property of polyester is its wrinkle resistance.
- It is one of the most commonly used fibre for blending with rayon, cotton and wool and, to some extent, spun silk.



## **ACRYLIC**

- Acrylic is also a man-made artificial fibre.
- It seems to be so similar to wool that even many experts cannot distinguish between the two.
- Acrylic is also called CASHMELON.
- It is cheaper than wool.
- Like all manufactured fibres the length, diameter and fineness of the fibre are controlled by the manufacturer. The fibre can be made in varied degrees of crimp and luster.
- Acrylic is not very strong and its strength is similar to cotton.
- The fibres have high elongation with good elastic recovery.
- Acrylic is used as a substitute for wool and is used in children's wear, apparels, blankets and knitted goods.

## **ELASTOMERIC FIBRES**

- A fabric made of elastomeric fibre can be drawn from its actual measurement to about two times.
- The fabrics made from these fibres are famous for their good elasticity and elongation qualities.
- Elastomeric fibres are elastic rubber like substances and can be produced in various forms. In its natural form they include rubber and the synthetic equivalent is spandex or Lycra.
- These are usually used as blends with any of the fibres with low elasticity.

## QUESTION / ANSWERS

### Multiple Choice Questions

(1 Mark)

**Q1.** The direction of yarn in a woven fabric is called\_\_\_\_\_.

- a) Weft
- b) Warp
- c) Grain
- d) Matt

**Ans.** c) Grain

**Q2.** Interlooping of at least one set of yarn is called\_\_\_\_\_.

- a) Braiding
- b) Knitting
- c) Nets
- d) Lace

**Ans.** b) Knitting

**Q3.** Asbestos is a \_\_\_\_\_fibre.

- a) Protein
- b) Mineral
- c) Cellulosic
- d) Non-cellulosic

**Ans.** b) Mineral

**Q4.** \_\_\_\_\_ are open mesh fabrics with large geometric interstices between the yarns.

- a) Nets
- b) Silk
- c) Nylon
- d) Linen

**Ans.** a) Nets

**Q5.** Relationship between the weight of the fibre and the length of yarn drawn from its called \_\_\_\_\_ .

- a) Yarn twist
- b) Yarn and thread
- c) Yarn number
- d) Yarn Spinning

**Ans.** c) Yarn number

**Q6.** After spinning and weaving process the fabric that is prepared looks messy, muddy, rough and lifeless, also few fibres and knots can also be seen, this type of cloth is called \_\_\_\_\_ .

- a) Grey cloth
- b) Ready-made garments
- c) Woven fabric
- d) Dirty clothing

**Ans.** a) Grey cloth

**Q7.** \_\_\_\_\_ is a Special/Functional Finish.

- a) Stiffness
- b) Calendaring
- c) Tentering
- d) Mercerizing

**Ans.** d) Mercerizing

**Q8.** The bast fibre is \_\_\_\_\_ .

- a) Cellulosic
- b) Protein
- c) Mineral
- d) Jantav

**Ans.** a) Cellulosic

**Q9.** Which of these is not the method of printing dyeing.

- a) Tie and dye
- b) Batik dyeing
- c) Block printing
- d) Shedding

**Ans.** d) Shedding

**Q10.** Fibre should be\_\_\_\_\_ .

- a) Expensive
- b) Thick
- c) Economical
- d) Rough

**Ans.** c) Economical

### **Short Answer Questions**

**(1 Mark)**

**Q11.** What do you understand by fibre?

**Ans.** Fibres are very tiny and fine hair like structures, they are the basic building blocks of textiles from which a yarn is formed.

**Q12.** Define textile finishing.

**Ans.** Once ready, the fabric is processed several times to increase the quality of the textile and make it durable. This processing is called textile finishing.

**Q13. What determines the properties of the fabric?**

**Ans.** The properties of fibre determine the properties of the fabric.

**Q14.** What is the most essential property in a fibre?

**Ans.** The most essential property is its spinnability i.e. a characteristic which is essential for ease of conversion into yarn and later into fabric.

**Q15.** What are natural fibres?

**Ans.** Natural fibres are those which are available to us in nature.

**Q16.** When was the first manmade fibre manufactured?

**Ans.** The first manmade fibre was manufactured in 1895.

**Q17.** Which fibre is called Artificial Silk?

**Ans.** Rayon is called Artificial Silk.

**Q18.** What is spinning?

**Ans.** Spinning is the act or process of converting staple or short lengths of fibre as cotton or rayon into continuous yarn or thread.

Spinning is also the extrusion of a solution of fiber-forming substances through holes in a spinneret to form filaments.

**Q19.** What is the yarn number?

**Ans.** The fixed relationship between the weight of the fibre and the length of the yarn made from it is called the yarn number.

**Q20.** What do you understand Yarn twist, t.p.i. (twist per inch) ?

**Ans.** As fibres are transformed into yarn, twist is added to hold the fibres together and is indicated as **t.p.i. (twist per inch)** or **Yarn twist**.

### **Short Answer Questions**

**(2Mark)**

**Q21.** How did the word spinster originate?

**Ans.** Earlier young unmarried girls were commonly involved in spinning the finest yarn because of their very efficient fingers. The term '**spinster**' for unmarried women originated in that context.

**Q22.** Classify textile fibres based on their origin.

**Ans.** Classification of textile fibres on the basis of their origin :

- Natural fibre
- Man-made / manufactured fibre

**Q23.** Differentiate between yarn and thread.

**Ans.** Yarn and thread : Yarn and thread are very similar. The term yarn is often used in the manufacture of fabrics. While thread is used to stitch clothing or apparel.

**Q24.** Name two types of fabrics which are made up of directly from fibres.

**Ans.** There are mainly two types of fabrics made directly from fibres:

- Felts
- Non-wovens or Bonded fibre fabrics.

**Q25.** What is warp and weft yarn?

**Ans.** One set of yarns is fitted on the loom, which determines the length and width of the fabric to be woven. These are called Warp Yarns. The loom helps to maintain these yarns at a fixed tension and even space. The second yarn, which is the filling or the Weft Yarn

**Q26.** What are the strongest and weakest fibres?

**Ans.** Strongest fibre - Nylon (Artificial Fibre)  
Weakest fibre - Wool (Natural Fibre)

**Q27.** What is the colour ? What do you understand by the Dyeing Process?

**Ans.** Substances that can add colour to the fabric in a manner that it does not easily wash out are known as dyes or colour. The method of dyeing depends on the chemical natures of the fibre and the dye, and the type of effect desired. Colour application can be done:

- At fibre stage – For yarns of different colours or designed felts.
- At yarn stage – For woven checks, stripes or other woven patterns.

The process used to offer this colour is called the dyeing process.

**Q28.** Mention any two properties of Cotton fibres.

**Ans.** Properties of Cotton Fibres :

- Cotton is a natural cellulosic, staple fibre.
- It is the shortest fibre with length varying from 1 cm. to 5 cms.

- The yarn or the fabric made is dull in appearance and slightly rough to touch.
- It is heavier in weight than most of the other fibres.
- Cotton has good moisture absorbency and it also dries easily. Thus it is comfortable for summer use.
- It is available in fabrics of all types of weights, fineness, structures and finishes.

**Q29.** Mention any two properties of Rayon fibres.

**Ans.** Properties of Rayon fibres :

- Rayon is a manufactured fibre the size and shape can be controlled.
- It has uniform diameter and is clear and lustrous.
- Rayon being a cellulosic fibre has most properties like cotton. But it has a lower strength and durability.
- The main advantage of rayon and manufactured cellulosic fibres is that they can be reprocessed out of waste material and have an appearance like silk

**Q30.** Mention any two properties of Nylon fibres.

**Ans.** Properties of Nylon fibres :

- Nylon filaments are usually smooth and shiny, with uniform diameter.
- Nylon has very good strength and abrasion resistance. Its resistance to abrasion makes it appropriate to be used in brushes, carpets etc.
- Nylon is a highly elastic fibre. Very fine and transparent fibres are used for 'one-size' garments like stockings.

### Long Answer Questions

(3 Mark)

**Q31.** Explain what is the significance of weaving in textile production? Also explain warp, weft and shedding.

**Ans.** Weaving is the oldest form of textile art, which was originally used for making mats and baskets.

A woven fabric consists of two sets of yarns which are interlaced at right angles to each other, to form a compact construction. It is done on machines called looms.

One set of yarns is fitted on the loom, which determines the length and width of the fabric to be woven. These are called warp. The loom helps to maintain these yarns at a fixed tension and even space. The second yarn, which is the filling or the weft.

The direction of the yarns in a woven fabric is referred to as grain.

Warp yarns run along the length wise grain or selvedge. Filling yarns run along the width wise grain or weft.

In weaving, the shed is the temporary separation between upper and lower warp yarns through which the weft is woven. The shed is created to make it easy to interlace the weft into the warp and thus create woven fabric. The term shedding refers to the action of creating a shed.

**Q32.** Mention the usefulness of woollen fibres in textiles.

**Ans.** Usefulness of woollen fibres in textiles :

- Woollen garments are conductors of heat. For this, they are worn in winter.
- They do not have creases.
- They do not need to be ironed or washed frequently.
- Special anti-shrinkage finish can be applied on woollen fabrics.
- Wool is also used as blends with cotton, rayon and polyester, which improves its care and maintenance properties.



**Q33.** Mention the usefulness of silk fibres in textiles.

**Ans.** Usefulness of silk fibres in textiles :

- Silk is a beautiful, attractive, gentle and expensive fibre, it is suitable for special occasions.
- Silk fabrics are used more in winters as silk is a good conductor of heat.
- Cutting and sewing of Silk is not easy thereby it is an expensive fabric. Its brightness and flexibility make the garments attractive.
- The colours on the silken fabrics are easily accessed. These colours have a good shine and are very bright.
- Silk fabrics do not have creases, so they need not be ironed often.
- Silk fabrics are damaged by sweating, alkali soap, friction, etc., so it is not suitable for making household garments.
- These garments cannot be worn daily. These are generally dry cleaned.

**Q34.** Explain the importance of finishes in textiles.

**Ans.** All of the fabrics that are available in the market have received one or more finishing treatments, and except for whites, colour has been added to them in some form or the other.

Importance of Textile Finishing :-

- To make clothes attractive
- To increase the utility of textiles
- To have variation in textiles
- To make textiles more durable
- To be able to make similar clothing

**Q35.** What do you understand by knitting? Explain the usefulness of knitted cloth.

**Ans.** Knitting is the interlooping of atleast one set of yarns. It may be done by hand using a set of two needles for flat fabrics or a set of four needles for circular fabrics. Knitting may be done on machines. The process consists of making a series of loops along the knitting needle or machine bed. Each successive row is formed by interlooping with the first row of loops. The movement of the yarn is along the width of the material and therefore it is called filling or weft knitting. This method of knitting is used to produce articles which can be shaped while being constructed. At the industrial level, the knitting machines used are like the looms for weaving. They have a set of yarns (like warp yarns) fitted on the machine. The interlooping occurs with adjacent yarns. This is known as warp knitting. This can produce continuous lengths of material, which unlike the weft knitted fabric can be cut and stitched.

Usefulness of knitted cloth :-

- Knitted fabrics, because of the system of loops have more elasticity and thus are suitable for fitted articles like vests, underwear, socks, etc.
- They are porous and permit free circulation of air, are comfortable and allow freedom of movement and are therefore ideally suited for sportswear.

### **Long Answer Questions**

**(4 Mark)**

**Q36.** Explain the steps of converting fibre into yarn.

**Ans.** Steps to convert fibre into yarn :

- (i) **Cleaning :** Natural fibres generally contain extraneous impurities depending upon their source, like seeds or leafy matter in cotton, twigs and dried impurities in wool. These are removed, fibres sorted out and converted into laps (rolled sheets of loose fibres).

- (ii) **Making into a sliver** : Laps are unrolled and subjected to straightening processes which are carding and combing. Carding disentangles the fibres and lays them straight and parallel to one another. This process removes finer impurities and short fibres as well. The lap then passes through a funnel shaped device which helps to convert it into a sliver. Sliver is a rope-like mass of loose fibres, 2-4 cm in diameter.
- (iii) **Attenuating, drawing out and twisting** : Now that the fibres have been converted into a continuous strand, it needs to be made to the size required. This is called attenuation. Several slivers are combined for uniformity. The slivers are gradually drawn out so that they become longer and finer. If a blended yarn is required (e.g., cotswool-cotton and wool) slivers from different fibres are combined at this stage. The resultant sliver is still of the same size as the original sliver. The sliver after drawing is taken to the roving machine where it is further attenuated till it becomes of its original diameter. It is given a slight twist to keep the fibres together. The next stage is spinning. Here the strand is given the final shape as the yarn. It is stretched to the required fineness and the desired amount of twist given to it and wound on cones.

**Q37.** Differentiate between Nets and Laces.

<b>Ans</b>	<b>NETS</b>	<b>LACES</b>
	<ul style="list-style-type: none"> <li>● Nets are open mesh fabrics with large geometric interstices between the yarns.</li> <li>● These are made by inter-knotting of yarns by hands or machines.</li> </ul>	<ul style="list-style-type: none"> <li>● Lace is an openwork fabric consisting of a network of yarns formed into intricate designs.</li> <li>● It is a product of a combination of procedures including yarn twisting, interloping and knotting.</li> </ul>

**Long Answer Question****(5 Mark)****Q38.** Describe Rayon and Nylon fibres.**Ans.** Both Rayon and Nylon are Man-made / Manufactured fibres.

<b>RAYON</b>	<b>NYLON</b>
<ul style="list-style-type: none"><li>● Rayon is a man-made/ manufactured cellulosic fibre. Cellulosic because it is made from wood pulp and manufactured because this wood pulp is treated with chemicals and regenerated into fibres</li><li>● In the textile industry, Rayon is also known as viscose rayon or artificial silk, a good alternative to rayon silk.</li><li>● Rayon contains almost all the properties of natural fibers.</li><li>● Rayon can be mixed with all types of fibers to form mixed fibers.</li><li>● Rayon has a higher capacity to absorb moisture than cotton.</li><li>● Rayon has the ability to withstand less heat than cotton, so it should be ironed at low temperatures.</li><li>● Rayon is a manufactured fibre so the size and shape can be controlled.</li></ul>	<ul style="list-style-type: none"><li>● Nylon was the first man-made artificial filament fibre made by a chemical method. Nylon is also known as Magic Fibre.</li><li>● Nylon filaments are usually smooth and shiny, with uniform diameter.</li><li>● Nylon has very good strength and abrasion resistance. Its resistance to abrasion makes it appropriate to be used in brushes, carpets, etc</li><li>● Nylon is a highly elastic fibre. Very fine and transparent fibres are used for 'one-size' garments like stockings.</li><li>● Nylon fibres are very strong and lightweight.</li><li>● The properties of absorbancy in nylon fibers is not same.</li><li>● Nylon filaments are conductors of heat, excess heat has a bad effect on the nylon fibres.</li><li>● Nylon is a popular fabric used in apparel, socks, undergarments, swimsuits, gloves, nets, sarees, etc. It is a leading fibre in the manufacture of hosiery and lingerie. For outerwear it may be blended with other fibres.</li></ul>

## CHAPTER 6

# MEDIA AND COMMUNICATION TECHNOLOGY

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Media and Communication is an important field of study that has an impact on adolescent lives. Media and communication studies have gradually become an integral part of our lives, usually adding to the quality of our lives.

### **Communication and Communication Technology**


Communication is very basic and vital for human survival and has existed since the inception of life on earth. In modern times, with fast developing technologies, new communication methods and gadgets are introduced in the market almost every week. Some of these have become more popular due to their cost effectiveness and utility, and have sustained over time.

### **What is Communication**

Communication is the process of thinking, observing, understanding, analysing, sharing, and transmitting or transferring messages to others through a variety of mediums in diverse settings.

OR

The word **communication** stems from the Latin word **communis** meaning common. It is therefore, not only sharing of ideas, thoughts or imparting knowledge and information, but it also involves understanding the exact meaning of the content in a way that is common to both, the communicator and the receiver. Thus, effective communication is a conscious effort in creating a shared understanding about the intended meaning of the message among people involved in the communication. The process of communication is continuous and permeates all areas of social life, including home, school, community and beyond.

	<p>We all know that there are no distance anymore. What is far is now near and what is local is now global.</p> <p>SAM PITRODA (Chairman, World Tel)</p>	<p><b>DO YOU KNOW?</b></p> <p>First television transmitter in INDIA was installed in Pij village in Gujarat, which broadcasted programmes from Delhi along with programmes in local language via satellite.</p>
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### Classification of Communication

Communication can be classified on the basis of the following depending on the levels, types, forms and modes :-

#### A. Classification based on the type of interaction

- (i) One-way communication
- (ii) Two-way communication:

#### B. Classification based on the levels of communication

- (i) Intra personal communication:
- (ii) Inter- personal communication
- (iii) Group communication
- (iv) Mass communication
- (v) Intra-organizational communication
- (vi) Inter -organizational communication

#### C. Classification based on the means or modes of communication

- (i) **Verbal communication:** Auditory means or verbal modes like speaking, singing and sometimes even the tone of voice, etc., are of significance in verbal communication. Research shows that on an average, an individual spends about 70 per cent of her/his active time in communicating verbally, i.e., listening, speaking and reading aloud.

(ii) **Non-Verbal Communication:** Non-verbal means of communication are gestures, facial expressions, disposition, posture, eye contact, touch, para language, writing, clothing, hair styles, and even architecture, symbols and sign language such as smoke signals used by some tribal people.

**D. Classification based on the involvement of number of human senses**

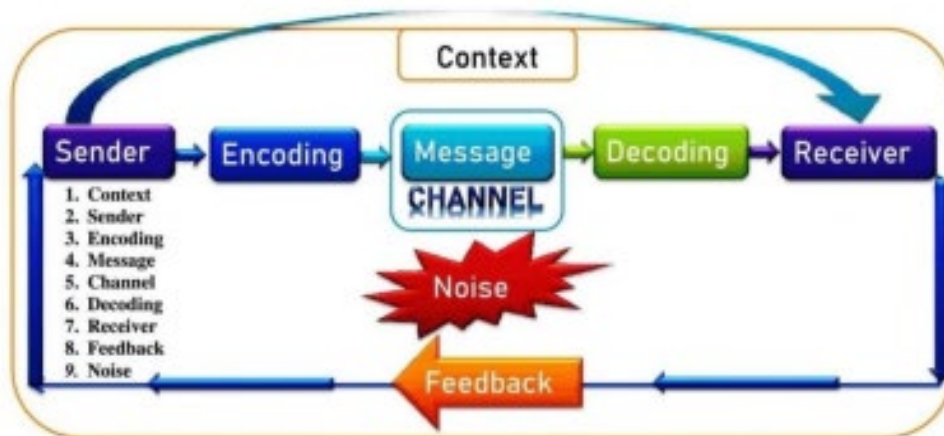
<b>OUR SENSES AND COMMUNICATION</b>	
● People retain 10% of what they	READ Visual
● People remember about 20-25% of what they	HEAR Audio
● People keep in mind about 30-35% of what they	SEE Visual
● People remember about 50% or more of what they have SEEN and HEARD	Audio-Visual
● People remember 90% or more of what they have SEEN, HEARD and DONE	Audio-Visual

**Involvement of more number of senses makes the learning more clearly understandable and permanent.**

<b>Types of Communication</b>	<b>Examples</b>
Audio	Radio, audio recordings, CD players, lectures, landline or mobile phones
Visual	Symbols, printed materials , charts , posters
Audio-Visual	Television, Video films, multimedia, internet

**The process of communication**

Communication is the process of transferring information or content from a sender to a receiver with the use of a medium. It involves flexibility to exchange information using several methods in which the information is correctly, clearly and completely understood by both sender and receiver. It also takes the feedback of the audience on the message sent for further planning in the same way as carrying out market surveys before launching a product in the market.



Effective and successful communication can be easily understood by “The SMCRE Model” of communication.

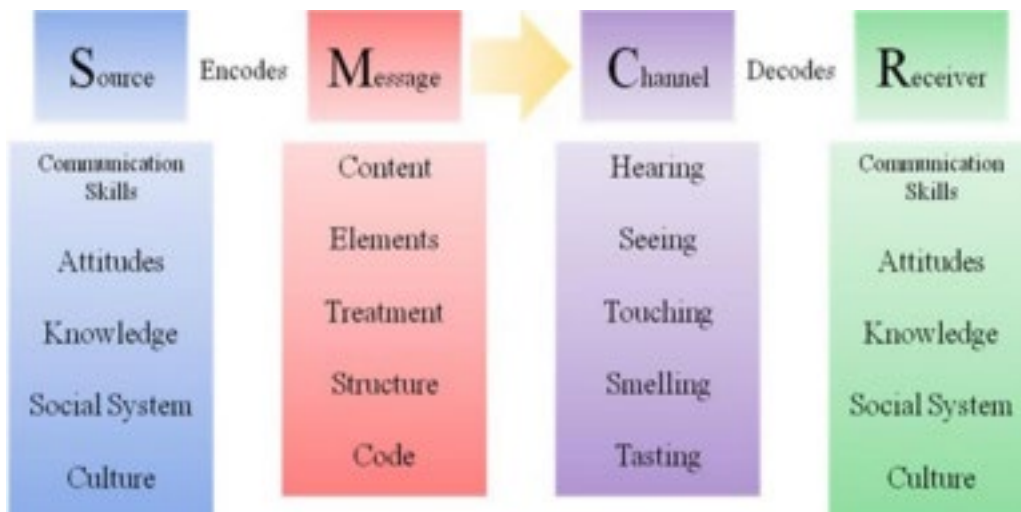
**SOURCE** - Communicator  
 - Originator  
 - Sender

**MESSAGE** - Information  
 - Ideas  
 - Content

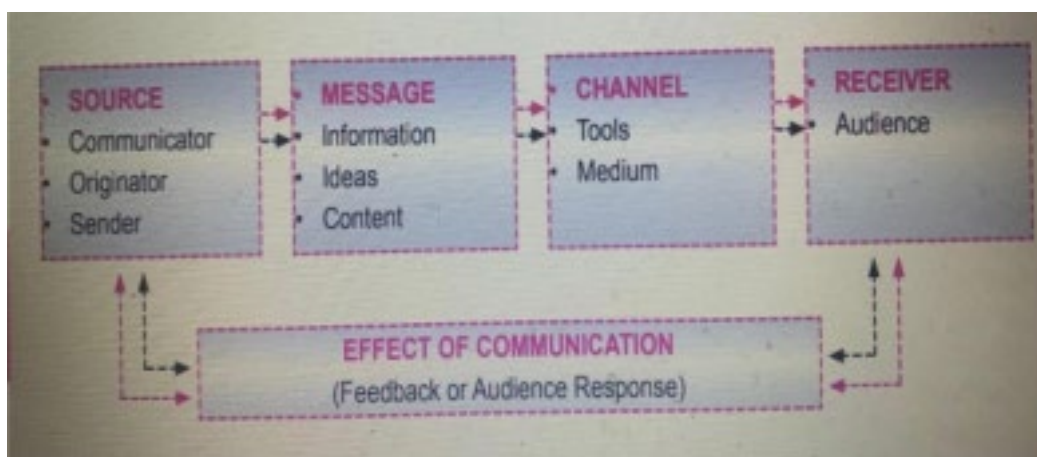
**CHANNEL** - Tools  
 - Medium

**RECEIVER** - Audience





### SMCRE MODEL OF COMMUNICATION



### EFFECT OF COMMUNICATION

The **SMCRE** model shows the complete process of communication and the elements involved in it.

**1. SOURCE:** It is the person who initiates the process of communication. She/he could be your teacher, parents, friend or classmate, extension worker, leader, administrator, writer, a farmer or a tribal person from a remote area of the country possessing indigenous knowledge.

**2. MESSAGE:** It is the content or information a communicator wishes to receive, accept or act upon. It could be any technical, scientific or simply generalised information or ideas, specific or general to any field of knowledge or day-to-day life of an individual, group or even a larger section. A good message should be simple yet appealing and clear. It should also be very specific, authentic, timely, appropriate and applicable for the channels selected and the nature and type of the receiver group

**3. CHANNEL:** The medium of communication through which the information flows from a sender to one or two receivers is a channel. Face-to-face, word-of-mouth is the simplest and one of the most effective means of communication. It is perhaps the most widely used medium of communication in a majority of developing and less-developed countries of the world. But with the passage of time and social change, the emphasis has shifted to advanced mass media and multi-media technologies.

There can be two types of channels:

**(i) Inter - personal communication** channels such as individuals and groups.

**(ii) Mass media communication** channels, e.g., satellite, wireless and sound waves.

**4. RECEIVER:** It is the intended audience of the message or the target of the communication function. It could be an individual or group, men or women, rural or urban, old or young. The more homogeneous the receiver group, the greater are the chances of successful communication.

**5. EFFECT OF COMMUNICATION (feedback):** A communication process is incomplete unless the response to the message is received. It is the initiating step as well as the terminating element in any communication process. Termination occurs when the response to the message is the same as expected. In such a situation, since the objective is achieved, the cycle is complete. If the response of the intended audience does not yield the desired results, rethinking and recasting of message occurs and the entire communication process is repeated.

### **WHAT IS MEDIA ?**

**MEDIA** is the means that uses various methods of communication for disseminating and sharing ideas, thoughts, feelings, innovations, experiences, etc.

Mass media essentially uses modern technology for communication but the presence of technology does not always denote that mass communication is taking place. Mass media is always meant for heterogeneous, anonymous and large audience groups.

### Media classification and functions

**Traditional media:** Till very recently most rural extension work was completely dependent on traditional media such as fairs and radio. The situation is no different even today. Interpersonal communication media largely remains the most used and effective medium of communication in rural and remote areas. Examples of other traditional folk media are puppetry, folk dances, folk theatre, oral literature, fairs and festivals, rituals and symbols, print media such as charts, posters, newspapers, magazines, and other local publications from ancient times. Various traditional folk media are being used as indigenous channels of communication.

<p><b>Examples of Traditional Folk Theatre or Drama</b></p> <ul style="list-style-type: none"> <li>• Jatra (Bengal)</li> <li>• Ramlila and Nautanki (Uttar Pradesh)</li> <li>• Videsia (Bihar)</li> <li>• Tamasha (Maharashtra)</li> <li>• Yakshagana, Dashavatar (Karnataka)</li> <li>• Bhawai (Gujarat)</li> </ul>	<p><b>Examples of tribal songs and dances</b></p> <ul style="list-style-type: none"> <li>• Bol and Bhatiali (Bengal)</li> <li>• Sna and Ddoria (Madhya Pradesh)</li> <li>• Duha and Garba (Gujarat)</li> <li>• Chakri (Kashmir)</li> <li>• Bhangra and Gidda (Punjab)</li> <li>• Kajri, Chaitya (Uttar Pradesh)</li> <li>• Alha (Uttar Pradesh and Bihar)</li> <li>• Pauda and Lavni (Maharashtra)</li> <li>• Bihu (Assam)</li> <li>• Mand and Panihari and Charano, Bhaton (Rajasthan)</li> </ul>
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**Modern Media :** With the advent of modern technology the range of communication media has expanded tremendously. New communication technologies, such as the mobile phone, are emerging with exciting features that have improved the quality and capacity of broadcast. The handy size of equipment has made them convenient for use in rural as well as remote areas. It has also increased the reach of modern communication technology. The availability and access to computers, particularly the internet facility, has ushered a completely new era of communication media.

Some examples of Traditional Media	Some examples of Modern Media
<ul style="list-style-type: none"> <li>● Puppet</li> <li>● Folk Dance</li> <li>● Folk Theatre</li> <li>● Oral Literature</li> <li>● Fairs &amp; Festivals</li> <li>● Rituals &amp; Symbols</li> <li>● Signs</li> <li>● Posters</li> <li>● Local magazines</li> <li>● Other local printed material</li> </ul>	<ul style="list-style-type: none"> <li>● Radio</li> <li>● Satellite Television</li> <li>● Modern Printing Medium</li> <li>● Latest methods of film screening ●</li> <li>● Audio Cassette</li> <li>● Compact Disc Technology</li> <li>● Cable &amp; Wireless Technology</li> <li>● Mobile Phone</li> <li>● Video Movie</li> <li>● Video Conferencing</li> </ul>

**Functions of media:**

1. **Information:** It includes both, providing information and information exchange. These days information is power. Communication is facilitated through various media such as radio, television, magazines, newspapers.

2. **Persuasion/Motivation:** Suitable communication media can be used to persuade an audience to accept an idea. This needs a deeper understanding of audience psychology and their socio-cultural background.

3. **Entertainment:** Both traditional and modern communication media provide a wide variety of entertainment options starting from folk media and oral tradition to Direct to Home (DTH) telecast. Even for educational purposes media is used in an entertaining form to make learning easy and interesting.

4. **Interpretation:** Use of communication media, particularly pictographic presentations, and facts and figures make many difficult and complicated concepts easy to understand.

5. **Transmission of values:** Media is expected to foster development of a healthy society by the transmission of wholesome values.

6. **Education or training:** New learning experiences with the help of appropriate communication media in local language, and focussing on local problems always enrich the teaching-learning experience. These include interactive instruction video and audio cassettes, and discs of basic printed teaching-learning material on various concepts.

7. **Coordination:** Due to the introduction of modern interactive communication technologies, distance and physical proximity has become less important. Pace, scope and accuracy of communication has expanded to such an extent that it has now become very easy to sit in one place and coordinate large projects spread over a vast geographical area.

8. **Behavioural change:** All extension education activities related to varied fields, be it health, literacy, environmental issues, empowerment programmes and adoption of innovations depend largely on the art and technique of effective communication. Media remains the main vehicle for the transmission of useful messages, acceptance of which leads to direct and indirect behavioural change in the target people.

9. **Development:** Media is a catalyst (medium) in national development. Communication mediates between specialists and lay persons. Media has accelerated the pace of development and made the world smaller by bringing people closer through communication.

Communication occupies a pivotal position in the process of development. Both communication and media employ modern technology for reaching out to people.

## COMMUNICATION TECHNOLOGY

Communication technology refers to various technologies developed and used to handle information and aid communication. This includes modern technologies that are used to transmit data, which could either be analogue (electronic signals) or digital. There are hardware, organisational structures, as well as social values which individuals access to collect, process, and exchange information. A wide range of communication technologies are available.

**These fall into two broad groups;**

(i) **Cable (land) based technologies:** These are comparatively cheap and less complicated. Landline telephone or a personal computer without internet are examples of such technology.

(i) **Wireless technologies:** These generally require less infrastructure, but can be more expensive to use than cable-based technologies. Some examples are radio, microwave and satellite wireless telephony, or use of 'bluetooth' technology in mobile phones and computers.

Two significant communication technologies that acted as media and changed the whole communication scenario are the radio and the television.

**Radio:** Radio commands a universal audience by geographical spread, income, education, age, sex and religion. Through on-the-spot broadcast or simulated broadcast it can overcome the barriers of time and space. With the use of small size transistors, it was made possible to receive communication in the remotest parts of the country.

**Television:** TV was introduced in India in 1959 primarily to impact education and promote rural development. TV programmes are planned and produced using various techniques of visual magnification, sound amplification, superimposition, split screen processes, fading, zooming, etc.

These techniques make it more effective and strengthen the impact on the viewer.

#### **Modern Communication Technologies**

1. Micro Computers
2. Video text
3. Electronic mail (E-mail)
4. Interactive video
5. Teleconferencing

**WHAT IS BLUETOOTH TECHNOLOGY?**



- **Bluetooth Technology** is a low-cost, short-range radio frequency (RF) link between mobile PCs, mobile phones and other portable devices.
- It is capable of transmitting voice and data at the rate of 1 Mbps, which is three to eight times the average speed of parallel and serial ports, respectively.
- It can transmit through solid, non-metal objects.
- It allows wireless control of and communication between a cell phone and a hands free head set or a car kit.

### Satellite Communication



**Satellite communication** is a method of communication carried out with the help of satellite technology for various purposes. The satellite is placed in space and information is obtained or transmitted across the globe with the help of optical sensors mounted on an air-borne and space-borne platforms.

Unique feature of Satellite Technology- It has the ability to establish quick and reliable communication between any two points. It enables transmission of information from one location to many points over a vast coverage area simultaneously. It gathers information from many locations in a central place.

### **Advantages and applications of Satellite Technology**

1. Remote sensing, i.e., serving an object from a distance. Data is collected rapidly and repeatedly. The sensor data produces imageries which are further used in wide range of applications. For instance, images helps in getting the right status about the availability of natural resources thereby helps in using natural resources efficiently or the climate forecast is helpful in agriculture and agro-based industries.
2. Advancement in the application of space technology and Indian space development programme.
3. High quality telecommunication system available all over the world and improved global competitiveness.
4. Development benefits made available even in remote, isolated areas.
5. Availability of quality and speedy communication has discouraged travelling and facilitated speedy decision-making thereby enhanced conservation of energy and other resources.

#### **SITE - Satellite Instructional Television Experiment**

##### **A revolutionary social technological experiment**

- Satellite Instructional Television Experiment (SITE) was conducted in 1976 using USA's Application Technology Satellite (ATS 6) and was one of the world's largest experiments of its kind.
- SITE provided valuable experience in the field of development, testing and management of a satellite-based instructional television system, particularly in rural areas.
- SITE demonstrated the potential of satellite technology in the rapid development of effective mass communications in developing countries like India



**Multiple Choice Questions (1 Mark)**

**Qs. 1.** Communication is derived from which latin word?

- (a) Communication
- (b) Communis
- (c) Common
- (d) Comuno

**Ans. 1.** (b) Communis

**Qs. 2.** Video call is an example of which communication medium?

- (a) Distant Conference
- (b) Interactive Video
- (c) General Message Broadcasting
- (d) Mutual Message Broadcasting

**Ans. 2.** (a) Distant Conference

**Qs. 3.** In which type of communication there is closeness and direct contact between the receiver and the sender?

- (a) Institutional Communication
- (b) Mass Communication
- (c) Interpersonal Communication
- (d) Intrapersonal Communication

**Ans.3.** (c) Interpersonal communication

**Qs. 4.** Non-verbal communication is best for which category?

- (a) Students
- (b) Teachers
- (c) Deaf and Dumb
- (d) Agriculture

**Ans. 4.** (c) Deaf and Dumb

**Qs. 5.** What is the full name of the SITE?

- (a) Satellite Instructional Television Experiments
- (b) Satellite Informative Television Experiments
- (c) Solar Instructional Television Experiments
- (d) Satellite Instrument Television Experiments

**Ans. 5.** (a) Satellite Instructional Television Experiments

**Qs. 6.** What kind of communication medium should be used to spread the methods of prevention of dengue to as many people as possible?

- (a) Group Communication
- (b) Mass Communication
- (c) Interpersonal Communication
- (d) Intrapersonal Communication

**Ans. 6.** (b) Mass Communication

**Qs. 7.** Match the Following :

- |               |                     |
|---------------|---------------------|
| A) Jatra      | i) Gujarat          |
| B) Doha       | ii) Bengal          |
| C) Dashavatar | iii) Madhya Pradesh |
| D) Dodoria    | iv) Karnataka       |

- (a) A)i, B)ii, C)iii, D)iv
- (b) A) ii, B) i, C) iv, D) iii
- (c) A) iv, B) iii, C) ii, D)i
- (d) A) iii, B) iv, C) i, D)ii.

**Ans. 7.** (b) A) ii, B) i, C) iv, D) iii

**Very Short Question -****(1 Mark)**

Qs. 8. Where was India's first TV transmitter launched?

Ans. 8. India's first TV transmitter was installed in Pij village in Gujarat.

Qs. 9. TRP received from television programmes is an example of which component of communication?

Ans. 9. The TRP from television programmes is an example of the feedback received over the decades.

Qs. 10. What are the different types of computers?

Ans. 10. a) Main Frames - Large size and expensive,

b) Mini computer - less powerful

c) Micro computer - based on microchip technology

**Short Answer Questions****(2 marks)**

Qs. 11. How can teaching be made more effective through the medium of communication?

Ans.11. Teaching can be made more effective by using more audio-visual material in teaching and adding new learning experience in the local language such as teaching materials, videos, audio cassettes with interactive instructions.

Qs. 12. Bluetooth technology is used in which type of machines?

Ans.12. Bluetooth technology is used in mobile phones, personal computers. Bluetooth can communicate between cell phones and hands free handsets or car kits and this type of communication is called wireless communication.

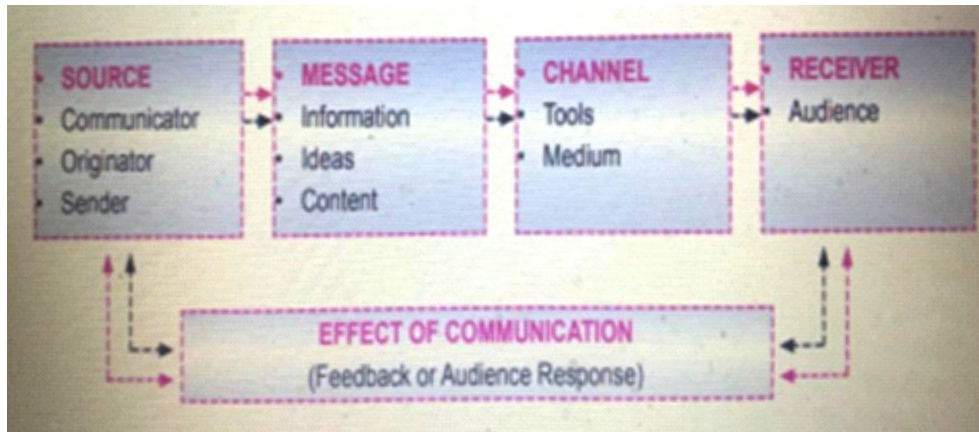
Qs. 13. What is visual data called?

Ans.13. Through telephone network or cable system, the main computer is used to provide home TV. The electronic text service transmitted to the set is called visual text or visual data. The viewer can view the text or data as per their choice.

**Short Answer Questions****(3 marks)**

Qs. 14. What are the five components of SMCRE model explain with the help of a diagram?

Ans. 14.



1. Source
2. Message
3. Channel
4. Receiver
5. Effect of Communication

Qs. 15. How is the classification of communication based on the number of associated senses?

Ans. 15. There are three types of communication based on the number of associated senses :

**Classification based on the involvement of number of human senses**

Types of Communication	Examples
Audio	Radio, audio recordings, CD players, lectures, landline or mobile phones
Visual	Symbols, printed materials, charts, posters
Audio-Visual	Television, Video films, multimedia, internet

**Long Answer Question Answer**

**(4 marks)**

Qs. 16. Explain the difference between Intra-organisational communication and Inter-organisational communication?

Ans. 16.

<b>Intra-organisational communication</b>	<b>Inter-organisational communication</b>
<ul style="list-style-type: none"><li>• Intra-organisational communication is with a view to maintaining the relationship between the people of the same organisation.</li><li>• People working in different positions, in this type of communication work together to achieve a common objective</li></ul>	<ul style="list-style-type: none"><li>• Inter-organisational communication is established by one's organisation to serve the desired purpose from the people of another organisation.</li><li>• Inter-organisational communication is done by an organisation with a view to the goal of mutual cooperation and coordination of other organisation.</li></ul>

Qs. 17. Explain the benefits of satellite technology in detail?

Ans. 17. Advantages of Satellite Technology

- Remote sensing, i.e., serving an object from a distance. Data is collected rapidly and repeatedly. The sensor data produces imageries which are further used in wide range of applications. For instance, images helps in getting the right status about the availability of natural resources thereby helps in using natural resources efficiently or the climate forecast is helpful in agriculture and agro based industries.
- Advancement in the application of space technology and Indian space development programme.
- High quality telecommunication system available all over the world and improved global competitiveness.
- Development benefits made available even in remote, isolated areas. Availability of quality and speedy communication has discouraged travelling and facilitated speedy decision-making thereby enhanced conservation of energy and other resources.

**Long Answer Question**

**(5 marks)**

Qs. 18. Information technology is a boon or a curse for students - write in your own words?

Ans. 18. Information technology is no less than a boon for today's students:

- It was through INFORMATION TECHNOLOGY that students were educated from home in the terrible epidemic of Covid-19.
- Students received education from home through various means of information technology used for education such as mobile phones, computers, laptops etc.
- Very difficult tasks are completed soon in a short time through Information Technology.
- Using the Internet, students can receive a lot of information and through information received from remote areas, they can do their experimental and project work.
- Information Technology provides students with information about research taking place around the world on the basis of which they are exceling and progressing in higher education.
- Information Technology can become a curse for students only if it is misused and overused.

## CONCERNS AND NEEDS IN DIVERSE CONTEXTS

### CHAPTER – 10 (A)

#### NUTRITION, HEALTH AND HYGIENE

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##### Learning Objectives:-

**1. Health:** The World Health Organisation (W.H.O.) define health as “A state of complete mental, physical and social well-being and not merely the absence of disease”. Disease-means impairment of body health, alteration or change in function of some part or organ of the body, interrupting normal functions and deviating from a state of complete well-being.

##### **2. Health and its Dimensions:**

The definition of health the definition of health includes various dimensions – social, mental and physical.

**3. Social Health :** Social health of people- living in any country, state, city, on equal opportunity of providing essential goods and services to them by the government. Similarly, how well he treats any person living in that society with other social institution and includes any person's social skill and skills to work as a member of society. Some social determinants related to health are:

- Employment status
- Safety in workplace
- Access to health service
- Cultural religious believes, taboos and value systems
- Socio- economic and environmental conditions

**4. Mental Health:** Mental health refers to the emotional and psychological health of a person, in which he can use his cognitive and emotional abilities smoothly when needed.

**5. Indicators of Mental Health:**

- A mentally healthy person always feels empowered.
- They can easily cope with the normal level of stress encountered in daily life.
- His relations are satisfactory.
- Relationship with other people is satisfactory.
- He can live an independent life.
- One can easily face situations of mental or emotional stress.
- He is not afraid of anything.
- This type of person does not feel long-term stress, depression, when faced with small troubles in life.

**6. Physical Health :** Physical health includes physical well-being capabilities. Not feeling extraordinarily tired by a healthy person doing normal activities means having sufficient immunity against infection and disease.

**7. Health Care :** Health care consists of all the various service provided to the individuals or communities by agents of health service or professions for the purpose of promoting, maintaining or restoring health. Thus health care includes preventive, promotive and therapeutic care.



## **8. Health care service are delivered at three levels –**

**A. Primary Care:** A primary health centre in a village offers primary health care.

**B. Secondary Care:** District hospitals

**C. Tertiary Care:** Patients referred by the district hospital are treated here for example - All India Institute of Medical Sciences (AIIMS).

**9. Indicators of Health :** Several indicators are employed to assess health, These include indicators of mortality, morbidity (illness/disease), disability rates, nutritional status, health care delivery, utilisation, environmental, health policy, quality of life etc.

**10. Nutrition and Health:** Proper nutrition from a balanced diet taken by anyone makes a person worthy that he can enjoy good health. Its ability to resist infection, adequate level of energy, with the absence of fatigue while doing daily work, physical, mental, social and economic development has to be continuous without any hindrance. According to every age group and the same person can also be called healthy. Similarly, the state of health of a person determines the nutrient it takes. Nutrient requirement increases during any disease state and breakdown of nutrients is more. Hence nutrition is the basic pillar of health development in human life.

**11. Importance of Nutrients :** Food contains more than 50 nutrients in the body. It provides various functions like body building, energy, body structure and organization etc. Which required different macro and micro nutrients as well.

**12. Macro nutrients : Fat, Carbohydrate, Protein, Fibre and Water.**

**13. Micro Nutrients :**

- **Mineral :** Iron, zinc, calcium, phosphorus, sodium, potassium, selenium.
- **Vitamin :**

**Water Soluble Vitamins** – vitamin B and C.

**Fat Soluble Vitamins** – vitamin A, D, E and K.

**14. Factors affecting nutritional well- being :**

- Food and nutrient security.
- Care for those who are vulnerable.
- Health for all.
- Safe environment.

**15. Nutritional problems and their consequences :** Nutrient gap greater than the required requirement (age, Gender, occupation) Both conditions create problem for the person in India, we often face problems on both ends. The main causes of nutritional problems are :

- Poverty
- Unavailability of food
- Ignorance,
- Absence of health awareness
- Unemployment
- Packaged food, fast food trend
- Busy lifestyle
- Husband and wife both work outside

**16. Result :** In absence of the correct nutritional level, a person becomes malnourished, the body is prone to different types of dermatological related diseases of the skin and different diseases in different parts of the body.

- **Malnutrition :** “Malnutrition is the condition of any person getting less or more nutrition than the essential requirement” in which excessive malnutrition is mainly found under-nutrition in pregnant women, children under 3 years of age, who are born underweight and stunted.
- **Under Nutrition :** Malnutrition is the attainment of less than the amount of nutrients required for a person to be healthy. Due to which not only the weight is lost but the person is physically and socially affected, for example :
  - **Iodine Deficiency :** Can cause threat to health and development specially for young children. Goitre, still birth and miscarriage in pregnant women and deaf-mutism, mental retardation and cretinism in children.
  - **Vitamin - A Deficiency :** Night blindness. A person suffers from over-nutrition by consuming more nutrients than the estimated nutrient requirement, which may lead to weight gain and obesity due to poisoning excess intake of some nutrient.
  - **Iron Deficiency :** Anaemia
  - **Over Nutrition :** A person suffers from over-nutrition by consuming more nutrients than the estimated nutrient requirement, which leads to weight gain and obesity. Obesity increases many types of risk, some diseases are diabetes, heart disease, blood pressure etc.

17. In India, we face problems on both ends of nutrition, under nutrition (nutritional deficiency) and over nutrition. Dietary long-term and infectious diseases. This has been termed as “double burden of malnutrition”.

**18. Hygiene and Sanitation :-** prevention and control of disease has to address both intrinsic and extrinsic factors which are linked with various diseases. When we talk about of health science Both - personal and environmental hygiene talks about the health of a person, mainly his social environment including food, lifestyle and its depends on their behaviour.

**19. Personal Hygiene:-**

- Bathing daily.
- Regular cleaning of the eyes, nose, ears and nails should be cleaned and cut at the right time intervals.
- Wearing clean clothes.
- Sitting in a clean place and taking care of clothes while you are rising.
- Washing hands with soap before and after eating.
- Keep hair clean.
- Cleaning teeth daily in the morning and evening.
- Take care of cleaning after thinking, wash your hands with soap.

**20. Environmental Sanitation:**

- Keep the houses clean and tidy every day.

- Put garbage in the dustbin in the house itself, Do not put them in the street as well as not to be burnt and new trees should be planted at intervals.
- Toxic pesticides such as.
- Fungicide, insecticide, herbicides should not be used in tree plants because their high concentrations in the atmosphere make the air polluted and toxic. It also works to affect our health when we eat food.
- Hazardous chemicals used in homes and factories should be used according to prescribed limit.
- Sewage should be covered, it should also be taken care that the water supply pipes do not pass through the drains.

**21. Food Hygiene:** Food hygiene acts to affect various types of health. Foods go a long way from being grown in the fields, to being eaten at home thereby contaminating them at various levels. In which farming, transfer from one place to another, to be sold in different markets, in various factories, cold storage hotels, processing and cooking methods followed in the cooking houses and for hygiene. In the absence of following the rules of hygiene, various health problems arise such as cholera, diarrhoea etc.

**22. Dietary Health Sciences:** food borne illness occur when we consume food that contains disease causing (pathogenic) micro organism. Several factors are needed for food- borne illness to occur.

- Food containing organisms or toxins.
- The contaminated food must have been consumed in sufficient quantity.

- Use of contaminated, unsafe foods, including contaminated water, spices, that make food tasty, such as seasonings, mixes etc.
- Due to improper storage.
- Not Practising insects and vermin control.
- Use contaminated equipment utensils and plates, spoons, glasses.
- Food not fully cooked.
- Not storing food at the right temperature, like 4 to 60°C.
- Improper cooling.
- Heating food frequently (Reheating of cooked food).
- Leaving food uncovered.
- Poor hygiene and sanitation of persons handling food, such as unclean clothes, not washing off hands, dirt and grime under the nails.
- A person is not in health, he is suffering from some contagious disease.

**23. Water Safety:** Our body is made up of about 60% water. Apart from this, water is also the most important use of various functions useful for life such - physiological, domestic utility, public end industrial utility.

- The chemical formula of water is H<sub>2</sub>O.
- Various biological and chemical reactions occurring in our body are possible only through liquid medium in which water predominates.

- Water regulates our body temperature.
- The person becomes a victim of dehydration only when the water is less than 20% and due to which the person can die suddenly.
- Due to water, we are able to complete various tasks related to life easily.

That is, for a person to be healthy, it is necessary to have pure water.

#### **24. Drinking Water Quality:**

##### **Physical Properties:**

- Colourless
- Odourless
- Tasteless
- Transparent
- Free of any impurities

##### **Chemical Properties:**

- Free from nitrogen and carbon
- Should not be mixed with toxic substances like lead, iron, zinc etc.
- It should be boiled at 100°C.
- Neutral pH or 7ph.
- It should be freeze on 0°C.

### **Biological Properties:**

- Free from pathogenic bacteria.
- Free from harmful bacteria.

### **25. Some methods of purifying water:**

**Boiling:** To purify water at home, it should be boiled at a temperature of 212 °F for about 20-25 minutes.

**Chlorination:** It is used to clean large amounts of water at once, such as a water tank, etc. By this method the ratio of chlorine and water is 1:20. is kept. The use of more chlorine makes the water tasteless.

- A tablet of chlorine is broken and dissolved in 10 liters of water, allowed to stand for 25 to 30 minutes and then filtered.
- Chlorine tablets are found in the market in the name of Halazone, Clordeclor.
- Chlorine is the cheapest, simple, efficient and reliable method of quickly destroying germs and removing dirt at home.

**Storage (after filtration):** Water is collected from various sources and stored for domestic and industrial use, which is called storage like - Water tank, Underground tank, Clay pots, steel utensils, buckets made of different metals, water container etc. Before choosing a method of storage for domestic use, it is necessary to keep in mind that the method of storage should not affect the purity of the water.





**storage by pot**

**Electric Filter:** Used with a monitoring system to purify water with an electric filter that is powered entirely by electricity.

- Light red, yellow and green of three colors in an electric filter. Red light means system is started, yellow light indicates the purity of water, and the green light shows the status of the water being used after it has been purified.



**Electric Filter**

**Reverse Osmosis Water Purifier:** By this process the hardness of water and salts soluble in water are reduced. By this the process of purifying water is divided into different stages:

- **Sediment Filter:** Physical impurities like sand, soil, rust etc. are filtered out.
- **Pre Carbon Filter:** In this process the colour, odor, chlorine etc. of the water are absorbed by the activated carbon.
- **Carbon Block:** In this process if due to some smaller size or amount of chlorine remains from the second stage, it is not allowed to proceed further.
- **R. O. Membrane:** The size of this membrane is very small. due to which it prevents any kind of impurities from entering the water.

- **Storage Tank:** Pure water is stored in this and is not exposed to climate.



**Reverse Osmosis Water Purifier**

**Multiple Choice Question**

**(1 mark)**

Q. 1. Is not a social determinant of health –

- (a) Employment status.
- (b) Nutritional status.
- (c) Access to health services.
- (d) Socio economic and environmental conditions.

Ans. (b) Nutritional status.

Q.2. What symptoms are seen in a healthy person?

- a) Normal activities to be carried out smoothly.
- b) Do not feel tired normally.
- c) To suffer from infection only when there is a simple climate change.
- d) Adequate immunity against infection and disease.

Ans. (c) To suffer from infection only when there is a simple climate change.

Q. 3. When a person's mental health is not good –

- (a) He feels himself capable
- (b) The person always suffer from negative emotions.
- (c) His relations are satisfactory.
- (d) If faced with situations of mental or emotional stress, he can cope with them and emerge spontaneously.

Ans. (b) The person always suffers from negative emotions.

Q. 4. Health indicators –

- (a) Death rate
- (b) Disability rate
- (c) Both a and b
- (d) All of the above

Ans. (d) All of the above.

Q. 5. Macro nutrients –

- (a) Carbohydrate
- (b) Fats
- (c) Iron
- (d) Protein
- (e) A, b and d are correct

Ans. (e) a, b and d are correct.

Q. 6. Optimum nutritional status is important because it-

- (a) Maintain muscle mass.
- (b) Helps to cope with physical and mental stress.
- (c) Improve productivity.
- (d) All of the above.

Ans. (d) All of the above.

Q. 7. Which disease increases the chances of obesity?

- (a) Mental retardation
- (b) Anaemic
- (c) Night blindness
- (d) Disease, high blood pressure

Ans. (d) Heart disease, high blood pressure.

**Very short questions**

**(1 mark)**

Qs. 8 Define “health” according to the World Health Organization.

Ans. According to WHO, “A state of complete mental, physical and social well – being and not merely the absence of disease”. Disease means – impairment of body health, alteration/disruption/derangement in function of some part or organ of the body, interrupting normal functions and deviating from a state of complete well – being.

Qs. 9 What is malnutrition?

Ans. Malnutrition is a deviation from the normal state of nutrition. When the intake of nutrients is less than the amount that is required by the body, or in excess of the requirements, malnutrition results. Malnutrition can occur in both minor and extreme forms.

Qs. 10 What nutritional element is lacking in cretinism?

Ans. Cretinism is caused by iodine deficiency.

Qs. 11 Describe any two diseases caused by iodine deficiency.

Ans. Iodine deficiency causes the following diseases-

- (a) Goitre
- (b) Mental retardation

Qs. 12 Which vitamin deficiency is responsible for night blindness and blindness?

Ans. Vitamin – A

Qs. 13 What two aspects are related to health science?

Ans. Private and environmental.

Qs. 14 What does mental health mean?

Ans. Mental health means a person's emotional and psychological well-being. In which he can use his cognitive and emotional abilities smoothly when needed.

Qs. 15 The state of health of a person determines his \_\_\_\_\_ requirement and dietary \_\_\_\_\_.

Ans. (a) Nutrients

(b) Dietary intake

Qs. 16 Nutrition is concerned with the maintenance of \_\_\_\_\_ and \_\_\_\_\_ and function.

Ans. (a) Body parts

(c) Structure of tissues

Qs. 17 Name the water-soluble vitamins?

Ans. Vitamin -B and C

Qs. 18 Which are the fat-soluble vitamins?

Ans. Vitamin – A, D, E and K

Qs. 19 Which vitamin is destroyed at extreme temperature?

Ans. Vitamin -C

Qs. 20 Name any two mineral elements?

Ans. Mineral elements: iron element and zinc.

Qs. 21 What are the four health indicators?

Ans. The four health indicators are as follows –

- (a) Death Rate
- (b) Sickness Rate
- (c) Disability Rate
- (d) Nutritional Level

Qs. 22 Describe how good health and nutrition are helpful and beneficial.

Ans. (a) People with good health and nutrition tend to be more happy.

(b) Can perform more tasks than others.

(C) Healthy parents can take good care of their children.

(d) Healthy children remain happy and give good results in studies.

Qs. 23 Describe any four factors that affect nutritional health.

Ans. Following are the factors affecting nutritional health –

- (a) Diet and nutritional security.
- (b) Protection of the unprotected.
- (c) Good health for all.
- (d) Safe environment.

Qs. 24 Name any four physical factors affecting the environment.

Ans. Four factors affecting the environment –

- (a) Contaminated water
- (b) Polluted air



(c) Waste from housing

(d) Radiation

Qs. 25 What is meant by caring for sensitive people?

Ans. The meaning of caring for sensitive people - Everyone needs affectionate care and attention. Which is reflected in caring behaviour. For example, giving the right type of food to the baby in the right amount, take care of them. Simultaneously, Pregnant women are given care and support by the officers who appoint them in the family community and at the workplace, which they need. Dietary nutrition treatment care and necessary support is provided to the sick person.

Qs. 26 Nutrition and infection have a close correlation. Do you agree with this statement?

Ans. Nutrition and infection have a close reciprocal relationship. Poor nutritional status reduces immunity and immunity as well as increases the risk of infection. Due to which there is a lack of nutritious elements stored in the body on the other hand, the needs of nutritious elements are actually increased. Thus small amounts are absorbed due to loss of appetite or inability to eat, which increases the risk of infection.

**Short question**

**(3 marks)**

Qs. 27 Explain the benefits of good nutritional status for children's education.

Ans. Good nutritional status for children's education has the following benefits –

- (a) For brain development.
- (b) For a general state of health.
- (c) For good sight.

Qs. 28 Which foodborne illnesses can be spread by any food vendor selling contaminated foods? Also, explain the habits that contaminate foods.

Ans. Names of dietary diseases –

- (a) Diarrhoea and cholera
- (b) Dysentery
- (c) Gastro-Enteritis
- (d) Typhoid

Contaminated habits adopted by food vendors –

- (a) Lack of physical hygiene and frequent washing of hands.
- (b) Use dirty clothes throughout the day to clean hands.
- (c) The utensils used are not cleaned properly and washed repeatedly with the same dirty water.
- (d) Contamination of water used in food items and not keeping food items covered.

Qs. 29 Explain some social determinants associated with social health. (Any 6)

Ans. Following are 6 social determinants related to social health –

- Employment status.
- Safety at work sites.
- Access to health services.
- Cultural Religious Beliefs.

- Forbidden Functions and Value Systems.
- Socio Economic and environmental conditions.

Qs. 30 Describe any eight environmental aspects of health science.

Ans. Following are eight aspects of Health Science Environment –

- Food hygiene.
- Water supplies.
- Disposal of human fecal urine.
- Bacterial control such as mosquitoes and houseflies.
- Hygiene practice.
- The accommodation
- Disposal of garbage (management of solids).
- Disposal of waste liquids and sewage.

Qs. 31 Write your opinion about this statement "Nutrition affects productivity, quality and quality of life".

Ans. Nutrition Play an important role in improving productivity and quality of life like –

- Children and family members have a healthy and happy mind, so that family relations remain good.
- Children concentrate in studies.
- Family relationships are strong.
- Social and cultural life remains good and energetic.

- Social activities contribute to social events and institutions.
- Working women men work in a happy mood at the workplace and remain positive about tasks.
- Women and men and employees, working in different positions work with full energy and synergy, which increases the income of any home, office, state and nation.
- A person is striving to do new things and learn every day.

Qs. 32 What is the contribution of health and nutrition required to increase the productive capacity of a person to work? (Give any eight point).

Ans. Expected health and nutrition contribute to increase the productive capacity of a person to work –

- (a) Diet
- (b) Optimal nutrition
- (c) good health
- (d) Cleanliness and health
- (e) Access to services / facilities
- (f) Education and skills
- (g) Good environment

**Long Question****(5 marks)**

Qs. 33 Why is optimum nutritional level of nutrition important for any person's health to uphold this argument? Please tell.

Ans. The optimal nutrition level has the following benefits to maintain health levels appropriately:

- Maintains body weight.
- Provides immunity to avoid infection.
- Maintains the beauty of muscles.
- Helps in dealing with physical and mental stress.
- Reduces the risk of disability.
- Improves productivity.
- Protects against infectious diseases.
- Efficiency increases and stays positive.
- The quality of work increases and the speed of work is also affected.
- The personality remains cheerful and energetic.

Qs. 34 What kind of hygienic habits should be adopted in everyday life for good health and nutrition?

Ans. The following types of hygienic habits should be used in everyday life for good health and nutrition-

- (a) Bathing daily and taking care of physical hygiene, wearing clean clothes.

- (b) Cleaning, combing hair daily, cleaning nails and cutting on time.
- (c) Eating a balanced diet, avoiding consuming junk food.
- (d) Maintaining cleanliness of office space, at home and outside the home.
- (e) Put the trash in the dustbin itself. Whether home, office, school, market.
- (f) Eat foods only after washing them, hands must be washed before and after eating.
- (g) Avoid unnecessarily putting fingers, pens, pencils in the mouth.
- (h) Do not defecate in the open and do not spit there.
- (i) Spray insecticides monthly at home and schools.
- (j) Keep proper arrangement of air and light in homes.

Qs.35 Explain in detail about some home methods of purifying water.

Ans. Some home methods to purify water are as follows:

- Boiling
- Storage (by filtering process)
- Chlorination
- Electric Filter
- R.O. (reverse osmosis purifying system)

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## Chapter 10C

### RESOURCE AVAILABILITY AND MANAGEMENT

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#### Learning Objective:

**1. Resource Availability:** Resources are possessions, material or funds which can be used to achieve goals. Such as money, time, space and energy are some examples of resources. Almost all resources for each person are used more, when limited resources are properly managed and used by some and some are reduced even if the same resources are the same amount. Collective and efficient management of resources which increase. So as to optimize their use.

**2. Time Management:** This is a limited resource and cannot be retrieved again. We get 24 hours per day, which we can use as we wish. In rapidly changing lifestyle, our expectations and responsibilities in home, school and work have increased. To be successful, it is necessary to develop time management skills because those who know how to manage time achieve success in every sphere of life.

**3. Time Management Principle:** Being busy is to pay attention to the results. Because many people do not pay attention on time which is the most important thing. Like some students spend their time worrying about exams instead of studying for exams.

**4. Definition of Time Plan:** A ‘time plan’ can be defined as an advance schedule of activities to be performed in a given time period.

#### **5. Steps of Time and Activity Plan :**

- Start your work as quickly as possible.
- Get into a routine every day, do the work in the pre-determined time.
- Prioritize your tasks.
- Do not take responsibility for low priority tasks.
- Learn to say no, divide big tasks into a series of convenient activities.

- Do not waste energy and time on tasks that do not require much attention.
- Do one thing at a time.
- Set start and end times in the list of activities.
- Make a list of your tasks and activities.

## 6. Type of Activities: -

### A. Compulsory:

- Daily
- Weekly
- Monthly
- Yearly

### B. Optional.

## 7. Time and Methodology Planning

### Table:

TIME	Time Plan of a Student	Your Time Plan
5:00 am	wake up	
5:00 am – 6:00 am	daily personal activities	
6:00 am – 7:00 am	studying/helping in kitchen work	
7:00 am – 7:30 am	bathing and getting ready for school	
7:30 am – 7:50 am	breakfast and reading newspaper	
7:50 am – 8:00 am	reaching school	
8:00 am – 2:00 pm	in school	



2:00 pm – 2:10 pm	reaching home	
2:10 pm – 3:00 pm	changing clothes, washing hands and face, eating lunch, etc.	
3:00 pm – 4:00 pm	Resting/sleeping	
4:00 pm – 6:00 pm	studying and completing school related work	
6:00 pm – 8:30 pm	playing outdoor, leisure time, watching TV, spending time with parents, siblings, and friends, etc.	
8:30 pm – 9:00 pm	Dinner	
9:00 pm – 10:00 pm	studying and preparing school bag for next day	
10:00 pm – 5:00 am	Sleeping	

### **8. Tips for Effective Time Management :**

- (a) Create a simple “To Do” list.
- (b) Daily / weekly planner.
- (c) Long term planner.

### **9. Tools In Time Management (conditions) :**

- a. Peak Load Period : It is the maximum load / amount of work during a specified period of time. Such a morning time or dinner time.
- b. Work Curve: This is a graphical representation made during a specific time period. By which - the period of excitation for the work, the state of stability of the maximum working capacity, and the maximum fall due to fatigue are shown.
- c. Rest Periods/ Break periods: Many unproductive interruptions occur during the working hours, which are called the interval period. Its

frequency and time are very important; it should neither be too long nor too short.

d. **Work Simplification:** Conscious effort to do the easiest and quickest way of doing work is called simplification of work, that is, the right mixture and management of two important resources such as time and human energy.

- Changes in hand and body motions.
- Changes in work storage space and equipment used.
- Changes in the end product.

**10. Space Management :** Well-managed space not only gives comfort while working but also looks attractive. Space management includes planning of the place, implementing the plan according to its use and evaluating it from the point of view of worker and aesthetic sense.

**11. Principle of Space Planning:** Following are the principles to be kept in mind while designing the work area at home:

- Aspect
- Prospect
- Privacy- in and outside
- Room condition
- Openness
- Furniture requirements
- Sanitation- Lights, air, communication, cleaning, and sanitation facilities.
- Circulation of Air
- Practical Considerations.
- Beauty/ Elegance

**Multiple choice questions.**

**(1Marks)**

Q.1 The confusion of enlargement of space can be brought under the following circumstances:

- (a) Using darker colors.
- (b) Using light and glasses
- (c) Using bright colors
- (d) Neither of the above

Ans.( b) Using light and glasses

Q.2 Which work should be given priority while making time plan:

- (a) Entertainment work.
- (b) Optional work.
- (c) Essential functions.
- (d) Religious work.

Ans.(c) Essential functions.

Q.3 Generally the morning time for housewives in families is called :

- (a) Time to worship.
- (b) Cleaning time.
- (c) Time to go to walk.
- (d) Excessive working

Ans.(d) Excessive working.

Q.4 The factors that define the location arrangement in a family are:

- (a) Number of family members
- (b) Resources available with the family.

(c) Social and economic status of the family.

(d) All of the above.

Ans. (a) Number of family members.

**Very Short Answer Question.**

**(1 mark)**

Q.5 \_\_\_\_\_ and \_\_\_\_\_ of resources increase their optimal use.

Ans. (a) Topical

(b) Efficient management

Q.6 Resources and assets are \_\_\_\_\_ or \_\_\_\_\_ that are used to achieve goals.

Ans. (a) Materials

(b) Funds

Q.7 \_\_\_\_\_ is limited and cannot be \_\_\_\_\_.

Ans. (a) Time

(b) Regain

Q.8 Time management provides you opportunities of \_\_\_\_\_ and \_\_\_\_\_ along with work.

Ans. (a) Proper rest

(b) Recreation

Q.9 Which are two main types of activities?

Ans. There are two main types of activities:

- Compulsory
- Optional

Q.10 Which is called peak load period?

Ans. The maximum load of work in a given time or period is called peak load period.

Q.11 Describe the work curve.

Ans. This is a form of graphical representation made during a specific time period. By which the period of excitation for the work, the state of stability of the maximum working capacity and the maximum fall due to fatigue are shown.

Q.12 Define work simplification.

Ans. Conscious effort to achieve the easiest and quickest way of doing work is called simplification of work.

Q.13 Define the time plan.

Ans. Time planning is the process of preparing advance list of activities to be executed in a fixed period.

Q.14 What is the principle of time management?

Ans. The principle of time management – focus on results rather than being busy.

Q.15 What kind of furniture should be there when space in the house is limited?

Ans. The following type of furniture should be there when space in the house is limited.

- Folding furniture
- Multifunctional furniture (the same furniture can be used in various tasks).

Q.16 Which are the main places of work in the kitchen?

Ans. Following are the main places of work in the kitchen.

- Place of preparation before cooking.
- Cooking place.
- Place to clean utensils.

Q.17 Why is the lobby or corridor important? Write two points.

Answer: Two important points are as follows:

- To maintain the privacy of every part of the house.
- To connect one part of the house to another.

**Very short answer questions.**

**(2 marks)**

Q.18 Why time management is important?

Ans. Time management is necessary for the following reasons:

- To get maximum work done in minimum time.
- Time is a finite resource.
- To achieve goals as well as availability of recreation and relaxation opportunities.

Q.19 What are the ways we can adopt a small house to make it big?

Ans. The following ways can adopt:

- By proper arrangement of windows and lights.
- Using lighter colors.

Q.20 Give two examples daily and weekly.

Ans. (a) Daily work :

- Cooking food.
- Daily cleaning

(b) Weekly work :

- Washing clothes.
- Shopping for items from the market.

Q.21 Give two examples of compulsory and optional functions.

Ans. (a) Compulsory Work:

- Bathing daily
- Completion of home work.

**(a)** Voluntary Work:

- (a)** Visiting summer vacations.
- (b)** Participation in a festivals/ events.

Q.22 What does the external privacy of a house mean?

Ans. External privacy of a house means:

- (c)** The house in the neighborhood roads.
- (d)** Sub routes.
- (e)** All parts of the house are secluded.

Q.23 Which four means can be used to enhance the effect of the house?

Ans. The following four means can be used:

- By the right use of natural beauty.
- By correcting positioning of doors and windows.
- Covering unpleasant scenes.
- Giving a beautiful shape.

Q.24 How can the work are simplified by changing the speed of hands and body? (Explain by 4 examples).

Ans. By changing the speed of hands and body, keeping the work equipment and product intact, for example - By selecting some processes.

- By improving the order of work.
- By improving body posture.

Q.25 What are different stages of time planning?

Ans. Steps of time plan:

- Creating the agenda.
- Estimating the time required to perform various tasks.
- Knowledge of available time.
- To reconcile available time and desired time.

Q.26 Make a list of various activities to be done in the house.

Ans. List of various activities according to their place of work:

- Reading : Study room
- Cooking : Kitchen.
- Bathing : Bathroom

Q.27 Despite adequate efficiency, why is there a decrease in the work capacity of the people?

Ans. A Decrease in the work capacity is found due to the following reasons.

- A. Body length not according to width.
- B. Not at height according to workplace person.



C. In the absence of facilities according to person at the workplace.

D. When there is no rest time.

**Short answer questions**

**(3 Marks)**

Q.28 What are the important things to be kept in mind while explaining the following?

A. Kitchen.

B. Bedroom.

C. Meeting.

Ans. The following essential things should be noted-

- a. Kitchen- Lighting and ventilation.
- b. Bedroom-privacy and furniture as required.
- c. Meeting- furniture and openness.

Q.29 Tell the advantages of time management to school student, make a table as well.

Ans. Benefits of Time Management.

- Balancing the routine.
- Be on time.
- To find time for recreation and relaxation
- Timely attainment of goals.
- Mental satisfaction achieved.
- Work to be of good quality.

Q.30 What are the things to be kept in mind while administering the location?

Ans. The following points should be kept in mind while administering time:

- Number of members.
- Requirement and age of members.
- Type of the house.
- Privacy.
- Status of rooms.
- Openness.

**Long Answer Auestions**

**(4 marks)**

Q.31 Describe the time resources and location resources.

Ans. **Time Resources:** Time is the most important human resource.

Time spent processing is equally available to all in 24 hours in 1 day. In order to function best and achieve goals, a person must come to work and rest in the available time period and balance a free time. That is, the second form of time resources to play, perform and honestly implement and evaluate the work done by you in a certain time period.

**Space Resources:** The space available to achieve the goal is called the location resources. It can be available to the person in the form of a house, room, corridor, school, office or train, bus seat. A well organized space helps in maximizing the tasks and fulfilling the requirements.

Q.32 Explain the definition of location management. Discuss the principles of Space planning for indoor area.

Ans. Location Management: Location management is the best use of available space using your knowledge and skills.

Principles Of Space planning:

- a. Planning
- b. Effect
- c. Privacy
- d. Position of different rooms
- e. Openness

Q.33 What is the work simplification? How can work simplification be made by changing the working methods?

Ans. (i) Work simplification- To do the work in an orderly manner, so that minimum time and energy have to be spent.

Work simplification can be done by making the following changes in working methods.

(ii) By changing the movements of hands and body parts.

- By collecting work resources and making changes in equipment.
- Changes in production and use of new products.

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## Chapter – 11

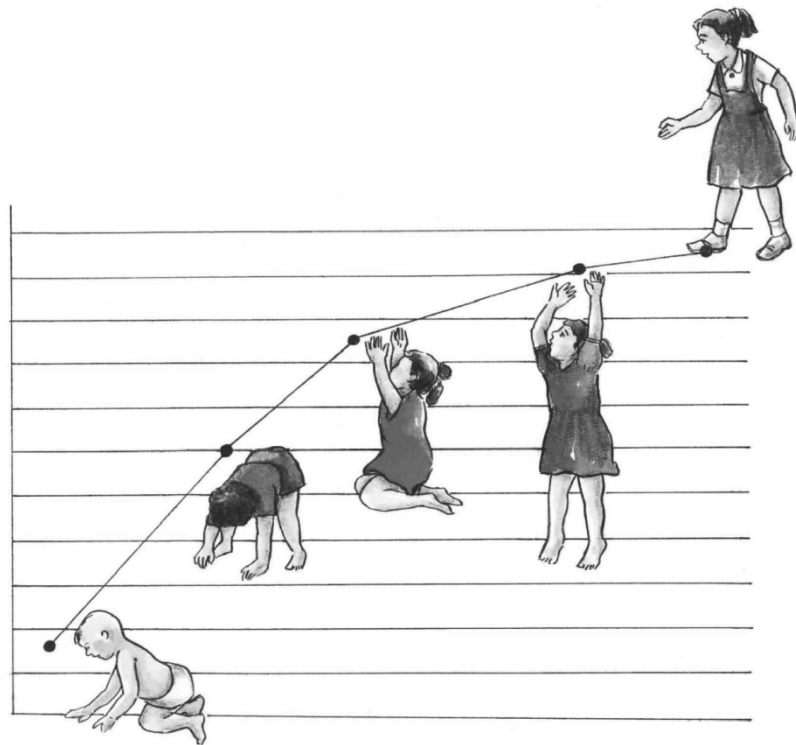
### **SURVIVAL GROWTH AND DEVELOPMENT**

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- Survival means doing important work related to life, in other words **stay alive**.
- For smooth and healthy life we have to include right things in our life so that we don't get ill and we are able to do all our work.
- The care of child is very important. According to a UNICEF report 92 lakh newborns die before completing 5 year of their lifespan and all over the world 3 lakh children are from South Asia.
- Mostly newborns are affected by certain common diseases like Diphtheria, Polio, Tetanus etc. The reason of child's death is under nutrition and these common diseases.
- Nutritious food, clean water, and hygiene practices are very important for growth and development of any person or any child. Education also plays an important role in growth and development of a child.

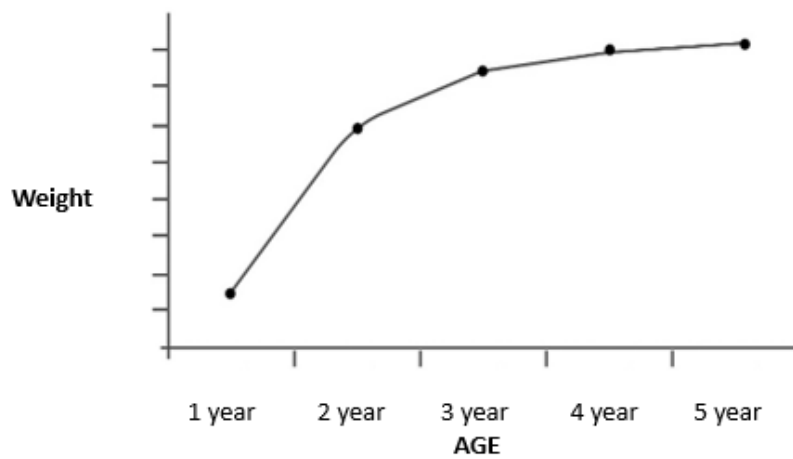
#### **Growth and Development :-**

- Growth is related to anything which increases in size or quantity. We can measure growth by measuring weight and height of a child. Growth is not only increase in height and weight but also increase in size of internal organs.
- Development is related to changes in quality like how our body functions over the time..
- Development is related to quality- like a child first holds his head, then he learns to turn around, then sits up, crawls and after that he learns to walk. All these are called motor development.



With the help of diagram we can see that how height and weight increases in different stages of life like in infancy, childhood, adolescence, adulthood and old age.

- If we see physical development, in this the size of different organs like hands, legs, internal organs, will increase.



Age wise size description is also shown in the diagram:-

- Growth is only related to physical changes whereas development is multifunctional in nature.
- Development has different fields like cognitive development, emotional development, language development, social development. They all are related to each other so we can say that development is versatile.
- With time we can define development as to how a person adjusts to physical development, cognitive development, some behavioural processes of thinking and needs of life.
- With age some changes that occur are long term changes of development, so we can say that development is long term and is always in sequence.
- These developments help in bringing skills and strength in children.
- Sequence means development always takes place in a specific order, for example - Before a child learns to walk, he learns how to sit, then he learns how to stand with the help of some support. After that crawls and then finally he learns how to walk. So development always occurs in sequence.

### **Different fields of development-**

Development is categorized in different fields that is why we call it multidimensional.

1. Physical development
2. Motor development
3. Sensory development
4. Cognitive development

5. Language development
6. Social development
7. Emotional development

1. **Physical development-** Physical development means physical growth. Growth starts at the time of pregnancy and it will go till the body reaches complete growth. It includes increase in height, weight and size of different organs.
2. **Motor development-** Referred to as physical activities we perform using our bones and muscles in coordination.

Motor development is of two types-

- (i) Gross motor development
  - (ii) Fine motor development
    - (i) Gross motor development means where we use our big muscles and do any activity with the help of these muscles like walking, sitting, bending etc.
    - (ii) Fine motor development means where we do the activities with the help of small muscles of our body. We call it fine motor skills, like holding anything with fingers such as pencil and drawing anything on paper etc.
3. **Sensory motor development-** The development of our senses like hearing, listening, touching, tasting etc. Sensory motor development starts from birth like by touching anything. A child can differentiate things and on hearing he can move his head towards the sound.
  4. **Cognitive development** – The ability of anyone to think and understand. With age this cognitive development matures and a child learns many things. He can differentiate between things by using his cognitive skills.

5. **Language development** – At the time of birth newborn communicates by crying, creates sound and his language development starts slowly. Gradually language development begins, he learns new words.
6. **Emotional development** – Emotional development is related to our emotions like crying, smiling, being angry etc.
7. **Social development** – It refers to the development of those abilities in an individual to behave as per societal norms and sustain relationships.

Balanced diet is very important for growth and development of any person. Each and every change which is going to occur in every age group will be in order, if a person or a child is getting good nutritious and balanced diet.

After 10 years nutritional requirements of boys and girls change as per their development and different body changes.

**According to ICMR childhood is divided in different categories.**

1. Infancy — birth to 6 months and 6 months to 12 months
2. Preschooler — 1 year to 3 years and 4 to 6 years
3. School year — 7 to 9 years and 10 to 12 years

**Growth and health are related to each other-**

Growth and development are related to each other. Normal growth is an indicator of good health. If conditions like giving a safe and healthy environment, providing nutritious food etc. are fulfilled on time then the growth of a child will happen normally and he will learn new skills, and live a healthy life. And on the other hand, if a child does not get all these things and his requirements are not fulfilled then he will always be prone to diseases and it will affect his growth and development.



### **Stages of development-**

The development is divided in different categories. Development has some key factors and skills which a child can achieve in every age. In each and every age there is some development which happens and we can observe whether the child is attaining this development or not.

### **The human lifespan is divided into 5 stages :**

1. Infancy birth to 2 years
2. Early childhood 2 to 6 years
3. Middle childhood 7 to 11 years
4. Adolescence 11 to 18 years
5. Adulthood 18 year and above.

### **Newborn-**

- Newborn means the first month of a child's life.
- In this stage child is dependent on his mother and father. All the requirements of a child are fulfilled by his parents. In this stage child adjusts with his environment.
- **Reflex action** - Those unlearned actions which happen automatically, for example when we touch eye of a child he will blink, sucking reflex which helps in feeding, starts by itself.
- **Sensory development** - At the time of birth the sensory skills of a child are very much developed like he can see and differentiate between light and dark. If we show anything to a child he can move his eyes very fast.
- A child responds to any sound, he can differentiate between the tastes (sweet, salt, sour and bitter).

- A child can sleep 16 to 18 hours in a day in phases. When a child is awake he is very active and he observes his surroundings and gives indication to the care taker.
- **Crying** – Way in which a new born communicates his needs.

### **Physical and motor development-**

#### **Increase in Height and weight –**

The height of a child at the time of birth is 20 inches and weight is 2.5 to 3 kg. The weight of a child doubles in six months and triples in 1 year. In one year the weight of a child is 8 to 9 kilograms.

<b>Table 1: Weight for Age</b>		
<b>Age Range</b>	<b>Girls(kg)</b>	<b>Boys(kg)</b>
0-2 years	3.2-11.5	3.3-12.2
2-5 years	11.7-18.2	12.4-18.3
5-6 years	18.3-20.2	18.5-20.5
6-7 years	20.3-22.4	20.7-22.9
7-8 years	22.6-25.0	23.1-25.4
8-9 years	25.3-28.2	25.6-28.1
9-10 years	28.5-31.9	28.3-31.2

Now, with the help of your teacher prepare a table upto the age of 19 years.

<b>Table 2: Height for Age</b>		
<b>Age Range</b>	<b>Girls(cms)</b>	<b>Boys(cms)</b>
2-5 years	85.7-109.4	87.1-110.0
5-8 years	109.6-126.6	110.3-127.3
8-11 years	127.0-145.0	127.7-143.1
11-14 years	145.5-159.8	143.6-163.2
14-17 years	160.0-162.9	163.7-175.2
17-19 years	162.9-163.2	175.3-176.5

Source: Child Growth Reference Standards from birth to 5 years, 2006, and WHO Growth reference data for 5-19 years, 2007. These standards of height and weight are expected to be achieved under desirable health and nutritional conditions. The children from six countries were assessed to arrive at the above mentioned standards.

### **Motor development-**

**Gross motor** development in which child uses his legs, hands and do the activity. In **fine motor** development a child can hold anything from his fingers or hand.

There is an individual difference in the rate of growth and development of a child as the growth and development in every child is different. For example some learn things fast and some learn gradually. Some children take time in language development and some will learn very early.

<b>Table 3: Motor Development Milestones</b>		
<b>S.NO</b>	<b>Age</b>	<b>Nature of Milestone</b>
1	Birth-3 Months	<ul style="list-style-type: none"> <li>• Lifting and holding the head</li> </ul>
2	Newborn	<ul style="list-style-type: none"> <li>• Newborn can move their head from side to side slightly</li> </ul>
3	1 months	<ul style="list-style-type: none"> <li>• They can raise their head</li> </ul>
4	2 months	<ul style="list-style-type: none"> <li>• They can also lift their chest while lying on stomach (prone position)</li> </ul>
5	3 months	<ul style="list-style-type: none"> <li>• The infant begins to hold her/his head, and this is a major milestone in development. If the child is unable to do this even by the age of 6 months, it shows that there is delay in development</li> </ul>
6	4-6months	<ul style="list-style-type: none"> <li>• Can roll over from back to stomach and stomach to back</li> </ul>
7	6-8 months	<ul style="list-style-type: none"> <li>• Sitting with adult support or in a seat with straps</li> <li>• Sitting without support</li> </ul>
8	8-9 months	<ul style="list-style-type: none"> <li>• Crawling; however, some children do not crawl and directly learn to stand after being able to sit</li> <li>• Standing if supported or by holding on to something</li> </ul>
9	10-11 months	<ul style="list-style-type: none"> <li>• Can pull up from sitting position to standing ;standing independently briefly</li> </ul>
10	12-18 months	<ul style="list-style-type: none"> <li>• Walking ; initially the child's walk is unsteady but gradually it becomes steady</li> </ul>
11	18-24 months	<ul style="list-style-type: none"> <li>• Climbing stairs/steps by placing both feet on each step, if hand held by someone</li> </ul>
12	2 years	<ul style="list-style-type: none"> <li>• Walking backwards, goes down slide, climbs ladder jumping from low platform with both feet</li> </ul>
13	3 years	<ul style="list-style-type: none"> <li>• Can balance on one foot</li> <li>• Can kick large ball</li> <li>• Can throw and catch a ball</li> </ul>
14	3-4 years	<ul style="list-style-type: none"> <li>• Can walk upstairs with alternating feet as adults do, by holding onto something</li> </ul>
15	5 years	<ul style="list-style-type: none"> <li>• Skipping and pedaling a bicycle</li> </ul>
16	6 years	<ul style="list-style-type: none"> <li>• Well coordinated hopping, jumping and climbing</li> </ul>
17	7 years	<ul style="list-style-type: none"> <li>• Balancing and pedaling a bicycle</li> </ul>
18	8-10 years	<ul style="list-style-type: none"> <li>• Has balance, coordination and strength that allows child to participate in various games and gymnastics</li> </ul>

**Language development** - In early stages a child produces some sounds like crying, cooing (when happy) and babbling. From these sounds his language development starts. Gradually child produces some alphabets like sound Cha-cha, Pa-pa {babbling) etc, utters one word, two words sentences. By 4 years child's language is well established.

### **Social and Emotional Development-**

- In early stages of life the social development of child starts with the interaction with his mother or a caretaker which shows social development of a child
- The emotional development starts when the care taker or mother plays with child at the time of feeding, changing clothes. The child develop a connection with the mother.
- An adult or a brother or sister when talks or plays with the child, they play a role of mother and use some special speech called **motherese**. They produce some funny sounds which give happiness to the child and child also tries to copy them.
- When child sees mother smiling he also smiles and produces some sounds in happiness (**cooing**).
- Mother or caretaker always takes care of the child and fulfill all his requirements. Some connection will develop between the child and the caretaker which shows his social and emotional development.
- When caretaker plays with the child he expresses emotion from face (facial expressions) child tries to copy it which helps to develop some emotions.
- In the early stages of life it is very important to develop emotional and social development for child's healthy growth. A secure child cries less, cooperates and develops trust.

If nobody is present for taking care of a child then there are Day Care Centres, where parents can leave their child for better care, growth and

development. In day care centre a child forms a good relationship with the care taker, copies the caretaker's expressions and his emotional and social development occurs.

### **Child Rearing Practices:**

Mother and father take care of the child, which affects his overall personality and growth and development.

Child learns many things from his parents. They try to copy their parents. Children learn skills, how to behave, different rules and values from their parents. Parents love their child and that helps in the development of a child. Parents discipline their child by new rules and values. Some parents behave politely with their children; this is called **affection oriented disciplining approach**.

Some parents behave strictly with their children; this is called **Power oriented approach**.

### **Relationship with siblings and peers-**

In taking care of a child brother and sister play an important role. Elder brothers and sisters fulfill all the requirements when parents are not present near the child. They play with the child and build a very close relationship like a friend. As the child grows in school years they understand the meaning of a friend as they start playing with their friends. They do all the activities with their friends and with age develop a very close relationship with them. They share each and everything with them.

**Cognitive development** - Cognitive development means the thinking power of a child and the understanding of a child. For example colours name, different shapes, living and non-living things difference between foods etc. Children learn the reason and the fact behind things; they understand why the things happen with reason behind it.

When a child starts going to school, his thinking and understanding develop more effectively. He can easily find various solutions for different problems which come in his way.

**According to Jean Piaget there are 4 steps of cognitive development which a child goes through -**

1. **The Sensory Motor Stage** – Birth to 2 years - In this stage child learns many other things with the help of their senses and develops some motor skills, that's why it is called sensory motor stage. For example - By touching anything he will understand it and associates sound with people or objects. He can understand some kind of signs and symbols.

By two months, infant starts taking interest in the things which are present in the surrounding. By three months, he understands the gestures and actions of other people and their indications.

By 4-8 months a child understands that whatever actions he will do it will affect others like when he throws anything it will create sound so he understands the cause and effect of things.

By 8-12 months a child will do things knowingly and see the effect of their actions.

By 12-18 months a child starts doing different things like by throwing his toys he understands how far it will go. Children understand things, actions and recognize people.

By 24 months, an infant can form a picture or an idea in his mind.

2. **The Pre Operational Stage** – 2 - 7 years: In this he start developing concepts and learns to create things, different shapes, time, distance, speed, counting, colours, area, measurements, living and nonliving things, height, temperature etc.
  - He can arrange things on the basis of height at the age of 4 years.
  - He will learn 1 to 10 counting at the age of 3 years.

- He will learn his mistakes gradually and correct them.
  - He will learn that the quantity of a substance will remain same even if the shape is different (**Conservation**).
  - They learn to put things in a sequence on the basis of their shape, height, weight etc. (**Seriation**).
  - Child is ego centric
  - Gradually, he also learns different person's perspective.
  - Children assume that there is a life in things (**Animism**). When story is told to children they imagine things like trees, clouds etc. all have life.
3. **The Concrete Operational stage** – 7 to 11 years - This is middle childhood stage, in this child thinks about problems in different perspectives, he also learns about sequence and can give his opinion about it.

In this stage, children are less ego centric. They understand things, think and understand according to their and others perspective.

He can understand addition, subtraction, he can also understand seed fruit and non-seed fruits and they also categorize these fruits.

4. **The Formal Operational Stage** – 11 to 18 year - In this, he becomes an adolescent and can very well understand things. Even if we do not show things to children, they can imagine various situations and then think about it and give their opinion. They can imagine different situations and always do daydreaming. They have a disciplined thinking and can also find solution of their problems.



**Multiple Choice Questions**

**(1 Mark)**

**Q1.** Increase in size is called.....

- A. Development
- B. Growth
- C. Infancy
- D. Childhood

Ans. B) Growth

**Q2.** Infancy is from.....

- A. 1 to 6 month
- B. 1 year to 2 years
- C. Birth to 2 year
- D. 4 to 6 years

Ans. C) Birth to 2 year

**Q3.** What is preschooler age?

- A 1 to 3 year
- B 4 to 6 year
- C 7 to 9 years
- D A and B both

Ans. D) A and B both

**Q4.** \_\_\_\_\_ can be measured.

- A Development
- B Growth
- C Activity
- D None of the above

Ans. B) Growth

**Q5.** \_\_\_\_\_ is multifunctional and versatile.

- A Growth
- B Development
- C Actions
- D Activity

Ans. B) Development

**Q6.** How many fields does development have?

- A. Five
- B. Three
- C. Two
- D. Seven

Ans. D) Seven

**Q7.** Increase in height and weight is what kind of development?

- A. Emotional development
- B. Social development
- C. Physical development
- D. Language development

Ans. C) Physical development

**Q8.** For doing any activity using big muscles of the body is called?

- A. Fine motor skills
- B. Gross Motor skills
- C. Growth
- D. Development

Ans. B) Gross Motor skills

**Q9.** For doing any activity using fingers and thumb we call it?

- A. Gross motor skills
- B. Fine Motor skills
- C. Emotional development
- D. Social development

Ans. B) Fine motor skills

**Q10.** What do we call development of the senses?

- A. Cognitive development
- B. Emotional development
- C. Sensory development
- D. Language development

Ans. C) Sensory development

**Q11.** Thinking and understanding shows what kind of development?

- A. Physical development
- B. Cognitive development
- C. Personal development
- D. Social development

Ans. B) Cognitive development

**Q12.** The child first cries and produces sound what kind of development is this?

- A. Language development
- B. Social development
- C. Physical development
- D. Cognitive development

Ans. A) Language development

**Q13.** What is School years age group?

- A. 1 to 3 years
- B. 4 to 6 years
- C. 6 to 12 month
- D. 7 to 9 years

Ans. D) 7 to 9 years

**Q14.**How many stages does development have?

- A. One
- B. Two
- C. Five
- D. Four

Ans. C. Five

**Q15.** What is adolescence age group?

- A. Birth to 2 years
- B. 2 to 6 years
- C. 7 to 11 years
- D. 11 to 18 years

Ans. D. 11 to 18 years

**Q16.** What is the weight of a child at the time of birth?

- A. 1 kg to 4 kg
- B. 2.5 to 3 kg
- C. 5 kg
- D. 6 Kg

Ans. C. 2.5 to 3 kg

**Q17.** What is the height of a child at the time of birth?

- A. 30 inch
- B. 35 inch
- C. 40 inch
- D. 20 inch

Ans. D. 20 inch

**Q18.** A child can develop a relation with the caretaker or mother/father.  
Which development is this?

- A. Physical development
- B. Language development
- C. Social development
- D. Cognitive development

Ans. B. Social development

**Q19.** Crying, smiling, being angry etc. all these are what kind of development?

- A. Physical development
- B. Social Development
- C. Emotional development
- D. Cognitive development

Ans. C. Emotional development

**Short Question Answers****(2 Marks)****Q1.** Polite behaviour with children is what kind of discipline?

Ans. Affection oriented approach.

**Q2.** What we call the Cognitive development in adolescence at the age of 11 to 18 year?

Ans. Formal Operations stage.

**Q3.** Reflex which helps in breast feeding \_\_\_\_\_

Ans. Sucking reflex

**Q4.** Differentiate between growth and development?

Ans.

Growth	Development
We can measure growth.	Development cannot be measured but we can observe it.
Growth is related to Physical changes.	Development is multi-functional and versatile in nature.
It is quantitative in nature.	Development is qualitative in nature.

**Q5.** What do you mean by sensory development?

Ans. Sensory development means development of the senses like taste, listening, touching, seeing etc.

**Q6.** What is the age group of infancy?

Ans. Birth to 2 years

**Q7.** What do you mean by motor development?

Ans. Motor development means controlling the activities of our body. They are of two type- Gross Motor skills and Fine Motor skills.

**Long Question Answers**

**(3 Marks)**

**Q1.** What do you mean by physical development? At the time of birth what is the weight of a child and in one year how much it will increase?

Ans. Physical development means physical growth. Growth starts at the time of pregnancy and it continues till the body reaches complete growth. This includes increase in height, weight and in size of different organs.

At the time of birth the weight is 2.5 to 3 kilogram. The weight of a child is doubled in six months and tripled in 1 year. By one year the weight of a child is 8 to 9 kilograms.

**Q2.** What do you mean by emotional development? At the time of birth child can produce what all emotions?

Ans. Emotional development is related to the emotions a child shows in different situations like crying, smiling, being angry etc.

- When caretaker plays with child he expresses emotions through face (facial expressions). Child also tries to copy it which helps him to develop some emotions.
- Mother or caretaker plays with the child. In most of the cases mother takes care of the child and child develops attachment with her.
- In the early stages of life it is very important to develop emotional and social development for child's healthy growth. For example a secure child cries less.

**Q3.** What is the role of brother and sisters in the taking care of a child?

**Ans.** In taking care of a child, brother and sister play an important role. Elder brother and sister fulfill all the requirements when parents are not present near child. They play with the child and build a very close relationship like a friend with the child.

Siblings provide emotional support, a child can trust and share with them.

**Q4.** What do you mean by cognitive development? How many stages it has?

**Ans.** Cognitive development means the thinking power of a child and the understanding of a child. For example colours, name, different shapes, living and non-living things differentiate between foods etc. Children learn the cause and effect of things.

When a child starts going to school his thinking and understanding develop more effectively. He can easily find various solutions for different problems which come in his way.

According to Jean Piaget there are 4 stages of cognitive development which a child has to undergo.

**Q5.** What do you understand by language development? At what age a child's language development start?

**Ans.** Language development -In early stages first a child produces some sounds by crying, by smiling. And from that sound his language development starts. Gradually child produces some alphabet like Cha-cha, papa etc. And after that he makes short sentences and starts speaking.



## Long Question Answers

(4 Marks)

**Q1.** What is social development? At birth how social development of a child happens?

Ans. In early stages of life the social development of child starts with the interaction with his mother or a caretaker which show social development of a child

- An adult or a brother or sister when talks or plays with the child they play a role of mother. They use some special speech, they produce funny sounds which give happiness to the child and he also tries to copy them.
- When child sees mother smiling, he also smiles and produces some sounds when happy (**cooing**).
- Mother or care taker always takes care of child and fulfil all his requirements. Some connection will develop between the child and the caretaker which shows his social and emotional development.

**Q2.** In the taking care of a child what is the role of a parents explain in detail?

Ans. Mother and father take care of the child, which affects his overall personality and growth and development.

Children learn many things from their parents as they try to copy them. Children learn skills, how to behave, different rules and values from their parents. Parents love their child and that helps in the development of a child. Parents will discipline their child by new rules and values. Some parents behave politely with their children; this is called affection oriented disciplining approach.

Some parents behave strictly with their children, this is called Power oriented approach.

## Long Question Answers

(5 Marks)

**Q1.** What are the different stages of cognitive development? Explain some important qualities of these stages?

Ans. According to Jean Piaget there are 4 step of cognitive development which a child has to go through.

1. **The Sensory Motor Stage** – Birth to 2 year in this state child will learn many other things with the help of their senses and develop some motor skills that's why it is called sensory motor development

For example by touching any thing he will understand it and with the help of sound he will understand some kind of signs and symbols.

By 2 months child will start taking interest in the things which are available in the surrounding. In 3 month of age he will understand the language of other people and their indications.

By 4 - 8 month a child will understand that whatever actions he will do it will affect others like when he throws anything it will create sound so he understands the reason and effect of things.

By 8 - 12 month a child will do things knowingly and see the effect of their actions.

By 18 – 24 months a child starts doing different things like by throwing his toys he will understand how far it will go. Children will understand things, actions and recognize people.

2. **The Pre-Operational Stage** – 2 to 7 years in this he starts developing concepts and learn many things like to create things, different shapes, time, distance, speed, counting, colours, area, measurements, living and nonliving things, height, temperature etc.
- He can arrange things on the basis of height at the age of 4 years.
  - He will learn 1 to 10 counting at the age of 3 years
  - He will learn his mistake gradually and correct it
  - He will learn that the quantity of a substance remains same even if the shape is different (**conservation**).
  - They will learn to put things in a sequence on the basis of their shape, height, weight etc (**seriation**).
  - He will also learn different person's perspective like when anybody hides anything from him he will find that thing where that person can hide it.
  - Children assume that there is a life in things (**animism**). When story is told to children they imagine that things like tree, clouds etc; all have life.
3. **The Concrete Operational Stage** – 7 to 11 years this is middle childhood stage. The child thinks about problems in different perspectives, he can also learn about sequence and can give his opinion about it.

In this stage children are self-centric and they understand what people will think and understand according to their perspectives.

He can understand addition, subtraction, he can also understand seed fruit and non-seed fruits, and also categorize these fruits.

4. **The Formal Operational Stage** – 11 to 18 year of age. In this he becomes adolescent. He can very well understand things in this stage there is no need to show things to children they can imagine various things and then think about it and give their opinion. They can imagine different situations and always do daydreaming they have a disciplined thinking and can also find solution of their problems.

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## Chapter - 12

# NUTRITION HEALTH AND WELL-BEING

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**Nutrition** is 'Food at Work' a process by which we obtain nutrients and metabolise them for growth, repair and wellbeing.

### Importance of proper nutrition-

- To help in the proper functioning of our body parts.
- To fight against diseases and improve health.
- Provides energy to the body to work.
- Helps in the overall development of the body
- Helpful in developing pleasant and positive outlook in life

**Here we will study nutritional health and wellness in three age groups-**

1. Birth to 12 months or 1 year                      Infancy
2. 1 to 6 Years    Pre School Children
3. 7 to 12 Years    School going Children

**Nutrition, Health and Wellbeing during Infancy (Birth to 12 months) -At the time of birth :-**

1. Baby weight - 2.5 kg to 3 kg
2. Height - 45 cm to 50 cm

### IMPORTANT POINTS-

#### In infants

- **Weight** - doubles in 6 months and triples in 1 year.
- **Length** - 45 cm to 50 cm at birth, 56 cm to 60 cm when four months old, 65 cm to 70 cm when eight months old and 70 cm to 75 cm when 1 year old.
- The development and ability of all the infants's organs gradually improve.
- Head and chest circumference both increase gradually.

**In addition to energy, children require the following nutrients for the following reasons-**

- **Protein** - For rapid growth of bones and muscles.
- **Calcium** - For rapid calcification of bones.
- **Iron** - For increase in blood and for expansion in blood volume.

**Recommended Dietary Allowances for Infants :-**

S.No.	Nutrients	Birth to 6 Months	6-12 Months
1	Energy (Kcal.)	108/Kg body weight	98/Kg body weight
2	Protein (Gram)	2.05/Kg body weight	1.65/Kg body weight
3	Calcium (Mg)	500	500
4	Vitamin A : Retinol ( $\mu$ gram)	350	350
	OR Beta Carotene( $\mu$ gram)	1200	1200
5.	Vitamin B: Thiamine ( $\mu$ gram)	55/Kg body weight	50/Kg body weight
	Riboflavin ( $\mu$ gram)	65/Kg body weight	60/Kg body weight
	Niacin ( $\mu$ gram)	710/Kg body weight	650/Kg body weight
	Pyridoxine ( $\mu$ gram)	0.1	0.4
6	Vitamin C: Ascorbic Acid ( $\mu$ gram)	25	25
7	Folic Acid ( $\mu$ gram)	25	25
8	Vitamin B12 ( $\mu$ gram)	0.2	0.2

\* Source:- Indian Council of Medical Research (ICMR), 2010

### **Breastfeeding -**

Till six months of age an infant is dependent only on mother's milk for food. The first 2-3 days, a yellow thick fluid is produced from the mother's breast, which is called *colostrum*. It must be given to the infant, as it protects the infants from infection and diseases.

### **Benefits of breastfeeding-**

- Provides all the necessary nutrients to the infants.
- It is the most simple and convenient diet for infants.
- Due to the presence of immunity in mother's milk, it provides natural immunity to infants.
- It is free from all types of allergies / adulteration / infection.
- It protects the mother from breast and ovary cancer and protects the bones from weakening.
- It strengthens the emotional relationship between mother and infants.
- Mother's milk becomes more digestible for infants due to the presence of Lactalbumin protein.

### **Feeding the low birth weight infant -**

If the weight of the baby is less than 2.5 kg at birth, he/she will be referred to as an underweight infant.

Mother's milk is the best diet for underweight babies. Mother's milk contains all the essential amino acids, calories, fat and sodium elements, which fulfills all their nutritional requirements. If for some reason, mother's milk is not available, or if there is not enough, then the baby may be given other foods besides mother's milk.

### **Supplementary Feeding-**

Inclusion of other foods to an infant's diet in addition to breast milk, which are given to meet the nutritional requirements of infants.

## **Weaning-**

The process of giving supplementary food to infants is called weaning. This diet can be started from 4 - 6 months for infants and in the beginning we can start giving pulses water, rice water, vegetable water, milk diluted with boiled water etc.

## **Types of supplements-**

### **1. Liquid Supplementary Foods-**

The supplementary diet starts with liquid supplements at the age of 4-6 months.

#### **Examples-**

- **Milk-** Mixed with boiled water in the ratio of 3: 1 should be fed to the infant, without water in a few weeks.
- **Juice-** Fruits like oranges should be increased gradually, starting from 5 ml at 4 months and increase of upto 85 ml by one year.
- **Soup-** Vegetable, lentil, filtered soup after 4-5 months without salt and onion soup after one year.

### **2. Semi-solid Supplementary Foods-**

It is introduced by 5-6 months of age of an infant.

#### **Examples-**

- Well-cooked and mashed vegetables
- Cereals and pulses cooked and mixed well
- Egg yolk - starting from 7 months (1/2 teaspoon), In 1 year (1 tbsp.)

### **3. Solid Supplementary Foods-**

This type of food can be given to infants by 10-12 months, when the baby teeth start showing

#### **Examples-**

- Dal, cereals, minced meat cooked in various combinations.
- Raw salad and fruits, raw cottage cheese which can be eaten easily by holding it in hand.



### **Immunization-**

‘Antibodies are proteins produced by the body that help a person to fight against various infectious diseases’.

### **What is immunization**

Immunization is the process of giving a vaccine to a person to protect them against disease. Immunity (protection) as immunization is similar to the immunity a person would get from disease, but instead of getting the disease you get a vaccine. This is what makes vaccines a powerful medicinal tool. Most vaccines are given by needle (injection) but some are given by mouth (orally) or sprayed into the nose (nasally). Immunization is also called vaccination.

Polio, Diphtheria, Tuberculosis, Pertussis, Measles and Tetanus are six diseases that lead to high mortality in India.

### **Health and nutritional problems in infants and young children-**

1. **Malnutrition-** Refers to both undernutrition and overnutrition. In undernutrition the body suffers due to lack of nutrients and in overnutrition the body suffers due to excess of nutrients.
2. **Protein Energy Malnutrition (PEM)-** Small children (mostly in 1 to 5 years) are most prone to Kwashiorkor and Marasmus due to lack of protein and calories.
  - **Kwashiorkor-** This disease is caused due to deficiency of protein. If there is a deficiency of calories in the diet of the child, then the protein present in the body automatically starts giving energy and gradually the child becomes malnourished due to Kwashiorkor.

### **Symptoms-**

- 1) In this, the growth and development of the child stops.
- 2) The child becomes depressed and irritable.
- 3) The child’s face looks like a moon.
- 4) Inflammation occurs due to accumulation of water in the body.
- 5) Due to the accumulation of fat in the liver, the stomach looks bloated.

- **Marasmus-** This is a form of severe malnutrition characterized by energy deficiency. It occurs usually in children up to the age of 15 months. It can be distinguished from Kwashiorkor is protein deficiency with adequate energy intake whereas marasmus. It is inadequate energy intake in all forms, including proteins.

**Symptoms-**

- 1) Muscles become weak in this disease.
  - 2) The face of the child becomes like the face of an old person or a monkey.
  - 3) The weight of the child becomes very less.
  - 4) The stomach is so flat that the actions of peristalsis are clearly visible.
3. **Rickets-** Due to lack of vitamin-D in the diet, calcium and phosphorus present in the body cannot be used, which is the main cause of Rickets.

**Symptoms-**

- 1) There is a hindrance in the formation of teeth and bones of children.
  - 2) Bones become weak due to which they are unable to bear body weight.
  - 3) The bones of the head are deformed.
  - 4) Forehead bones emerge more than necessary.
4. **Goitre-** Commonly develops as a result of Iodine deficiency or inflammation of the Thyroid gland. In this disease physical and mental developments stop.
5. **Anaemia-** Deficiency of iron in the body is a condition in which the blood doesn't have enough healthy red blood cells. This leads to the reduced oxygen flow to the body's organs.
6. **Night Blindness-** Occurs due to lack of Vitamin-A. People with night blindness experience at night or in dimly lit environments.
7. **Diarrhoea-** When the body is deficient in water and mineral salts, the child becomes the victim of diarrhoea. Children also die due to frequent diarrhoea.

**Nutritional health and well-being of pre-school children (1-6 years) - Characteristics of pre-school children-**

- 1) Pre-school children are very energetic, agile and enthusiastic.
- 2) Growth at this age is relatively slow compared to infancy.
- 3) Children's eating habits are gradually developing.
- 4) Children learn to chew and swallow.
- 5) In this stage, children develop the right habits and they learn to choose the right foods.

**Recommended Dietary Allowances for Pre-school Children**

**(Recommended by ICMR, 2010)**

S.No.	Nutrients	Age in Years (1-3 years)	Age in years (4-6 years)
1	Energy (Kcal)	1240	1690
2	Protein (gm)	22	30
3	Fat (gm)	25	25
4	Calcium (mg)	400	400
5	Iron (mg)	12	18
6	Vitamin - Retinol (µg)	400	400
	Or Beta-carotene (µg)	1600	1600
7	Thiamine (mg)	0.6	0.9
8	Riboflavin (mg)	0.7	0.1
9	Niacin (mg)	8	11
10	Vitamin C (mg)	40	40
11	Pyridoxine (mg)	0.9	0.9
12	Folic Acid (µg)	30	40
13	Vitamin B-12 (µg)	0.2-1	0.2-1

### **Guidelines for providing nutritious food to pre-school children-**

- 1) Children should be encouraged to eat with other members of the household so that children can learn healthy eating habits.
- 2) There should be regularity in meal time and snack time so the child is properly hungry.
- 3) Care should be taken for variations in children's food based on colour, nutrient and aroma.
- 4) Children should make a habit of finishing the food served on their plate.
- 5) To arouse the child's interest in food, he should be given variety of new food items.
- 6) Menus must include the dishes which are very easy to handle to eat, like in the form of finger foods such as - small sandwiches, potato balls etc.
- 7) Children should be served food in an attractive manner.
- 8) Any food which is not of the choice of the child should be changed and served such as - If they do not like vegetables, then these may be added into pav bhaji, stuffed parantha and sandwiches etc.

### **Planning a balanced meal for pre-school children-**

- 1) There is no need to track the consumption of calories due to the rapid pace of development and high velocity of growth in children.
- 2) He/She cannot attain full genetic potential even till adulthood if he/she does not get nutritious and balanced diet.
- 3) Due to deficiency of protein, vitamin A, iron element, they can suffer from malnutrition (PEM), xerophthalmia and anaemia respectively.
- 4) All the five food groups must be included in the meal.
- 5) There should be variations in taste, smell and color.

- 6) There should be a balance between-hard, soft and colourful food and complex carbohydrates, fat-free meals, protein and essential fats.
- 7) Avoid fat-rich foods from diet.

### **Sample of one day diet for pre-school going children**

- 1) **Morning Breakfast** - Wheat porridge cooked in milk, bread or roti.
- 2) **Pre school Tiffin** - Stuffed sandwich of vegetables, fruit packed juice or buttermilk (as per choice).
- 3) **Lunch** - Dal, rice, fenugreek potato vegetable, sprouted moong-moth Salad, Chapati, Carrot Pudding etc.
- 4) **Evening snack** - Banana shake, peanut chikki, or any other snack of choice.
- 5) **Dinner** - Bathua raita, chapati, cooked seasonal vegetable and salad.
- 6) **At bedtime** - A glass of warm milk.

### **Some examples of low cost snacks for pre-school children-**

- 1) Nutrients can be increased by preparing idli, dhokla, roti etc. by the fermentation method.
- 2) Mixing different pulses and grains together also increases the nutrients.
- 3) Grind equal amounts of soyabean and sunflower seeds also increase the nutritional value.
- 4) Snacks and other food items can be prepared from peanuts, jaggery, rice flour, peas and gram dal etc.
- 5) Appropriate nutrients can be provided to children on the use of cheap foods by maize and millet flour and seasonal and local fruits and vegetables.

### **Feeding children with special needs-**

“Children with special needs are those who have been determined to require special attention and support. Special education helps them to develop their full potential”

### **The following things should be kept in mind while considering thenutritional needs of children with special needs.**

**Observation-** The following food habits of the child should be observed while eating -

- 1) Knowing likes and dislikes
- 2) Method of eating
- 3) Detection of physical and mental abilities
- 4) Children’s attraction towards a particular type of food
- 5) Allergic to any food etc.
- 6) Nutritional requirements of school going children.

### **Developing Eating Skills-**

- 1) Helping the child according to the capabilities of the body, without suffering.
- 2) During the meal, make the child sit in a comfortable position and motivate him to eat the food himself.
- 3) Along with the growth and development of the child, the child should be taught to eat foods with complex structure (hard texture).
- 4) Provide children’s food respecting their choice and desire.
- 5) Determine the time of meal.

### Special Diets-

- 1) Spastic children, who have difficulty in holding things, find food with complex structure or hard texture unpleasant. Thin (liquid) foods should be softened by cutting them into pieces in solid, dry or lumpy food.
- 2) Feeding tube can be used if required.
- 3) Changes in taste and smell in children with autism affect the way foods are eaten.
- 4) Allergic foods should be removed immediately from their food.

### Immunization program for pre-school children-

Age of child	Vaccine
15-18 months	MMR (for measles, mumps and rubella)
16 months – 2 years	DPT, OPV-booster doses
2 years	Typhoid Vaccine
5 years	DPT, OPV- Booster dose
10 years and 16 years	Tetanus Toxoid (TT)
18, 24, 30, 36 months	Vitamin A (drops)

### Health, nutrition and well-being of school going children (7-12 years)-Features-

- 1) Children from 7 to 12 years old are referred to as 'School Going Children'.
- 2) Children of this age are very active.
- 3) Changes are visible gradually as the development process is relatively slow.
- 4) The child does not suffer from communicable disease generally.
- 5) Even in the age of 9 to 10 years and beyond, there are obvious changes in the shape and size of boys and girls.

### Nutritional Requirements of School Going Children-

After the age of 9, the nutritional requirements of boys and girls keep changing like: -

1. **Energy-** Due to rapid increase in physical activity, increase in muscle mass of boys, the need of energy is greater for boys than girls.
2. **Protein-** For continuous sports, injuries due to sports, good quality protein is required in the proper amount.
3. **Iron-** In girls iron is required due to menstrual discharge. Due to increase in the blood volume in both boys and girls, iron element is required.
4. **Calcium-** Calcium is required for growth in bones and development of the skeletal system.
5. **Minerals-** Due to perspiration and activeness of the internal activities of the body, the need for micro nutrients salts increases such as – Sodium, Potassium etc.

### Recommended Dietary Allowances of School Age Children (7-12 Years)

#### Recommended by ICMR

S.No.	Nutrients	Age in years		
		7-9	10-12	
		Boys & Girls	Boy	Girl
1	Energy (Kcal)	1950	2190	1970
2	Protein (gram)	41	54	57
3	Fat (gram)	25	22	22
4	Calcium (mg)	400	600	900
5	Iron (mg)	26	34	19



6	Vitamin A Retinol ( $\mu$ gram) Or	600	600	600
	Beta Carotene ( $\mu$ gram)	2400	2400	2400
7	Thiamine (mg)	1.0	1.1	1.0
8	Riboflavin (mg)	1.2	1.3	1.2
9	Pyridoxine (mg)	1.6	1.6	1.6
10	Folic Acid ( $\mu$ gram)	60	70	70
11	Ascorbic Acid (mg)	40	40	40
12	Vitamin B-12 (mg)	0.2-1	0.2-1	0.2-1
13	Niacin (mg)	13	15	13

**Things to keep in mind while planning food for school going children-**

- 1) Variety in diet.
- 2) Ensuring good nutrition.
- 3) Limited intake of saturated fat, salt and sugar.
- 4) Provide nutritious breakfast to children.
- 5) Take advice from children in cooking food. Keep food preferences of children in mind.
- 6) Balanced and nutritious snacks and meals should be given at regular intervals.

**Factors affecting the diet of pre-school and school going children-**

**1. Family Environment-**

- a) Healthy eating habits develop in children from the family.
- b) Children get proper guidance under parental supervision and develop their own feeding patterns.

## **2. Media-**

- a) One should be cautious of misleading advertisements.
- b) Nutritive value should be confirmed while purchasing food items.

## **3. Peers-**

- a) Children's food habits are largely influenced by their friends.
- b) They like to eat more in the company of their friends than family members.
- c) In order to develop healthy food habits amongst children, an effective health and nutrition management system should be placed in schools.

### **Socio-Cultural Influences-**

The food eaten in a particular area is also liked by the children of that region. Along with that, they also start developing a taste for foods of other places as well, for example - People of South India have a tendency towards rajma-rice, parantha, etc. While Punjabis also relish idli and dosa as well.

### **Irregular hunger-**

The child eats one meal well while at the same time refuses to eat another food (which he does not like). This is a temporary state of mind which improves with time.

### **Healthy Habits-**

- 1) To develop good eating habits.
- 2) To encourage physical activity.
- 3) Ensuring food safety.
- 4) To give food to children in case of hunger and also regulate the amount of fast foods they consume.

### **Health and nutritional issues of school children-**

If proper attention is given to the nutritional level of children, vaccination etc. from time to time, then the child's immunity increases. But if they are not taken care of, then the child may fall victim to the following diseases.

#### **Obesity-**

- 1) It may be due to wrong lifestyle, malnutrition or food misconceptions.
- 2) Due to excess fatty food, excess salt, low fiber and sugar drinks, children become obese.
- 3) This problem is more among the children of the higher socio-economic classes of our society.
- 4) Inactivity is the biggest cause of obesity.

**Diabetes-** Lack of insulin in the body, due to which the presence of sugar in the blood and urine increases.

**High blood pressure-** Blood pressure is more or less than normal.

**Obesity-** is the main cause of these problems and nowadays it is becoming a common problem amongst all age groups.

#### **Under Nutrition-**

- 1) When a child receives less nutrients than what is required for his body continuously, then he suffers from under nutrition.
- 2) The child's growth and development is stunted as a result of under nutrition. And many types of diseases occur in it.

#### **Mid Day Meal Scheme-**

- 1) It is a unique initiative of the government to provide free food to the children of first to eighth class.
- 2) As a result of this scheme the number of enrollment of children in schools has increased.
- 3) There has also been a positive improvement in the ability of children to work and to concentrate.

<b>National Vaccination Chart</b>					
<b>For Infants</b>					
<b>S.No.</b>	<b>Vaccine</b>	<b>When to Give</b>	<b>Dose</b>	<b>Route</b>	<b>Site</b>
1.	(B.C.G.)	At the time of birth or till one year	0.1 ml (0.05 ml until 1 month age)	Intra-Dermal	Left upper arm
2.	Hepatitis-B Birth Dose	At birth or as early as possible within 24 hours	0.5 ml	Intra-muscular	Antero-lateral side of mid thigh
3.	OPV-O Polio Drops	At birth as early as possible within the 15 days	2 Drops	Oral	–
4.	OPV 1, 2 and 3	At 6 weeks, 10 weeks & 14 weeks (OPV can be given till 5 years of age)	2 Drops	Oral	–
5.	IPV	Two frictional dose at 6 and 14 weeks	0.1 ml	Intra-Dermal two fractional dose	Right upper arm
6.	Pentavalent 1, 2 and 3	At 6 weeks, 10 weeks & 14 weeks (can be given till 1 year of age)	0.5 ml	Intra-muscular	Antero-lateral side of mid thigh
7.	Rota virus	At 6 weeks, 10 weeks & 14 weeks (can be given till 1 year of age)	5 Drops	Oral	–
8.	Measles / MR-1st dose	9 completed months-12 months can be given till 5 years of age	0.5 ml	Subcutaneous	Right upper arm
9.	Vitamin A 1st dose	At 9 completed months with measles-rubelle	1 ml (1 Lakh IU)	Oral	–
10.	DPT booster-I	16-24 months	0.5 ml	Intra-muscular	Antero-lateral side of mid thigh
11.	Measles / MR-2nd dose	16-24 months	0.5 ml	Subcutaneous	Right upper arm
12.	OPV Booster	16-24 months	2 Drops	Oral	–

13.	Vitamin A (2 <sup>nd</sup> to 9 <sup>th</sup> dose)	(16-18 months. Then one dose every 6 months upto the age of 5 years)	2 ml (2 Lakh IU)	(Oral)	—
14.	DPT booster-2	5-6 year	0.5 ml	Intra- muscular	Upper arm
15.	T.T.	10 years and 16 years	0.5 ml	Intra- muscular	Upper arm
<b>For Pregnant Women</b>					
16.	T.T.-I	Early in pregnancy	0.5 ml	Intra- muscular	Upper arm
17.	T.T.-2	4 Weeks after T.T.-I	0.5 ml	Intra- muscular	Upper arm
18.	T.T. Booster	If received 2 T.T. doses in a pregnancy with in last 3 years	0.5 ml	Intra- muscular	Upper arm

### Multiple Choice Questions

(1 Mark)

**Q1.** The weight of a six-month-old baby is \_the\_ weight of the baby at birth.

- (a) Three times
- (b) Double
- (c) Equal
- (d) None of these

Ans. (b) Double

**Q2.** Name the protein present in mother's milk which is easily digestible.

- (a) Lactalbumin
- (b) Casein
- (c) Lysozyme
- (d) All of the above

Ans. (a) Lactalbumin

**Q3.** What is the first yellow thick milk from mother called?

- (a) Colostrum
- (b) Cholesterol
- (c) Colosteria
- (d) Casein

Ans. (a) Colostrum

**Q4.** How much energy does a baby from birth to six months require?

- (a) 125/ kg weight
- (b) 92/ kg weight
- (c) 101/ kg weight
- (d) 215 /kg weight

Ans. (b) 92/ kg weight

**Q5.** When do you start giving supplementary food to an infant?

- (a) 4-6 months
- (b) 7-8 months
- (c) 10-12 months
- (d) 1-2 years

Ans. (a) 4-6 months

**Q6.** Which vaccine is given to the infant immediately after birth?

- (a) O.P.V.
- (b) D.P.T.
- (c) B.C.G.
- (d) Hepatitis B

Ans. (c) B.C.G.

**Q7.** Name the disease caused by the deficiency of Vitamin 'D'.

- (a) Rickets
- (b) Anemia
- (c) Goitre
- (d) Hepatitis

Ans. (a) Rickets

**Q8.** Due to which disease excessive water deficiency occurs in the body?

- (a) Malaria
- (b) Diarrhoea
- (c) Diphtheria
- (d) Scurvy

Ans. (b) Diarrhoea

#### **Very Short Question Answers**

**(1 Mark)**

**Q9.** What is Weaning?

Ans. The process of giving supplementary food to infants is called 'Weaning'.

**Q10.** How will you identify low birth weight babies?

Ans. If the weight of the baby is less than 2.5 kg at the time of birth, it will be considered as a 'Low Weight Baby'.

**Q11.** What is immunization?

Ans. Immunization is the process of giving a vaccine to a person to protect them against disease. Immunity (protection) by immunization is similar to the immunity a person would get from disease, but instead of getting the disease you get a vaccine. This is what makes vaccines such powerful medicine. Most vaccines are given by needle (injection) but some are given by mouth (orally) or sprayed into the nose (nasally). Immunization is also called vaccination.

**Q12.** Which disease is caused by deficiency of Iodine?

Ans. Goitre

**Q13.** Name six diseases from which immunization protects the Children?

- Ans. (i) Polio  
(ii) Diphtheria  
(iii) Tuberculosis (TB)  
(iv) Pertussis  
(v) Measles  
(vi) Tetanus

**Q14.** What do you understand by irregular hunger?

Ans. Sometimes the child eats one meal well while he refuses for another meal. This is a temporary mood known as irregular hunger.

**Q15.** Which is the best food for the baby?

Ans. Mother's milk.

**Short Question Answers**

**(2 Marks)**

**Q16.** Give any two reasons for the change in the diet of the Children with special needs?

- Ans. (1) Children with special needs or disabled children do not have control over their activities, due to which their diet needs to be changed. For example, spastic children have no control on the muscles of the hands to hold objects. For this reason, liquids are converted into solid.
- (2) Many children are allergic to many foods, which can only be identified by their effects. Therefore, a change in their diet is required.



**Q17.** Prepare a vaccination table for an infant from birth to 1 year.

Ans.

**National Immunization Programme  
(Recommended by ICMR)**

Age	Vaccine
Immediate after birth	B.C.G.
6 week	OPV, DPT, Hepatitis B
10 weeks	OPV, DPT, Hepatitis B
14 weeks	OPV, DPT, Hepatitis B
9 - 12 months	Measles

**Q18.** Provide the full form of B.C.G., O.P.V. and D.P.T.

- Ans.
1. B. C. G. - Bacille Calmette Guérin
  2. O.P.V. - Oral Polio Vaccine
  3. D.P.T. - Diphtheria Pertussis and Tetanus

**Q19.** Explain any two causes and two effects of Protein energy malnutrition?

Ans. Young children (mostly in 1 to 5 years) have the following diseases due to lack of protein and energy and effects are in the form of diseases.

1. Kwashiorkor
2. Marasmus

**Q20.** What are the three types of dietary supplements?

Ans. Supplements are mainly divided into three parts.

- 1) Liquid Diet
- 2) Semi Solid Diet
- 3) Solid Diet

**Q21.** Give two reasons for the requirement of calcium and vitamin 'A' for Children?

Ans. There are two reasons for the need of Calcium and Vitamin 'A' in Children.

**Reasons for the need for Calcium in children are -**

- 1) Calcium is essential for healthy growth of bones and teeth.
- 2) Calcium is required for the growth and development of muscles of infants.

**Reasons for the need for Vitamin A in children are -**

- 1) Vitamin A reduces the chances of infection and other diseases in children.
- 2) Vitamin A is necessary for healthy skin and tissue development.

**Short Question Answers**

**(3 Marks)**

**Q22.** Which three aspects must be considered while planning a balanced diet for pre-school children?

Ans. The following aspects should be kept in mind while preparing a diet plan for pre-school children -

1. Diversify the composition, taste, smell and color of food so as to improve the child's food experience.
2. Balancing protein and essential fats.
3. Remove the excessive use of fast foods and refined flour from diet.

**Q23.** Describe the healthy eating habits in children.

Ans. It is necessary to inculcate good dietary habits in children for good health: -

- Children should be given sensible food right from the beginning, so that good habits can be promoted in them, like-T.V. do not allow children to eat popcorn, chocolate or other snacks; while watching or reading. As this adversely affects their health.

- To motivate children to play physical games, this will help them to exercise. There will be less time left for viewing T.V. etc.
- They should be encouraged in other activities like painting, dance, music and sports etc. according to their interest.
- Children should not be forced to eat more food, by doing so either they develop interest in food or they get into the habit of overeating, and they gradually become obese.
- It is also necessary to inculcate good hygiene habits in children, so that food-related diseases are avoided, such as washing hands before and after meals, washing fruits before eating.

**Q24.** Prepare a vaccination table for pre-school children.

Ans. **Immunisation Program for preschool children**

Age of child	Vaccine
15-18 months	MMR (for Measles, Mumps and Rubella)
16 months – 2 years	DPT, OPV-booster doses
2 years	Typhoid Vaccine
5 years	DPT, OPV - Booster Dose
10 years and 16 years	Tetanus Toxoid (T.T.)
18, 24, 30, 36 months	Vitamin A (drops)

**Q25.** What are the nutritional problems of school going children?

Ans. Following are causes of the nutritional problems of school going children.

**Obesity-**

- It may be due to wrong lifestyle, malnutrition or food misconceptions.
- Children become fat due to high fat food, excess salt, less fiber and sugar mixed drinks.

- This problem is more among the children of the higher socio- economic classes of our society.
- Inactivity is the biggest cause of obesity.

**Diabetes-** Lack of insulin in the body, due to which the presence of sugar in the blood and sugar in the urine increases.

**High blood pressure-** Blood pressure is more than normal

**Obesity-** This is the main cause of these problems and now a days it is becoming a common problem among children.

**Under Nutrition-** When a child consistently receives less nutrients than the nutritional elements required by his body, he suffers from undernutrition.

- Under nourishment results in stunted growth and development of the child.

### **Long Question Answers**

**(4 Marks)**

**Q26.** What are the positive effects of the mid-day meal scheme?

**Ans.** The Mid Day Meal Scheme has the following positive effects -

- Helping children to concentrate on studies
- School children get supplementary nutrition
- Healthy development of school children
- Mid-day meals are helpful in spreading egalitarian values, as children from different social backgrounds sit and eat together, and eat together.
- Eliminates the barriers of absenteeism of children.
- Helpful in cognitive, emotional and social development.

**Q27.** Your friend Radha's eyes and nails are mostly yellow and she gets tired quickly and does not concentrate on her studies. Identify the above symptoms and tell the name of the disease and how to cure it.

**Ans.** These symptoms are visible due to anaemia which is caused due to lack of iron in the body, when the rate of destruction of red blood particles or cells in the blood of the body exceeds than rate of their formation.

**The following measures can be taken to prevent anaemia disease-**

- Iron-rich foods should be consumed, such as radish, carrots, turnips, sprouted pulses, grains, green-leafy vegetables etc.
- Avoid the consumption of tea after meals, because tea destroys the essential nutrients from the food.
- Pregnant women and adolescent girls should regularly take iron and folic acid tablets for 100 days daily after dinner.
- Folic acid is needed to make healthy red blood particles in the body. If there is a deficiency of folic acid then intake of folic acid rich food like peanuts, eggs, mushrooms, peas and beans, bran.

**Q28.** Your brother's 10-year-old's eating habits constantly change, how will you identify which factors may be responsible for influencing his eating habits?

- Ans.**
1. Family environment - Family environment and family is an important factor that affects children's food habits and his/her likes and dislikes. Therefore it is very important for parents to have knowledge related to nutrition.
  2. Media - Food is so attractively promoted by various media, that it affects children's liking. But many of these substances do not meet nutritional requirements. They feel hungry even after eating them.

2. Friends- When the child comes in contact with other children, his/ her food preferences also change. Children like to eat the food which is liked and eaten by their friends.
3. Social and cultural impact- In every family, children of this age group are also given the same food that is given to the elder member of the family. Eating with the family creates interest in children towards their food patterns, for example- Children living in the northern regions of India particularly like South Indian cuisine such as idli- dosa etc.

**Q29.** Confirm the statement ‘Mother’s milk’ is the best food for an infant.

Ans. ‘Mother’s milk’ is the best food for an infant. This statement can be confirmed by the following points -

1. Provides all the necessary nutrients to infants.
2. It is the most simple and convenient diet for infants.
3. Due to the presence of immunity in mother’s milk, it provides natural immunity to infants.
4. It is free from all types of allergies / adulteration / infection.
5. It protects the mother from breast and ovary cancer and protects the bones from weakening.
6. It strengthens the emotional relationship between mother and infants.
7. Mother’s milk is more digestible for infants.

**Q30.** What are the reasons for the change in the structure of diet for the children with special needs.

Ans. The following are the reasons for the change in the diet of the children with special needs -

1. For children with special needs, thinner liquids can be thickened, and dried or delaminated food can be cut into pieces or made soft, so that it can be easily swallowed by the child.

2. Tube feeding can also be used if required.
3. Some infirm children have a tendency to become obese, which creates difficulty in eating.
4. In children with autism, the senses of taste and smell are changed because of this and the structure of food need to be changed according to their comfortability.
5. Spastic children, (who cannot hold food properly) may find complex structure food unpleasant, thus requiring a change in their food.

**Q31.** Give five examples of low-cost snacks for pre-school children.

Ans. Some examples of low cost snacks for pre-school children:-

1. Nutrients can be increased by preparing idli, dhokla, roti etc. by the method of fermentation. Which is helpful in providing nutrients through dietary change without spending money.
2. Nutrients can also be increased by mixing different pulses and grains together.
3. Grind equal quantity of Soyabean and sunflower seeds.
4. Snacks and other food items can be prepared from peanuts, jaggery, rice flour, peas and gram dal etc.
5. The use of cheap foods made by maize and millet flour and seasonal and local fruits and vegetables can provide appropriate nutrients to children.

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## Chapter - 14

# OUR APPAREL

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### **Clothing Functions and the Selection of Clothes**

- Modesty
- Protection
- Status and Prestige
- Adornment
- Self-Expression

### **Factors affecting selection of clothing in India**

- Age
- Climate and Season
- Occasion
- Fashion
- Income

### **Understanding children's basic clothing needs**

Children's clothes must be suitable for their different activities and must give them freedom to play, something that is so essential for their physical growth.

### **Clothing requirements of children from infancy to adolescence -**

- Comfort and Convenience
- Safety
- Self-help
- Appearance
- Allowance for Growth
- Easy Care
- Fabric



## Clothing requirements at different childhood stages -

### 1. Infancy (birth to six months)

- During the early months the most important factors are warmth, comfort and hygiene.
- Clothes must be comfortable.

#### Clothes in this stage stitched or selected should be -

- Clothes which open down the front or have large openings to avoid slipping the dress over the infant's head.
- Draw strings, especially around the neck, should be avoided as these can get entangled.
- The fasteners should be placed in a manner so that they can be reached easily and they can be of a kind that will not injure the baby in any way like Velcro.
- Should have plenty of garments that need to be changed often like shirts and diapers.
- The baby's clothing should be very soft, light-in-weight and simple-to-put-on and take-off.
- A mixture of wool and cotton instead of pure woolen clothes, which is called flannel, is good for baby's skin.
- Infants grow very fast at this stage so it is advisable not to buy too many clothes in smaller sizes.



#### Diapers - Primary and most essential for babies.

- Diapers should be soft, absorbent, easily washable and quick drying.
- To make cotton diapers at home, it is necessary to sterilize and disinfect old cotton fabrics well.
- Many families have replaced homemade diapers with **Gauze and Birds Eye Diapers** that are easily available in the market.
- Pre-shaped diapers are also available in the market.

- Diaper should be of suitable size for the baby.



**Birds Eye Diapers**

- Readymade pre-shaped diapers.



**Vest** - Babies mostly wear vests.

- Cotton or woolen vest should be selected, based on weather and geographical location.
- In rural areas, infants wear clothes that are simple and are made from used materials at home.



**Vest for Infants**

## **2. Crawling age / Creeping age (6 months to one year)**

- By this age, children begin to become self-reliant and would need clothes for protection and comfort.
- In this age group, the basic clothing needs are loose, comfortable and non-interfering garments that allows free movement.
- Loose-fitting clothes are very suitable, both knitted and bias-cut garments are most suited as they stretch allowing for some growth.
- Too much bulk can hamper motor movement and hinder children's physical motion. Therefore, light weight garments are more appropriate.
- Do not make children wear too many clothes.
- The clothes should be made of suitable fabric, i.e., one that is soft, smooth and does not collect soil readily.
- Children's clothes should be easy to care for, i.e., wash and iron.
- It is important to look at the feature of convenient openings in the garment to slip off and put on easily.
- Most suitable garments for this age are rompers and sun-suits made from knitted or woven material.
- Training pants are often worn when toilet training begins. These are made of fabrics that fit snugly at the hip.



**Crawling Infant**

### 3. Toddler Stage (1-2 years)

- Children in this age group are very active.
- They want to do most of the work on their own.
- Children start walking at this stage (the initial stage of walking), so shoes, socks or slippers become an essential part of the clothing.

#### Selection of shoes for Toddlers:

- (i) One must be sure to consider the length, width, height of toe space and fit of the heel.
  - (ii) When walking begins, flexible soled shoes with rough soles of 1/8 inch thickness are worn.
  - (iii) Shoes may be without heel or a slight heel and should be full and puffy in the toe area.
  - (iv) As children outgrow their shoes quickly, shoes need replacement frequently to avoid foot related health dangers.
  - (v) The right fitting shoes help the child to build good body (physical) skills while balancing, climbing and running.
- **Jhabla** is the most suitable garment for toddlers.



**Jhabla**



**Shoes for Toddlers**

#### 4. Pre-school age (2-6 years)

- Health and comfort of preschoolers is an important consideration in the selection of Preschooler clothing.
- Clothes have to be selected suitably for these children as they play a lot and the garments should be able to withstand the wear and tear that the average child will give them.
- Clothes should be made from light weight materials that are pre-shrunk and are easy to care.
- Cotton is the most suitable fabric for preschoolers. It is hygienic, absorbent and easy to launder.
- Children in this age grow rapidly so it is important to make or buy only few garments that will serve for all occasions and purposes.

#### The desired features of pre-school age children's garments are :

- Should be a complete one garment.
- The front openings should be big or long.
- Should have large buttons.
- Should have large and comfortable necklines.
- Collar in clothing should be avoided.
- The armholes should be large.
- Design and color should be attractive
- Promote self-help features for both child and the mother. These features help the child to become more independent and self-reliant.



## 5. Elementary School Years (6-11 years)

- This is the stage of middle childhood.
- Elementary School Years is a period of heightened physical activity and both boys and girls are interested in sports.
- Children develop likes and dislikes for certain clothes to gain acceptance from their peers.
- Comfortable clothing is essential at this age.
- Fitting is an important aspect to be considered while selecting clothing for school children. A poor fit dress is often discarded by the children.
- To cater to their physical needs the children would require absorbent fabrics so as to absorb perspiration.



Comfortable and casual clothing for kids

## 6. Adolescents (11-18 years)

- During adolescent years, growth is very rapid and different parts of the body grow at different rates.
- The qualities in clothes that are most important to teenagers are fit, style and fashion.
- Adolescents not only wear new styles; they also create new styles.
- Adolescents are earnest followers of **fashion** and **fads**.
- Adolescents would like to spend large sums of money for their clothing.

- When dressing up for sports or workouts, one should make choice of clothes and shoes that are comfortable and prevents problems such as strains, blisters, sprains, sore legs and ankles.
- Adolescents should use fabrics which are easy to wash, as simple hygiene can save the skin from irritation and rashes.
- Garment design and fabric should allow free movement and absorption of perspiration.
- Adolescent's garments should not be disrespectful in any way.
- The garments should be soft, flexible and comfortable.
- Clothing should be according to the physical appearance, height and skin color (complexion) of adolescents.



**Comfortable and casual clothing for Adolescents**

## **7. Clothes for Children with Special Needs**

- The task of dressing and undressing is very important for children with special needs.
- For children with special needs, apparel is selected according to their type of disability and the difficulties associated with it.
- Comfort is the primary criterion. Cotton is the most preferred fabric for summer and velvet corduroy and cotswool for winter.
- Garments should have reinforcements at specified areas for calipers and braces.
- The garments selected should be strong so as to withstand abrasion in case the children use orthotic devices or wheel chairs.



- Openings should be easily accessible and easy to fasten. Velcro and zippers with key chains are good choices.
- Wearing and taking off should be simple. So, wider necklines and waist belts with elastics are desirable.
- It is very important to have aesthetics in clothes. The clothes of children with disabilities should look like normal children's clothes, i.e., which are well stitched but easy to wear.
- Clothes should be appealing in color and print so that the wearer feels good.
- The most suitable garment for such children is the one that is designed to suit the individual needs of both the wearer and the caregiver.

## QUESTION / ANSWERS

### Multiple Choice Questions

(1 Mark)

**Q1.** The word \_\_\_\_\_ refers to a style whose influence on the masses is contemporary.

- |             |             |
|-------------|-------------|
| (a) Apparel | (b) Fashion |
| (c) Shape   | (d) Form    |

Ans. (b) Fashion

**Q2.** Children's clothes should be \_\_\_\_\_.

- |           |                 |
|-----------|-----------------|
| (a) Tight | (b) Artificial  |
| (c) Rough | (d) Comfortable |

Ans. (d) Comfortable

**Q3.** \_\_\_\_\_ is primary and very essential for infants.

- |          |            |
|----------|------------|
| (a) Pant | (b) Diaper |
| (c) Cap  | (d) Socks  |

Ans. (b) Diaper



**Q4.** At what age are rompers and sunsuits most suitable?

- (a) 2 years - 6 years                      (b) 6 months - 1 year  
(c) 6 years - 11 years                      (d) 11 years - 19 years

Ans. (b) 6 months - 1 year

**Q5.** The toddler stage is the age of\_\_\_\_\_.

- (a) 11 -19 years                      (b) 6 -11 years  
(c) 2 - 6 years                      (d) 1 - 2 years

Ans. (d) 1 - 2 years

**Q6.** Fittings and fashion in clothes are very important for

- (a) Teenagers                      (b) Adults  
(c) Children                      (d) Babies

Ans. (a) Teenagers

**Q7.** Apparel for children with special needs should have \_\_\_\_\_

- (a) Single stitching                      (b) Blind stitching  
(c) Double stitching                      (d) Raw stitching

Ans. (c) Double stitching

**Q8.** The notions of decorum in textiles and clothing are made by the \_\_\_\_\_

- (a) City                      (b) Country  
(c) Houses                      (d) Society

Ans. (d) Society

**Q9.** Infant's clothes should be more in number because\_\_\_\_\_.

- (a) Infants look beautiful in new clothes.  
(b) Infants have to change frequently as their clothes get soiled repeatedly.  
(c) Parents spend more on children's clothing.  
(d) Parents love to adorn them.

Ans. (b) Infants have to change frequently as their clothes get soiled repeatedly.

Q10. The mixture of wool and cotton fabrics is called\_\_\_\_\_.

- (a) Denim                      (b) Flannel  
(c) Jute                         (d) Nylon

Ans. (b) Flannel

**Short Answer Questions**

**(1 Mark)**

Q11. Why do we buy clothes according to the weather?

Ans. The main function of clothes is to protect the body from heat and cold and also to maintain normal body temperature even under adverse conditions. Therefore, clothes should always be taken according to the weather.

Q12. What types of clothing fabrics are most suitable for infants?

Ans. Cotton fabrics are most suitable for infants.

Q13. While choosing clothes for a two year old which characteristic should be considered important at the time of selection?

Ans. Self-help apparel should be selected because children of this age prefer to wear clothes on their own.

Q14. List two functions of clothes?

Ans. Modesty, Protection, Status and prestige, Adornment and Self Expression.  
(Any two)

Q15. Give two factors affecting the selection of clothes in India?

Ans. Age, Climate and Season, Occasion, Fashion and Income. (Any two)

Q16. Which type of garment is most suitable for children with special needs?

Ans. The garment most suitable for children with special needs, is the one made to suit the individual needs of both the wearer and the caregiver.

Q17. In which income group families, clothes of elder sibling are used for younger sibling?

Ans. In middle or low-income families.

**Q18.** Why is school uniform prescribed for school children?

Ans. School uniform is prescribed for school children so as to reduce the socio-economic gap between students.

**Q19.** Clothes can save us from physical harms. Give an example?

Ans. An example of how clothes can protect us from physical harm is that fire fighters wear special types of attire to protect themselves from fire, smoke and water.

**Q20.** Why should children's clothes be loose?

Ans. Children's clothes should be adequately loose as it provides them comfort and allows free physical movements.

**Short Answer Questions**

**(2 Marks)**

**Q21.** Give four basic requirements for children's clothing?

Ans. Basic requirements for children's clothing are:-

- Comfort and Convenience
- Safety
- Self-help
- Appearance
- Allowance for growth
- Easy to Care Fabrics (Any four)

**Q22.** Why are self-help garments important for two year old children?

Ans. Self-help garments are important for two year old children as children of this age prefer to wear clothes on their own.

**Q23.** Write characteristic of a right fitting shoe for a Toddler?

Ans. The right fitting shoe is the one that fits easily in the toddler's foot. The shoes of the right fit help to balance, climb and build the right physical skills while running.

**Q24.** What are Fads?

Ans. There are some fashions that greatly highlight some characteristics of the garment and only effect a particular section or region of the society.

Such fashions are usually not popular for long (short lived fashion). This type of fashion form is called Fads.

**Q25.** What type of clothes do mothers prefer for their children?

Ans. Mothers prefer such clothes for children more:

- Which do not require much care.
- Which can be easily washed.
- There is no need or little need to iron them.

**Q26.** Why clothes of infants should not be of pure wool?

Ans. Woolen clothes can damage the skin of infants, so the winter clothes of infants should have a mixture of cotton and wool. Such fabrics are called flannel.

**Q27.** Why are cotton garments most suitable for preschool children?

Ans. Cotton garments are best suited for children in the preschool age group as they are good from health point of view as well as easily absorb water and are easy to wash.

### **Long Answer Questions**

**(3 Marks)**

**Q28.** What is the significance of shoes in the toddler stage (1-2 years of age) in children?

Ans. Importance of Shoes in Toddler Stage (1-2 years of age): When the child starts walking, usually flexible, short-heeled shoes with a rough sole having thickness of 1/8 inches are preferred. They can be without heel or with small heel and the toe part should be full and fluffy. Special attention should be paid to the fitting of shoes for the child.

**Q29.** How should the clothing for preschool children be like?

Ans. Clothes for pre-school children should be:

- Comfortable to wear
- Easy to maintain
- Durable in use

- Which is suitable for changing needs due to physical development
- Design and color should be attractive
- Should Promote self-dependency (independence).

**Q30.** What are the points that should be kept in mind while buying clothes? Explain any three points in detail.

**Ans.** Comfort and convenience, safety, self-help, appearance, allowance for growth, easy care, clothing (Fabric). (Explain any three of these points in detail).

**Q31.** What type of clothes should be selected for crawling children?

**Ans.** By this age, children begin to become self-reliant and would need clothes for protection and comfort.

- In this age group, the basic clothing needs are loose, comfortable and non-interfering garments that allows free movement.
- Loose-fitting clothes are very suitable, both knitted and bias-cut garments are most suited as they stretch allowing for some growth.
- Too much bulk can hamper motor movement and hinder children's physical motion. Therefore, light weight garments are more appropriate.
- The clothes should be made of suitable fabric, i.e., one that is soft, smooth and does not collect soil readily.
- Children's clothes should be easy to care for, i.e., wash and iron.
- It is important to look at the feature of convenient openings in the garment to slip off and put on easily.
- Most suitable garments for this age are rompers and sun-suits made from knitted or woven material.
- Training pants are often worn when toilet training begins. These are made of fabrics that fit snugly at the hip. (Explain any three of these points in detail)

**Q32.** What type of clothes should be selected for adolescents?

- Ans. (i) During early adolescence, adolescents should buy less clothes at a time, since the child is going to outgrow the clothes very quickly due to rapid growth.
- (ii) During adolescence, fittings and the trending fashion is much more important than the quality and texture of clothing.
- (iii) Clothing should also help in improving the personality of adolescents as well as enhancing their self-esteem.

**Q33.** Why is the selection of clothes for adolescents considered difficult?

Ans. Selection of clothes for adolescents is a difficult task because at this age, they want to wear something new, different and unique instead of traditional clothes. They want themselves to look different and unique. They want to wear clothes in accordance with the present-day fashion and also want to get appreciation and acceptance from their peers through clothing, so they should have clothes that look good on them, makes them look beautiful and enhance their self-esteem.

**Long Answer Questions**

**(4 Marks)**

**Q34.** How can you keep allowance for the physical growth in children's clothing?

- Ans. Keeping in mind the physical growth and development of children, there should be a margin in clothing. But that does not mean that extra-large clothes are to be bought because very loose clothes are neither comfortable nor safe.
- Priority should be given to clothes which are not tight fit and have a provision for increasing the length.
  - Choose clothes that do not shrink.
  - There should be additional cloth on the lower edge of the pants so that the pants can be increased in length when the child's height increases.
  - Darts and gathers on the shoulders have the scope to loosen clothes when the physical measurements change.

**Q35.** Discuss any four requirements of children's apparel and clothing?

- Ans. (a) **Comfort and convenience:** Acrylic, cotton and nylon blended garments are convenient due to their flexibility during various physical activities.
- (b) **Safety:** There is a fear of falling when entangled with very loose clothes. So, they should fit well.
- (c) **Self Help:** Clothes should be such that children can easily wear and take off.
- (d) **Allowance for growth:** Considering the pattern of physical growth of children, there should be a scope for increasing the length of the garment such as pants or frocks, they should have extra cloth stitched on the lower edge. In addition, the clothes should not shrink.

**Long Answer Questions**

**(5 Marks)**

**Q36.** What should be the characteristics of clothing for children with special needs?

Ans. The characteristics of clothing for children with special needs are: -

- For children with special needs, apparel is selected according to their type of disability and the difficulties associated with it.
- Comfort is the primary criterion; cotton is the most preferred fabric for summer and velvet corduroy and cotswool for winter.
- Garments should have reinforcements at specified areas for calipers and braces.
- The garments selected should be strong so as to withstand abrasion in case the children use orthotic devices or wheel chairs.

- Openings should be easily accessible and easy to fasten. Velcro and zippers with key chains are good choices.
- Wearing and taking off should be simple and so wider necklines, waist belts with elastics are desirable.
- It is very important to have aesthetics. The clothes of children with disabilities should look like normal children's clothes, i.e., which are well stitched but easy to wear.
- Clothes should be appealing in color and print so that the wearer feels good.
- The most suitable garment for such children is designed to suit the individual needs of both the wearer and the caregiver.

**Q37.** Explain in detail the various functions of clothes?

Ans. Clothes have the following functions:

- Modesty
- Protection
- Status and prestige
- Adornment
- Self-Expression

(Explain these five points in detail)

**Q38.** What should be the type of clothing for adolescents?

Ans. Clothing for adolescents (11-19 years) should be of the following types:

- The qualities in clothes that are most important to teenagers are fit, style and fashion.



- Adolescents not only wear new styles; they also create new styles.
- Adolescents are earnest followers of fashion and fads.
- Adolescents would like to spend large sums of money for their clothing.
- When dressing up for sports or workouts, one should make choice of clothes and shoes that are comfortable and prevents problems such as strains, blisters, sprains and sore legs and ankles.
- Adolescents should use fabrics which are easy to wash, as simple hygiene can save the skin from irritation and rashes.
- Garment design and fabric should allow free movement and absorption of perspiration.
- Adolescent's garments should not be disrespectful in any way.
- The garments should be soft, flexible and comfortable.
- Clothing should be according to the physical appearance, height and skin color (complexion) of adolescents.

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## Chapter - 15

### HEALTH AND WELLNESS

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#### **Health Scenario in India -**

In the past, infectious and communicable diseases were the reason for the high rate of mortality in India. But nowadays, the main reason for the deterioration in the health status of people of India is diseases like diabetes, heart disease, obesity and cancer, which are non-communicable diseases. In view of the deterioration in the health status of the people, the World Health Organization (WHO) has recommended a global action policy on eating patterns, physical activity and health. Health problems and related issues affect the development of any country.

#### **Effects of Health Problems -**

Increasing health problems affect the economic system of any country.

- To provide health facilities to the people affected by health problems.
- To provide financial assistance to the affected person and his family as well as to the nation.
- To provide health care and treatment facilities for these health problems.
- Adverse effects on the life expectancy of persons affected by health problems.
- Economic pressure on the government to re-develop and maintain the ability of the affected people to function normally.

#### **Lifestyle related diseases -**

Many diseases occur in the body due to consumption of inappropriate food and reduced physical activities such as diabetes, high blood pressure,

cardiovascular disease, thyroid, acidity, cancer, asthma, obesity and back and neck pain etc. They are also called lifestyle related diseases. Because these diseases are a result of our lifestyle. They are specially caused due to excessive consumption of energy dense food and inappropriate lifestyle in most adolescents and adults.

### **Healthy Person**

**According to the World Health Organization (WHO)** - “Health is not just absence of disease or weakness, but a state of complete physical, mental and social well-being. A healthy person is able to adapt to any environment and carry out everyday activities.

### **Characteristics of a healthy person -**

A healthy person has the following characteristics -

- They are physically healthy and active.
- They are happy.
- Healthy individuals have adequate immunity to fight with infections present in the environment.
- Healthy people do not get tired quickly.
- Healthy people have the ability to do additional work even after finishing work.

### **The various dimensions of health are-**

- |                    |                     |
|--------------------|---------------------|
| 1) Physical Health | 3) Spiritual Health |
| 2) Mental Health   | 4) Social Health    |

All these four dimensions of health collectively aim at giving a meaning to our life.

### **Healthy and Unhealthy Diet: -**

**Healthy Diet** – It generally includes consumption of foods that promote good health and help in maintenance of ideal body weight. For example- fruits and vegetables and whole grains and pulses.

**Unhealthy Diet** – It generally includes consumption of energy dense foods that are high in sugar and fat. These are also high in salt sometimes. Such foods when eaten in higher amounts than required by the body, increases the risk of non-communicable diseases across all age groups (especially adolescents and adults). For example- processed foods like biscuits, pickles etc.

**Body Mass Index – BMI** is a simple indicator that is used to classify underweight, overweight, and obesity in adults.

- The rate of metabolism of food in the body is estimated through the calculation of BMI.
- The process of breakdown (Catabolism) of food ingested in the body and the formation of new components (Anabolism) is called metabolism.
- Metabolic rate is the rate of metabolism means the amount of energy used by the body per unit of time.
- The BMI standard has no relation to age and is the same for both males and females.
- BMI may vary with the variations in genetics and races.
- Health risks are higher as BMI range increases.

**Definition of BMI** - It is defined as the weight in kilograms divided by the square of the height in meters (kg/m<sup>2</sup>).

**Body mass index (BMI) of a person is calculated by the following formula-**

$$\text{Body Mass Index (B.M.I.)} = \frac{\text{Body Weight (Kilogram)}}{\text{Height} \times \text{Height (Meter)}}$$

For example, an adult whose weight is 70 kg and height are 1.752m will have a BMI of 22.9.

$$\text{BMI} = 70 \text{ (kg)} / 1.752^2 \text{ (m}^2\text{)} = 22.8$$

**World Health Organization (WHO)** has recommended use of ‘cut-off points’ for determining whether individuals are underweight, overweight, obese or normal as shown in the table below:

<b>The International Classification of Underweight, Overweight and Obesity according to BMI</b>	
<b>Body Mass Index (B.M.I.) (kg/m<sup>2</sup>) (Principal Cut-off Point)</b>	<b>Classification</b>
< 18.5	Under Weight
18.5 – 24.9	Normal Range
25.0 – 29.9	Pre-Obese or Over weight
30.0 – 34.9	Obese Class-I
35.0 – 39.9	Obese Class-II
≥ 40.0	Obese Class-III
<b>Source: Adapted from WHO 1995, WHO 2000 and WHO 2004.</b>	

**Glucose Tolerance** - Ability of the body to respond to high intake of the glucose (and consequently high levels of blood glucose) by secreting adequate levels of insulin. Insulin helps glucose to enter the body cells and thus reduces glucose levels in the blood. People who are predisposed to diabetes or suffering from diabetes have poor glucose tolerance.

**Cut-off Points** - Values which indicate the range of normal levels for weight or blood cholesterol or blood glucose and so on. Anything below the minimal value

or above the maximum value becomes abnormal. In other words, such values “Cut Off” the abnormal values from the normal values.

**FITNESS-** “The state of being physically fit and healthy is called fitness or physical fitness.” Most people think health and wellness are the same, we can be very healthy but our health is not good or our health is good but we are not healthy.

**Benefits of Exercises in adulthood** - Maximum benefit can be derived from exercise done according to age and gender. Adulthood is a state of heavy exertion, as there is a lot of physical work, so the adults feel that exercise is not much required separately, but this is not right because exercise or other physical activity done throughout the day can not be compared.

#### **Exercise and Illness-**

Regular exercise reduces the chances of many diseases, because-

- Exercise improves the metabolism of our body and cardio-respiratory fitness.
- It is helpful in eliminating disability for at least 15 years. If lazy people also start exercising a little then they get significant benefits.
- The density of mineral salts in bones can be improved by exercise. Therefore, Bones get stronger which reduces the risk of disability and fracture.
- Exercise reduces the risk of serious diseases by improving body composition, metabolism and cardiovascular health.
- Exercise reduces disabilities by improving endurance (tolerance), muscle weight, muscle strength, agility and suppleness.
- Exercise helps in preventing and treating common and difficult problems seen in the elderly such as stress, depression, insomnia, loss of appetite, constipation and cognitive impairments.
- Lower body exercises maintain balance among the elderly.
- Exercise helps to lose weight in obese people who are overweight.
- Exercise is helpful in maintaining body weight.

- Exercise helps in controlling sugar level and blood pressure in the body.
- Exercise is helpful in increasing the strength of muscles in both upper and lower limbs, especially in elderly.

### **Classification of Exercises-**

**Different types of exercises can be divided into three main categories -**

- Endurance exercise / aerobics exercise
- Strength building / resistance exercise
- Flexible exercises to increase balance

### **Exercise, Mental Health and Well Being-**

Exercise is very important for our body as well as mental health and well-being.

- Some exercises are very beneficial to relieve mental stress. Deep breathing, meditation, yoga, rhythmic exercise etc. naturally give relief to the body.
- Strategic games are like a card game or a board game. These games are very good for keeping the brain fit through mental exercises. These games are played on a logical pattern.
- Solving puzzles helps in keeping the brain alert.
- Cardiovascular exercises are essential for mental health, it is a tool that protects us from physical and mental problems or helps to fight them.
- During and after exercise, endorphin hormone is secreted which is a natural pain reliever for the body and gives a feeling of pleasure and happiness to a person.

### **Wellness-**

“Wellness means achieving balance and harmony in all aspects of our lives”.

Wellness is an active and preventive path which helps our body to perform various functions to the best.

### **How does wellness help us?**

- **Wellness is a choice-** a decision made to achieve optimal health.
- **Wellness is a way-** a lifestyle that helps a person to reach one's goals and realize one's potential.
- **Wellness is a process-** a sequence of decisions and behaviors that lead to health, well-being and happiness.
- **Wellness is holistic-** an approach to integrate the body, mind and spirit with the appreciation that all our beliefs, thoughts, feelings and actions greatly influence us in every way.
- **Wellness is wholehearted acceptance of self-solutions and circumstances-** with all of one's weaknesses, strengths and challenges.

**Qualities of a person, who is rated “high”** - on the basis of wellness and well-being profile.

**The following qualities are found among individuals rated ‘high’ on the scale of health and wellness -**

- High self-esteem
- Positive attitude
- Responsible and committed
- Cheerful nature
- A sense of concern towards others
- Respect for the environment
- Physically and mentally healthy
- Follow a healthy lifestyle
- Doesn't consume drugs
- Ability to face life's challenges



- Doesn't feel shy to face anything new
- Ability to love and care for others
- Ability to speak effectively
- Continuous learning ability
- Kind and grateful to others
- Balanced personality

### **Dimensions of wellness-**

#### **The following are the dimensions of wellness-**

- **Physical aspect** - It is only in the hands of the person to include a regular exercise, balanced diet and good routine in his lifestyle. The choice of healthy lifestyle affects the present and future of the person.
- **Social aspect** - Social prosperity means taking responsibility towards your society rather than thinking only about your own good. A person's relationship with other people should be meaningful, satisfying, happy and long-lasting.
- **Intellectual aspect** - Intellectual dimension involves many qualities like - creativity, respecting new ideas, critical thinking, inquisitiveness etc.
- **Spiritual aspect** - Spiritual aspect means that a person is aware of the purpose of his life. He should not think whether his life has any meaning and it does not make any difference to him.
- **Financial aspect** - A person should know to organize his available monetary funds in an effective way so that he/she may be able to meet the needs of his family and also to plan for the future.
- **Occupational aspect** - It is related to the satisfaction derived from one's work and the sense by which a person feels rich.

- **Emotional aspect** - The emotional aspect refers to how aware a person is about his emotions and how to accept them.
- **Environmental aspect** - In this aspect a person is concerned with himself and his environment on the basis of mutual relationship and dependence.

### **Stress and coping with stress-**

Stress is a mental state created by physical, mental and social effects on the mind. Everyone has to go through stress somewhere in his/her life. Stress is such a duality in the mind that causes deep cracks in the mind and emotions. Stress also has adverse effects on the body that affects the ability of a person.

### **Types of stress-**

Stress has a positive and negative role in our personal and professional life. Stress can be of two types.

- **Good stress (Eustress)** - The stress that motivates us to do good and has positive effects in our life, we call it good stress like - due to good stress when a person works more efficiently and performs better, he / she gets promoted at work, it is called good stress.
- **Distress** - Stress that adversely affects our functioning, behavior, performance, physical and mental health is called bad stress. Bad stress has adverse effects on our health.

### **Stress Management -**

It is natural to have stress in today's busy life, and there are many reasons for stress. But to overcome stress, we must adopt some methods, which help us to relieve stress and give us mental peace. Like -

1. Positive Thinking
2. Exercise
3. Yoga
4. Meditation
5. Creative Work
6. Happiness
7. Change in Routine
8. Music
9. Reading Habit
10. Learn to say no
11. Relax
12. Talking with Friends/Family
13. Developing Interests
14. Developing Emotion
15. Lessons from Mistakes
16. Controlling your Behaviour
17. Honestly Self-analyse



### Multiple Choice Questions

(1 Mark)

- Q1.** Which of the following diseases is not a lifestyle disease?
- (a) Diabetes
  - (b) Excess of blood pressure
  - (c) Cholera
  - (d) Heart disease

Ans. (c) Cholera

**Q2.** Which of the following country is known as the capital of diabetes?

- (a) Pakistan
- (b) India
- (c) Sri Lanka
- (d) Bhutan

Ans. (b) India

**Q3.** What is the basis for calculating the BMI of a person?

- (a) By physical weight
- (b) By physical height
- (c) By hemoglobin level in blood
- (d) By both body weight and height

Ans. (d) By both body weight and height

**Q4.** Which day is celebrated on 6 April every year?

- (a) World Health Day
- (b) World Women's Day
- (c) World Girl Child Day
- (d) World Physical Labor Day

Ans. (d) World Physical Labor Day

**Q5.** Which of the following qualities is found among the people placed in the higher "ranks" on the basis of wellness?

- (a) Getting tired soon
- (b) Getting frustrated with work
- (c) Effective communication
- (d) Addiction habits

Ans. (c) Effective communication

**Q6.** Which of the following is not included in the health dimension?

- (a) Physical dimension
- (b) Mental dimension
- (c) Practical dimension
- (d) Social dimension

Ans. (c) Practical dimension

**Q7.** Which of the following can be determined with the help of BMI?

- (a) Strengthening of bones
- (b) Level of hemoglobin in blood
- (c) Appropriate weight-for-height
- (d) Accumulation of water in the body

Ans. (c) Appropriate weight-for-height

**Q8.** When is World Yoga Day celebrated?

- (a) 7 June
- (b) 21 June
- (c) 22 June
- (d) 25 June

Ans. (b) 21 June

**Q9.** In which of the following exercises / activities can cycling be put?

- (a) Endurance building exercise
- (b) Strength building exercise
- (c) Balancing exercises
- (d) None of the above

Ans. (a) Endurance building exercise

**Q10.** The ability to handle positive and negative emotions is related to which dimension of health well-being?

- (a) Social initiative
- (b) Occupational aspect
- (c) Spiritual aspect
- (d) Emotional aspect

Ans. (d) Emotional aspect

**Very Short Question Answers**

**(1 Mark)**

**Q11.** Define “Wellness”?

Ans. “Wellness means achieving balance and harmony in all aspects of our lives”.

**Q12.** Write the formula to find out BMI?

Ans. Body Mass Index (B.M.I.) =  $\frac{\text{Body Weight (Kilogram)}}{\text{Height} \times \text{Height (Meter}^2\text{)}}$

**Q13.** Name some strength building exercises?

Ans. Strength building exercises include weight lifting, pushups / levitation and specially designed equipment in a gym.

**Q14.** How can stress be explained?

Ans. It is a normal human reaction that happens to everyone. Stress responses help your body to adjust to the new situation. It can be positive and negative.

Stress can be defined as the degree to which we feel overwhelmed to cope as a result of pressures that are unmanageable.

**Q15.** What is meant by glucose tolerance?

Ans. Ability of the body to respond to high intake of the glucose (and consequently high levels of blood glucose) by secreting adequate levels of insulin. Insulin helps glucose to enter the body cells and thus reduces glucose levels in the blood. People who are predisposed to diabetes or suffering from diabetes have poor glucose tolerance.

**Q16.** What do you understand by the metabolic rate?

Ans. Metabolic rate is the rate of metabolism, the amount of energy used by the body per unit of time.

**Q17.** Define fitness?

Ans. Fitness is a state of being healthy and physically fit and more specifically, the ability to perform daily activities.

Fitness is generally achieved through proper nutrition, moderate to vigorous physical exercise and sufficient rest.

**Q18.** How can the exercises be divided?

Ans. Exercises can be divided into:

- (i) Endurance building / aerobics exercises
- (ii) Strength building / resistance exercise
- (iii) To increase balance / flexibility exercises

**Q19.** What are the ill effects of stress on health?

Ans. Stress can cause many diseases like high blood pressure, obesity, heart attack, lack of immunity etc.

**Short Answer Questions****(2 Marks)****Q20.** Explain the difference between Health and Fitness.

Ans.

<b>Health</b>	<b>Fitness</b>
Health is our physical, mental and social well-being. It includes well aging, longevity, quality of life, freedom from diseases etc.	Fitness creates in us the qualities that enable us to do physical activities, flexibility, strength, coordination, speed, balance etc.

**Q21.** A person whose weight is 95 kg and height is 1.70 meter, find out his BMI and mention the category under which he comes?

Ans.     Body Mass Index (B.M.I.) =  $\frac{\text{Body Weight (Kilogram)}}{\text{Height} \times \text{Height (Meter}^2\text{)}}$

$$\text{Body Mass Index (B.M.I.)} = \frac{95 \text{ (kg)}}{1.70 \text{ (m)} \times 1.70 \text{ (m)}}$$

$$\text{(BMI)} = 32.87$$

**Category** - The person whose BMI is between 30.0 - 34.9 will come under **Obese Category - I**.

**Q22.** Which methods are used by health practitioners to check the nutritional status of a person?

Ans. The following methods are used by health practitioners to check nutritional status or to evaluate nutrition -

1. Detailed information of the patient's health, diet, personal and medical history.
2. Anthropometric measurements of the patient.
3. To establish a relationship between lab data of various tests of the patient and physical measurements of his body.
4. To find out the major causes of nutritional deficiency and their risks.



**Q23.** Explain any four benefits of maintaining the optimum BMI range?

Ans. These are the four benefits of maintaining optimum range of BMI -

1. It reduces the chances of diabetes. If a diabetic patient controls BMI, his blood sugar levels can be regulated.
2. Chances of High Blood Pressure and heart diseases are reduced.
3. A person can lead a happy, healthy and fit life.
4. He becomes physically, socially and emotionally fit.

**Short Answer Questions**

**(3 Marks)**

**Q24.** What do you mean by a healthy person? Explain how a healthy person can handle difficulties effectively in all areas of his life. (Any three points)?

Ans. A healthy person - according to the World Health Organization - "Health is not just an absence of disease or weakness, but a state of complete physical, mental and social well-being. A healthy person can adapt to any environment to carry out everyday activities."

A healthy person has the ability to effectively deal with the difficulties in all areas of his life by the following three points

1. Healthy individuals exercise daily to enhance and maintain their physical and mental capacity.
2. Healthy people take proper diet and develop physical and mental strength through spiritual awakening.
3. Healthy people choose life not only for themselves but for the better quality of their family and society.

**Q25.** Under what circumstances or symptoms can you understand a person's stress? How would you identify that a person is going through stress?

Ans. You can understand a person's stress by following conditions or symptoms -

1. Stress increases blood pressure, which can cause heart disease.

2. The body becomes unbalanced due to stress due to which the problem of indigestion and back pain arises.
3. Headache due to stress.
4. A person's appetite gets affected due to stress.
5. A person suffers from sleeplessness which has a profound effect on his health.
6. Due to mental stress, the muscles of the face are pressurized and the skin gets wrinkled.

**Q26.** What are the benefits of regular exercise? Explain in detail.

Ans. The following are the benefits of regular exercises-

1. Regular exercise burns up extra calories consumed and therefore, reduces the chance of extra calories being converted into fat and its deposition in the body thereafter.
2. The person considers himself healthy and fit.
3. The person gets good sleep at night.
4. A person's lungs perform their function efficiently, so that they do not have breathing problems.
5. A person's heart works well and blood circulation is adequate.
6. Diseases like obesity, diabetes, excess blood pressure can be avoided or controlled.

**Q27.** Stress has both positive and negative roles in our lives. Explain by giving examples.

Ans. We can understand stress in two ways -

**Good stress** - Stress, which motivates us to do good, which has a positive effect in our life, we call it good stress. For example - when examinations approach, we study sincerely and secure good marks. So, it is a positive effect of stress that makes us do good in life.

**Bad stress** - That stress, which adversely affects our work, behavior, performance, physical and mental health, we call it bad stress. For example - if we argue in stress or we stop studying, then we call it negative or bad stress.

**Long Answer Questions**

**(4 Marks)**

**Q28.** What changes should we make in our diet to avoid diseases?

Ans. To avoid diseases, we should have healthy eating habits since childhood, such as-

1. In morning, breakfast should not be skipped at all.
2. Root vegetables, such as potato, kachalu, sweet potato etc., which have high amounts of carbs should be eaten in less quantity.
3. Whole grains, such as wheat, barley, millet, jowar, unpolished rice, should be used more often.
4. Whole and peeled pulses should be used.
5. Fruits and vegetables should be consumed in large quantities. Vegetables and fruits of different types and colors should be included in our everyday diet.
6. Iodized salt should be used.
7. It is very necessary to drink sufficient amount of water during the day.
8. Balance of energy intake and energy expenditure should be maintained through physical exercise.
9. Exercise daily and stay active.

**Q29.** What are the bad habits we need to abandon to stay healthy?

Ans. To stay healthy, we must abandon the following bad habits -

1. Fried food - samosas, dumplings, puris etc. should be consumed in limited quantities.

2. Processed food, such as ready-made chutneys, sauces, papads, pickles, biscuits, etc. should be consumed less.
3. Vegetable ghee, trans fat should be used in minimum quantity.
4. Sweet food like chocolate, cake, candy, ice cream, which are high in calories, should not be consumed regularly / frequently.
5. Consumption of sweet, processed and carbonated beverages should be minimized.
6. Extra salt should not be sprinkled in salads or other foods.

**Q30.** You have started feeling stressed due to your busy schedule, what questions will you ask to yourself to check whether you are stressed?

**Ans.** I will introspect with the following questions, whether I am feeling stressed -

1. Do I mostly feel irritated / anxious / depressed?
2. Do I feel tired most of the time without any substantial reason?
3. Do I worry too much and that is why I am stressed and unable to sleep?
4. Do I feel 'unhappy' and overloaded at times?

If the answer to one or more of these questions is yes, then I will understand that I am suffering from stress and now I have to try to overcome stress to live a normal life.

**Long Answer Questions****(5 Marks)****Q31.** Classify types of exercises and explain their benefits in detail?

Ans. Types of exercise and benefits from exercise: -

<b>TYPE OF EXERCISE</b>	<b>BENEFITS OF EXERCISE</b>
<b>ENDURANCE BUILDING / AEROBICS EXERCISES</b> Examples of this type of exercise are - running, swimming, cycling, mountain climbing, sports such as football, tennis, cricket etc.	<ol style="list-style-type: none"><li>1. In this type of exercise, some special muscles are regularly compressed and loosened.</li><li>2. It builds stamina.</li><li>3. It helps in weight control or weight loss.</li><li>4. Controls blood sugar, improves heart and health related functions.</li><li>5. Prevents constipation.</li><li>6. Improves sleep.</li><li>7. Enhances positive thinking.</li><li>8. By doing this exercise for half an hour daily, improvement starts in a few weeks.</li></ol>
<b>STRENGTH BUILDING / RESISTANCE EXERCISE</b> Examples are lifting weights, push-ups, exercising by different machines in the gym.	<ol style="list-style-type: none"><li>1. In this exercise we lift something heavy or push the weight forward or backward with our hands.</li><li>2. It increases muscle length.</li><li>3. This exercise exerts force with resistance, which causes the muscles to work without much movement.</li><li>4. Body becomes firm.</li><li>5. Increases bone mass.</li><li>6. Helps in improving the body posture.</li></ol>

<p><b>TO INCREASE BALANCE / FLEXIBILITY EXERCISES</b> Examples are - Yoga, climbing stairs, Stretching the body, etc.</p>	<ol style="list-style-type: none"> <li>1. In this type of exercise, both endurance building and resistance exercises are used in balance.</li> <li>2. This exercise increases both endurance and strength.</li> <li>3. It maintains the activities of muscles and joints to perform their full range of movement with ease.</li> <li>4. It reduces stiffness of joints and makes them flexible.</li> <li>5. It improves the balance, flexibility and movement of the body.</li> </ol>
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**Q32.** Your friend Seema feels unhappy and irritated most of the time and does not sleep properly. Which ten ways would you suggest her to cope with stress?

**Ans.** I would suggest Seema to try following ways to cope up with stress-

1. **Positive Thinking:** Positive Thinking does not allow our mind to be disturbed by anything inside and outside the brain. Positive thinking helps us to attain peace by showing us the right direction while negative thinking confuses us and causes stress.
2. **Creativity:** I would advise Seema to keep herself busy in any creative work of her choice.
3. **Exercise:** Seema should do physical exercise regularly for 20 to 30 minutes such as running, brisk walking etc., which refreshes mind and also keeps us away from stress.
4. **Yoga:** Doing yoga regularly in the morning, provides mental peace which saves us from stress.
5. **Meditation:** Meditation is experienced by keeping the eyes closed for 10 to 20 minutes daily. Deep breathing calms the mind and relieves tension.

6. **Happiness:** Seema should remain happy in every situation. Happiness removes anger, anxiety, frustration and also keeps us away from stress.
7. **Change in daily routine:** One way to relieve stress is to stay away from the monotony of life.
8. **Music:** Seema should listen to the music of her choice. Music is not only a medium of entertainment, but meditation through music is spiritual practice that calms our mind and thoughts.
9. **Reading Habit:** Seema should develop the habit of reading. The habit of reading is a stress-reliever in itself.
10. **Learn to say No:** We should learn to say “No”, for the work we are unable to do or the responsibilities we cannot handle, which helps us to avoid unnecessary stress.

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## Chapter – 16

### FINANCIAL MANAGEMENT AND PLANNING

#### INTRODUCTION –

1. **Financial Management** - Simply means management of finances. All types of income available to a family which includes salary, wages and rent etc. Planning, controlling and evaluation of all types of incomes is called financial management.
2. **Financial Planning** - When families make plans and make sure that their family income is used in a manner that fulfills all present needs of the family and also takes care of long-term goals.
3. **Management** - Planning usage of available resources to achieve goals and objectives of family.
4. **Family Income** - Sum total of all types of income and from all sources in a given time period. It can be annual, monthly, weekly or daily income example – wages, salary, profits, commissions etc.

#### Types of Family Income –





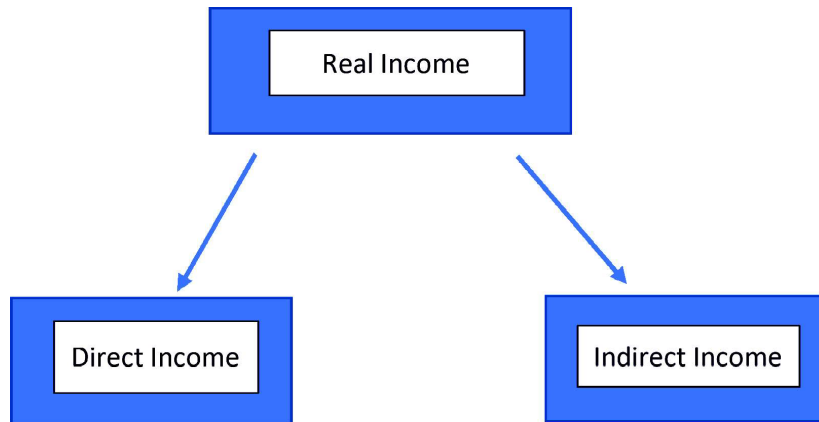
5. **Money** - anything which is acceptable in exchange of commodities and value of another commodity is *determined* by it.

Its functions –

- Serving as a medium of exchange
- Measurement of value

6. **Money Income** - purchasing power in Rupees and Paise that goes into family treasury in a given period of time.

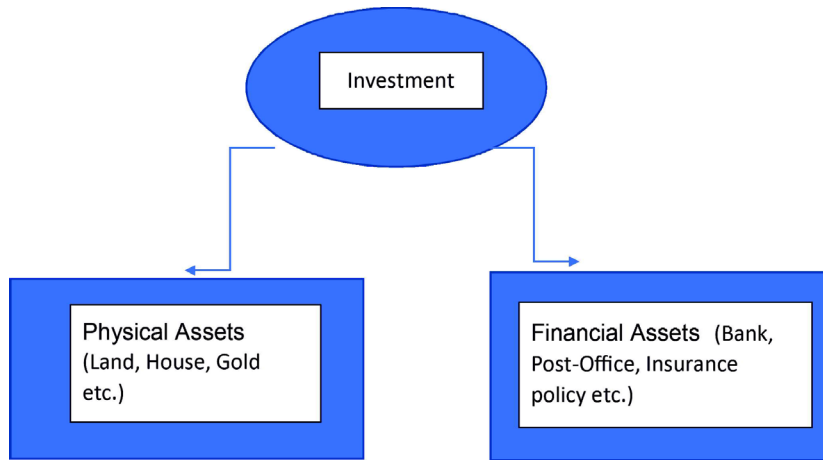
7. **Real Income** - flow of commodities and services available for satisfaction of human wants and needs over a given period of time.



- **Direct Income** - consists of those goods and services available to the family without use of money. Example- cooking, laundering, stitching, kitchen garden etc.
- **Indirect Income** - those material goods and services which are available to the family only after some means of exchange. Example - use of money to buy good quality vegetables because it involves skill and ability to select.

- 8. Psychic Income** - satisfaction derived from real income. It results from the ownership and utilization of goods and services.
- 9. Income Management** – planning, controlling and evaluating the use of all types of income.
- 10. Budget** - this is the first step in managerial process. It is the plan for future expenditure. Its success depends upon-
- It's being realistic and flexible
  - Suitability to the group for which it is prepared
  - Quality of control and evaluation steps which follow
- 11. Control in Money Management** - this is second step in money management. It is of two types –
- Checking to see how well the plan is progressing
  - Adjusting wherever necessary
- Checking** is important to tell that how one's plan is progressing and where adjustments are needed. There can be two kinds of checks: -
- Mental and Mechanical checks
  - Records and Accounts
- 12. Evaluation** - It is the final step in money management. It is done in light of specific goals such as obtaining fair value of money spent, being able to pay bills when they fall due, providing for future and improving economic status of the family.
- 13. Savings** - It means keeping aside part of your money or other resources for use in future. It takes discipline, planning, co-operation and hard work on the part of family members.
- 14. Investment** - Using the money for further production. Saving have to be put to productive use in the economic sense to result in investment.

## Investment -



### 15. Principles underlying sound Investments –

- Safety of principal amount
- Reasonable rate of return
- Liquidity
- Recognition of effect of world conditions
- Easy accessibility and convenience
- Investing in needed commodities
- Tax efficiency
- After Investment service
- Time period
- Capacity

### 16. Savings and Investment Avenues –

- Post Office
- Pension schemes
- Shares and debentures
- Chit fund
- Unit Trust of India
- National Savings Certificates
- National Savings Scheme
- Banks
- Life insurance and medical insurance
- Bonds
- Mutual funds
- Provident fund
- Public provident fund
- Gold, House, Land

**17. Credit** - this term comes from a Latin word “CREDO” meaning “I believe”. It means getting money, e-goods or services in the present and paying for them in the future.

**Need for Credit:** - families use credit to meet needs and obligations.

Like –

- If the initial cost of a commodity seems too large to save before the purchase is made, families borrow money to possess the commodity immediately. For example-land.
- To meet family emergencies like sickness of a family member
- To meet obligations like marriage of children
- To perform rituals during death of a family member

#### **4 C’s of Credit**

- Character
- Capacity
- Capital
- Collateral

Commercial banks, Cooperative banks, Agricultural banks, Credit unions are the main source of taking credit.

### **QUESTION / ANSWERS**

#### **Multiple Choice Questions**

**(1 Mark)**

**Q1.** The proper utilization of resources to achieve the goals and objectives is called \_\_\_\_\_.

- (a) Price
- (b) Plan
- (c) Management
- (d) Investment

**Ans.** (c) Management

**Q2.** Financial management has a general meaning in the context of the family for the management of \_\_\_\_\_.

- (a) Income
- (b) Resources
- (c) Business
- (d) Life

**Ans.** (a) Income

**Q3.** \_\_\_\_\_ provides services and goods to the family members without utilizing the money.

- (a) Indirect income
- (b) Direct income
- (c) Mental income
- (d) Budget

**Ans.** (b) Direct Income

**Q4.** The plan for future expenditure is called\_\_\_\_\_.

- (a) Budget
- (b) Expenditure
- (c) Income
- (d) Salary

**Ans.** (a) Budget

**Q5.** From\_\_\_\_\_we currently receive money and goods, services and pay them in the future.

- (a) Credit
- (b) Borrowing
- (c) Deposit
- (d) Interest

**Ans.** (a) Credit

**Q6.** The part of income that we put in a financial scheme or a business institution and on which we receive interest or dividend is called \_\_\_\_\_.

- (a) Accumulation
- (b) Investment
- (c) Finance
- (d) Budget

**Ans.** (b) Investment

**Q7.** The steps of \_\_\_\_\_ are mental introspection and accounting

- (a) Bank account
- (b) Budget
- (c) Income
- (d) Planning

**Ans.** (b) Budget

**Q8.** It is very important to do \_\_\_\_\_ of the plan to keep the plan in the right direction.

- (a) Nomination
- (b) Evaluation
- (c) Expenditure
- (d) Wastage

**Ans.** (b) Evaluation

**Q9.** The share of family income that is saved from the family's total income to secure the future is called \_\_\_\_.

- (a) Money
- (b) Savings
- (c) Currency

(d) Appropriation

**Ans.** (b) Savings

**Q10.** Growing vegetables by gardening at home is an example of \_\_\_\_\_ income.

- (a) Direct real Income
- (b) Indirect real Income
- (c) Money Income
- (d) Spiritual Income

**Ans.** (a) Direct real Income

**Short Answer Questions**

**(1 Mark)**

**Q11.** What do you understand by Financial Management?

**Ans.** Financial Management - Simply means management of finances. All types of income available to a family which includes salary, wages and rent etc. Planning, controlling and evaluation of all types of incomes is called financial management.

**Q12.** What is indirect real income?

**Ans.** Indirect real income can be described as the use of facilities or commodities which are received by a family after spending money.

**Q13.** Define Psychic Income.

**Ans.** Psychic Income - satisfaction derived from real income. It results from the ownership and utilization of goods and services.

**Q14.** Write two benefits of household accounts?

**Ans.** Benefit of Household accounts

- (i) Unwanted expenditure can be curbed.
- (ii) Wastage of money can be reduced.

**Q15.** What do you understand by Fringe Benefits?

**Ans.** Sometimes the person is provided with facilities or services instead of money as income at work. These features are called fringe benefits. For example – bus service, cab facility or telephone from company etc.

**Q16.** Define credit?

**Ans.** Credit - this comes from Latin word ‘CREDO’ meaning ‘I believe’. It means getting money, e-goods or services in the present and paying for them in the future.

**Q17.** What is the income?

**Ans.** The money, services and facilities coming from the money and other means in the family is called income.

**Q18.** Explain a way to increase psychic income?

**Ans.** Psychic income means satisfaction derived from real income. Sound investment of money results in mental satisfaction and therefore, increases psychic income.

**Q19.** What are the two main functions of money?

**Ans.** Two main functions of money:

- (i) It acts as a medium of exchange
- (ii) Measurement of value of products

**Q20.** Name any two C's of credit?

**Ans.** C's of credit (Any Two)



1. Character
2. Capacity
3. Capital
4. Collateral

**Short Answer Questions**

**(2 Marks)**

**Q21.** Name four benefits of planning a family budget?

**Ans.** Four benefits of planning family budgets:

- Planning can make the family review the use of their income.
- The amount allocated for different categories can be studied in relation to total income.
- From the budget, families can use their income to achieve the goals they consider to be very important.
- Spending without planning again and again causes wastage of money.
- Family members are less likely to be distracted. (Any Four).

**Q22.** Explain the difference between fixed expenditure and semi-fixed expenditure.

**Ans.**

<b>Fixed Expenditure</b>	<b>Semi-Fixed Expenditure</b>
<ul style="list-style-type: none"> <li>• This expenditure is certain; it cannot be reduced in any way. For example, the rent of the house, the child's school fee, the salary of the Servants etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Expenditure may be increased or reduced on certain items such as expenditure on clothing, food etc.</li> </ul>

**Q23.** Explain the difference between money income and direct real income.

**Ans.**

<b>Money Income</b>	<b>Direct Real Income</b>
<p>• <b>Money Income</b> - purchasing power in Rupees and Paisa that goes into family treasury in a given period of time. When a family member receives cash after working for a certain time or as a result of their efforts it is called as money income. Money income is always received in the form of cash, pension etc.</p>	<p>• Direct real income means services and facilities that members of a family receive as a result of their efforts or use of community services without spending money. Direct Income consists of those goods and services available to the family without use of money example- cooking, laundering, stitching, kitchen garden etc.</p>

**Q24.** List steps of making a Budget?

**Ans.** Following are the steps of making a Budget: -

- Preparation of list of essential commodities and services.
- To estimate the cost of desired items by pre-assessment.
- Estimating total expected income.
- To bring balance between income and expenditure.
- To rationalize the schemes by examining them.

**Q25.** Make a list of four savings and investment options available to an Indian customer?

**Ans.** Four savings and investment options available to the Indian customer:

- Post Office
- Bank
- Unit Trust of India
- National Savings Scheme
- National Saving Certificate
- Shares and Bonds
- Mutual Funds
- Provident Fund
- Public Provident Fund
- Life Insurance and Medical Insurance
- Pension Scheme
- Gold, Home and Land (Any Four)

**Long Answer Questions**

**(4 Marks)**

**Q26.** Why budgeting is important for a family? Explain and write its advantages also?

**Ans.** Budget is the first step in managerial process. Its success depends upon: -

- It's being realistic and flexible
- Suitability to the group for which it is prepared
- Quality of control and evaluation steps which follow.

Family budget gives details of income and expenditure of a family for a month or a year. It mentions all the sources of income during that period and also all the items of expenditure under different headings like food, clothing, housing, entertainment, travel, education, health, medicines and saving.

**Advantages –**

- Planning helps the family to take an overview of use of their income.
- Amounts allocated to various categories can be studied in relation to family income.
- Helps families to use their income to attain those goals which they consider most important.
- Family members are less likely to be swayed as they can make rational decisions.

**Q27.** Explain the principles underlying sound Investments?

**Ans.** Families spend a lifetime accumulating savings. The savings should be invested wisely to give family good returns and ensure that the money is available to them when they need it.

**4 Principles are-**

- **Safety of principal amount** - Principal amount should be safe, if it is to earn interest. This principle is most important. Example – National Saving Certificate, Public Provident Fund, Kisan Vikas Patra, Fixed Deposits in banks.
- **Reasonable rate of return** - the higher the rate of return on investment, the greater the risk. Before

investing money, one should compare the rate of interest and risk associated with various schemes and options.

- **Liquidity** - ability to convert securities into cash without sacrificing value. The more liquid an investment is, higher is its price.
- **Easy accessibility and convenience** – while choosing an investment option for family funds, one must consider knowledge required for its success.

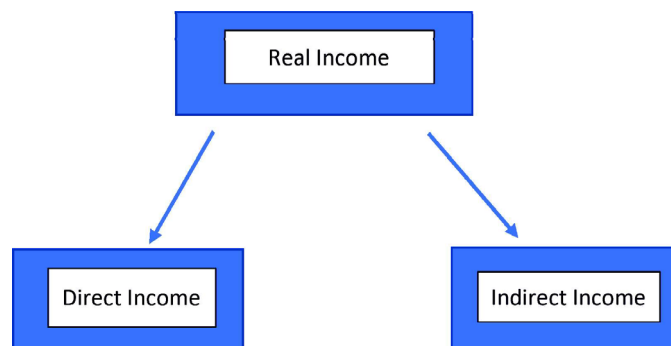
### Long Answer Questions

(5 Marks)

**Q28.** What do you mean by family Income? Explain with example.

**Ans.** The sum total of all the types of incomes and from all sources of all the family members in a given time period. It can be annual, monthly, weekly or daily income example – salary, profit, commissions, rent, interest, dividend etc.

**Real Income** - flow of commodities and services available for satisfaction of human wants and needs over a given period of time.



**Direct Income** - those goods and services available to the family members without the use of money example – cooking, laundering, kitchen garden, stitching, community facilities like – parks, libraries, roads.

**Indirect Income** - material goods and services which are available to the family only after some means of exchange, generally money example- use of money to buy good quality vegetables, as it involves skills and ability to select.

**Psychic Income** - satisfaction derived from real income. It is the hidden income. Satisfaction that results from the ownership and utilization of goods and services.

**Q29.** Raju needs money for his business. Tell him about the credit facility and how the decision to give credit is controlled, Explain?

**Ans.** Raju can use credit to meet the needs of his business. He can get money to buy raw material for his business or land on rent. Commercial bank and other financial institutes also give credit when they believe that the borrower will repay the money on time.

The decision for credit is controlled by four C's –

- **Character** - Means willingness and determination to repay the loan as agreed.
- **Capacity** - Capacity of a family to repay a loan is determined by the difference between what the family receives and what it spends.
- **Capital** - Means net worth. It is determined by the difference between what it owns and what it owes.
- **Collateral** - Specific units of capital which are pledged as security for a given loan. If borrower fails to pay the loan,

the lender can reimburse himself from the sale of pledged collateral.

Before using credit, family should consider not only satisfaction given by goods or services but also future adjustment in repayment.

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## CHAPTER - 17

# CARE AND MAINTENANCE OF FABRICS

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### Learning Objectives –

**Introduction** - Various products made of clothes such as apparel, clothing used in various functions inside the house such as decoration, garments, bedsheets, curtains, dusters etc. Similarly used in various work places, social and cultural ceremonies. The care and maintenance of the decorations etc. very important. The texture of any item, its colour, form and usefulness affect the selection of its purchase, so it is very important that the features remain in the fabric for the possible duration of use. The following things are necessary for the care and maintenance of clothes :

- Freeing the fabric from heavy damage.
- Maintaining its colour.

**1. Mending** : Removing accidental damage caused by wearing something during wear is called repair :

- Repairing cuts, tears, holes.
- Replacing buttons/fasteners, ribbons, laces or fancy attachments.
- Restitching seams and hems if they open up.

**2. Laundry** : Daily care of textiles includes washing and ironing of goods. Mainly to remove stains in the carriage of goods, to prepare clothes for washing, to remove dirt from clothes by washing, to look beautiful giving final touch (applying indigo to reduce the yellowness of the garments and applying a start to bring stiffness) and then ironing to develop shine and to remove wrinkles.



**3. Stain Removal :** stain is an unwanted mark or coloration on a fabric caused by contact and absorption foreign matter which cannot be removed by normal washing process and require special treatment. It can be identified on the basis of color, smell and touch.

**4. Stained spots can be classified as follows :**

- (a) Vegetable stains
- (b) Animal stains
- (c) Oil stains
- (d) Mineral stains
- (e) Colour stains

**5. Techniques of stain removal :**

- (a) Scraping
- (b) Dipping
- (c) Sponging
- (d) Drop Method

**6. Bleaching Reagent:** Oxidising bleaches and reducing bleaches.

**7. Removal of dirt (Stain Removal Instrument / Stain Reagent for Stains Removal) :**

- (a) Grease solvents
- (b) Grease absorbents

(c) Emulsifiers

(d) Acidic reagents

(e) Alkaline reagents

**8. Removal of dirt – The cleaning process :** Dirt the word - Used for lube ( grease), stains, spots and dust particles stuck between the weaving of the fabric. It is of two types: Dust particles on the upper surface or a layer deposited by sweat and grease.

**9. There are three main methods of removing lubricated dirt:** By use of solvents, absorbers or emulsifiers.

**10. Water :** There is a kind of connection between the fabric and the water. During washing the water enters the cloth and makes it wet, the handling of water particles is helpful in removing the smooth lubricated dirt in the cloth which is called Pedesis.

**11. Soaps and Detergents :** Both are the most important cleaning reagents used in washing operations.

**Soaps :**

- Soap is made from natural oils / fats and alkaline.
- It is a natural product, less harmful to skin and environment.
- When soap is given and does not pollute our rivers and springs.
- Soaps are not effective in hard water.
- Are less efficient than detergents.
- Soap is a cheap reagent.
- Can not be used by machines for washing.

### **Detergents :**

- Synthetic detergent is made by chemicals.
- Detergents are sold in both powder and liquid formats.
- Being made of chemicals, it acts to pollute rivers and springs.
- These are not natural products if used in large quantities can be harmful to both the skin and the environment.
- Easily gives good results even in hard water.
- Detergents are more expensive than soaps.
- Can be easily used for washing clothes in the machine.

**12. Type of soap or detergent to be used:** The type, color and fabric of depends on the type of dirt frozen on it.

**13. Surfactant :** Surface acting reagents. That is, reagents reduce the surface tension of water, due to the lessening of this effect. Water absorbed more easily into the clothes and removes water, spots and dirt more quickly. For example - soap and detergent.

**14. Methods of Washing :** The methods used for washing help both in separating the dirt sticking with the cloth and keeping it suspended.

### **15. Classification of washing methods :**

- **Friction Washing:** It is rubbed with a brush by placing dirty parts of the garment on the palm of the hand or on a scrubbing board. This method is suitable for strong cotton fabrics, but silk, wool, pile looped or embroidered fabric are not rubbed on the surface as they are delicate and may damage their lustre.

- **Kneading and Squeezing** : The cloth is gently rubbed into the soap solution with very little pressure by hand, Due to which it does not harm the fibres, colour, weave of the fabric. Wool, silk, rayon, dyed, delicate clothes can also be cleaned by this method. This method is not very effective for highly dirty clothes.
- **Suction Pump Washing** : In this method, the article is placed in soap solution in a tub and the suction washer is pressed down and lifted repeatedly. The vacuum created by pressing loosens dirt particles due to which the dirt is removed. This method is usually for thick clothes like towels on which the brush is not used Or can not be washed by the technique of pressing, used for.
- **Machine washing** : Washing machines can be manual, semi-automatic and fully automatic. Usually different types of washing machines are available in different companies but the washing technique in each machine is the same. In these machines, the pressure for washing is generated either by moving around in the machine or by rotating the central rod attached to the machine. The washing time varies according to the type of cloth and the amount of dirt.
- **Finishing** : Some other reagents are also added to the water in the last rinse process, which helps in maintaining the shine and hardness of the cloth as follows :
- **Blue and Optical Brighteners** : Blue is used to remove yellowness and to bring back the whiteness. Ultramarine is easily available in the market in the form of fine blue powder and liquid chemical dyes for this, the indigo is made into a paste by mixing

it with a little water and the rest is added to the water. This solution should be used immediately as the powder accumulates on the floor when stored. Which can cause spots on the clothes. The use of liquid indigo is relatively easy as it has a more consistent effect. The cloth should be removed by light hands while applying.

- **Starches and stiffening agents** : Starching or use of stiffening agents is the most common technique to make the fabric firm, smooth and shiny. This finish not only enhances appearance and texture but also prevents direct contact of dirt with the fabric. Starching also makes the subsequent washing easier as dirt clings to starch rather than to the fabric. Stiffening agents are derived from nature either plants or animals. The most common stiffening agents are starch, gum acacia, borax and gelatine.
- **Starch** : Cotton and linen are used to stiffen the clothes. Sources : wheat (Maida), rice, arrowroot, tapioca.
- **Gum Acacia or Gum Arabic** : It is used for silk, very fine cottons, rayons, silk and cotton blended fabrics. The source is natural gum obtained from Acacia plant (babool tree) in the form of granulated lumps.
- **Gelatine** : It is a type of protein obtained from animals, it is easy to use but it is more expensive than other home made starches.
- **Borax** : Borax is used to add stiffness to the starch solution and to give it a slightly waterproof appearance. The borax gets pinged

while the iron is on the cloth and a thin layer is formed on the surface of the garment due to which we remain stiff in the clothes even in climate.

- **Drying :** After washing clothes, applying indigo and starch, it is advisable to dry them upside down in the sun. Silk and woollen garments are not dried in the sun. Drying the white clothes in the sun for a long time causes yellowing in them.

**16. Ironing :** After washing the clothes, the wrinkles on them become unwanted patches. We are required to remove them. Three things are required for ironing - The temperature, humidity and pressure of which objects can be prepared to wear appropriately.

**17. Dry-cleaning :** "Cleaning Clothes in a Waterless Liquid Medium." Water is absorbed by the fibres using dry and wet solutions. Which causes shrinkage, wrinkle formation and colour bleeding, the dry solvent do not cause swelling Hence dry cleaning is a safe method to clean delicate clothes. The most commonly used solvent for dry cleaning is : perchloro-ethylene, a petroleum solvent, or a fluorocarbon solvent.

**18. Storage Of Textile Products :** Clothing stores are required when changing from one season to another. It is necessary to keep the following points in mind before storing :

- Drying clothes properly before storage.
- Brushed well
- Dry cleaning
- All Stain Should be removed

- Repairing torn places
- Repairing broken buttons, laces, hemming and refinished fabrics.
- Pockets to be inverted from the inside out.
- Trousers and arms also to be inverted.
- Ironed and folded
- Clean the storage space, dry and pest-free and dirt-free.
- Neem leaves, plastic packing, newspapers packing, moth balls (Naphthalene balls) are used to avoid microorganisms according to textile fibres.


















#### **19. Factors Affecting Fabric Care :**

- Textile type
- Yarn structure
- Fabric construction
- Colour and Finishes

#### **20. Care Label :**



### Washing Instructions on care-labels

Washing Instructions	Meaning
89° For 29° C 	Use cold water or set temperature of machines at cold
90°-110° For 32°-43° C 	Use warm water or set temperature of machine at warm
150° For 60° C 	Use hot water or set temperature of machine at hot
<b>WASH CYCLE</b>	
Delicate cycle	Time of agitation is reduced and speed of agitation is slow
Wash separately	Wash like colours together
Wash inside out	Reverse the garment before washing
Warm rinse	Use warm water for rinsing
Cold rinse	Use cold water for rinsing
Do not spin	Do not put in a spinner
Do not wring	Do not twist the garment
Hand wash	Wash by hand, kneading and squeezing method
Machine wash 	Can put in machine for washing
<b>DRYING</b>	
Tumble dry 	Can dry in a front loading machine (the clothes spin clockwise)
Drip dry	Dry for short while without wringing the water (used for synthetics)
Line dry	Hang on a drying line
Dry flat	Dry on a flat surface (used for woolens)
Dry in shade 	Do not dry in sun (for coloured clothes)
<b>PRESSING AND IRONING</b>	
	Set temperature of iron at 210° C (hot)
	Set temperature of iron at 160° C (moderate)
	Set temperature of iron at 120° C (low)
	Do not iron
<b>BLEACH</b> 	Chlorine bleach
	Do not bleach
<b>DRY CLEANING</b>	
	Use all solvents
	To be dry cleaned with only white spirit or chloroethylene
	Special care has to be taken while dry-cleaning as they are sensitive to dry-clean
	Use white spirit only
	Do not dry-clean



**Multiple Choice Questions :**

**(1Marks)**

Q.1 Which cloth should be washed by suction method?

- (a) Shirt
- (b) Saree
- (c) Frock
- (d) Towel

Ans. (d) Towel

Q.2 Which element is natural bleach?

- (a) Hydrogen peroxide
- (b) Grass
- (c) Ammonia
- (d) Sunlight

Ans. (d) Sunlight

Q.3 Which is not a reducing bleaching agent?

- (a) Sodium hydrosulphite
- (b) Sodium bisulphate
- (d) Sodium perborate
- (e) Sodium thiosulphate

Ans. (d) Sodium perborate

Q.4 Which of the following is not a part of the stain removal technique?

- (a) Scraping
- (b) Sponging
- (c) Suction
- (d) Drop Method

Ans. (c) Suction

Q.5 The following is the reagent to harden the garments :

- (a) Starch
- (b) Vinegar
- (c) Indigo
- (d) Javelle solution

Ans.(a) Starch

Q.6 Which of the following is not a solvent or solvent :

- a) Fuller's earth
- (b) Kerosene
- (c) Methylated Kerosene
- (d) Carbon tetra chloride

Ans. (a) Fuller's earth

Q.7 Which filament can be easily degraded by a worm?

- (a) Polyester
- (b) Wool
- (c) Cotton
- (d) Nylon

Ans.(b) Wool

Q.8 Which fibres made of cloth should not use moth balls when storing them?

- (a) Cotton
- (b) Silk
- (c) Zari
- (d) Wool

Ans.(c) Zari

Q.9 Which of the following are not vegetative spots?

- (a) Tea
- (b) Fruit
- (c) Milk
- (d) Vegetables

Ans.(c) Milk

Q.10 Which of the following methods is not a part of washing methods?

- (a) Friction washing
- (b) Kneading and squeezing
- (c) Suction
- (d) Use of Blues

Ans. (d) Use of Blues

**Very Short Answer Question**

**(1Marks)**

Q.11 Name any two solvents that are mainly used for dry clean?

Ans. The names of the two solvents are as follows :

- Per-chloro ethylene
- Petroleum solvent

Q.12 What are two types of textile washing machine?

Ans. The following are two types of washing machine :

- Semi automatic machine
- Fully automatic Machine

Q.13 Name any two oxidizing bleaches?

Ans. The name of two Oxidising bleaches are as follow :

- Sodium hypochlorite
- Sodium perborate

Q.14 What are the two main things that need to be kept in mind for the care and maintenance of garments?

Ans. Two main things are as follows :

- Keep clothes away from heavy damage.
- Maintaining the color look of the fabric.

Q.15 What is Pedesis?

Ans. The surface tension of the cloth is reduced when the soiled garments are soaked in water. Due to which lubricated dust is removed from the surface of the garment. Which is called Pedesis.

Q.16 What is Surfactant?

Ans. Surface acting reagent, that is, reagents reduce the surface tension of the water, due to the lessening of this effect. Water absorbed move easily into the clothes and removes water spots and dirt more quickly. For example – Soap and Detergent.

Q.17 Which three things are required for ironing?

Ans. Three things are required : Temperature, Humidity and Pressure.

### **Very Short Answer Questions**

**(2 marks)**

Q.18 What is Dry cleaning? Name the lubricating solvents used for dry clean.

Ans. Dry cleaning : The process of washing or cleaning clothes without water is called dry cleaning. Following are the names of lubricating solvents used in it :

- Ether
- Acetone
- Benzene
- Carbon tetrachloride

Q.19 Name any four remnants used to remove stains?

Ans. The names of the four absorbents are as follows :

- Fuller's Earth
- Talcum powder
- French chalk
- Starch

Q.20 Name any four methods of washing?

Ans. The following are the names of any four methods :

- Friction washing
- Kneading and squeezing
- Suction
- Washing by machines

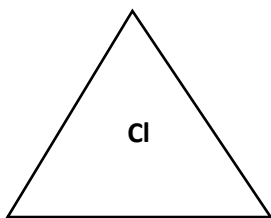
Q.21 Describe the method of washing the home in steps?

Ans. Different stages of washing clothes :

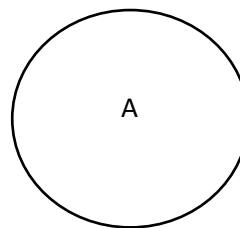
- Choosing clothes : Fabric composition, colour, wearing clothes, home use such as: bed sheets, curtains, dusters.
- Dipping : Soaking excessively dirty clothing in soap or detergent solution as required.
- Washing : Rinse clothes when till the clothes completely free from soap and detergent.
- Decant : Remove from the water until the soap or detergent is well removed from the clothes.
- Starch and blues : Using Starch and Charak to bring out stiffness in clothes, indigo to remove yellowing from white clothes.

Q.22 What do the following signs mean on the label of a garment?

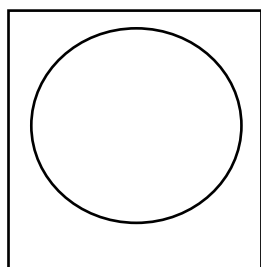
(A)



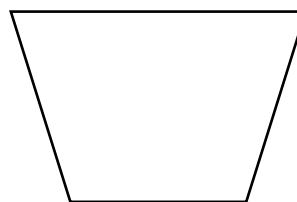
(B)



(C)



(D)



Ans.

- (a) Chlorine bleach
- (b) All solvents can be used.
- (c) Tumble dry
- (d) Machine wash

**Short answer questions.**

**(3 marks)**

Q.23. What is dry clean? What type of clothing is recommended for dry cleaning?

Ans. **Dry Cleaning** : Cleaning items in a waterless liquid medium is called dry clean.

- Delicate, costly, dry cleaning is recommended on soft garments. Such as silk, wool, rayon, dry cleaning should be done on various delicate and expensive garments.
- When clothes are washed at home, they become wrinkled and colour comes out. Which affects the structure of the fabric, and fabric starts to look old.

- While volatile solvents are used in dry cleaning, the fibers do not thrive and can be easily cleaned without any damage.

Q.24 Mrs. Veena is a house wife. Tell her the six benefits of care and storage of garments.

Ans. Following are the benefits of clothing care and storage :

- The colour of the clothes does not deteriorate the colour.
- Clothing stays like new for a long time.
- No need to buy new clothes again and again.
- Clothing is not affected by different types of microorganisms when stored properly.
- We have different varieties of clothes.
- There is not much of a burden on the budget due to not buying clothes again and again.

### **Long Answer Questions**

**(4 Marks)**

Q.25 After washing, how does the finish improve the brightness and texture characteristics of the garments.

Ans. In the process of washing clothes repeatedly, their fibres, their weaving, colour and look, shape hurts a lot. To make the garments smooth, tough, shiny or attractive again, it is necessary to use a variety of techniques such as :

- The use of starch and gum to make it hard and shiny, for example : on cotton and coarse fabrics, arcades and silk fabrics.
- Vinegar is used to add shine to woollen garments.
- Indigo is used to remove yellowing in white clothes.
- Finishing is not only used to improve the colour appearance of textiles, but also dusty clay particles directly in contact with textiles

- Finishing not only enhances appearance and texture, but also prevents direct contact of dirt with the fabrics. Starching also make the subsequent washing easier as dirt clings to starch rather than to the fabric. There is no harmful effect on the texture of the clothes and the clothes look smooth and beautiful.

Q.26 What type of precautions should be taken while collecting synthetic fabrics? Please tell.

Ans. Synthetic textiles are made of chemical fibres (artificial fibres). The following points need to be noted before collecting them :

- The clay stains must be removed by brush, Stain spots must be removed before storage.
- Most dry clean solvents do not harm their fibres due to their good resistance to base and acids. Hence it can be easily washed at home without any special care.
- Their strength is similar to that of cotton clothes, so they do not get folded quickly but fast hot ironing should not be done.
- Sunshine in these fibres, These fibres have excellent resistance to incense, all types of soaps, synthetic detergents and bleaches that insects do not harm them.
- They should be dried before placing them in the almirah or, so that there is no rust on the garments.

### Long Answer Questions

(5 marks)

Q.27 Define the word "stain". What are the different types of spots? What different types of techniques can be used to remove them?

Ans. **Stain** : Stain spots are such a desired sign or colour. Those that come on contact with external material on a cloth.



**Different types of spots are as follows :**

- Vegetable stains
- Animals stains
- Oil stains
- Mineral stains
- Dye bleeding/ stains

**Different Techniques to Remove Stains :**

- Grease solvents
- Grease absorbents
- Emulsifiers
- Acidic reagents
- Alkaline reagents
- Bleaching agents

Q. 28 Write down the methods that can be done to remove unknown stains from textiles.

Ans. It is best to remove stains immediately after application. Sometimes it is not possible to find out about the nature of some stained spots. Therefore, to remove them it is necessary to adopt the following sequence :

- Use the simple process first and then move on to the complex process.
- Should be weaned off with cold water and soap.
- Should be delivered with hot water and soap.
- Bleach should be used.
- Mild acidic solution should be used.
- Subsequently, mild alkaline solution should be used.
- Solvent substances such as benzene petrol etc. should be used.

Q.29 What is dirt How do water soap and detergent remove dirt from clothes?

Ans. "**Dirt**" is the term used for greasy, soot, dusty soil trapped between the fabric of a dirty cloth. There are two types, the first is on the upper surface of the fabric which can be easily removed. The second is grounded by sweat and grease. Which cannot be redeemed easily.

**Cleaning process with water soap and detergent** : Water, soap and detergent are the most important reagents.

- To clean the clothes, first any dirty cloth is immersed in water.
- Due to which the handling of water particles is helpful in removing the smooth lubricated dirt in the cloth.
- Some dirt and soil gets removed due to washing in water. But there is no ability to keep this dirt suspended in water.
- Both soap and detergent are found to have the same chemical properties in Reagent, these are surface- reagents and are called surfactants.
- The surface of the water reduces the stress, as this effect is reduced, the water is absorbed more easily in the clothes.
- Removes spots and dirt easily and more quickly.
- It also serves to suspend soil dirt removed from water, so that it does not freeze on clean clothes again.
- Clothes can be prevented from becoming dirty.

Q.30 What are the different aspects of care and maintenance of garments?

Ans. Due to the many types of weather in our country, there is a need to store the clothes during the time of change of seasons, due to the practice of different types of clothes, the methods of storage and caring for them also vary Are as follows :

**Care** : Proper care is required to keep the garments always like new which is as follows:

- Repairing them from time to time stitched up the crushed.
- According to the fibre of the garment, washing and selecting the solvents.
- Use of starch and gum to bring shine and hardness to textiles.
- To be given indigo to remove paleness.
- Dry cleaning of delicate and expensive clothes is very important.

**Maintenance (storage) :** The following points need to be kept in mind while collecting or maintaining the item :

- Packing should be done in very low humidity environment.
- Pack them open in shelves or trucks. Packing too tightly can cause permanent folds in garments.
- The clothes have dried to perfection and the stains have been removed.
- The dust of the clothes has been removed from the mud brush, according to the washing of clothes or dry clean cloth as required.

At the time of collection, naphthalene tablets, newspapers, moth balls, neem leaves should be used to avoid various types of insects.

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## **CASE STUDY BASED QUESTIONS**

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### **CASE STUDY - 1**

Schools can also take responsibility for maintaining the health of children such as - Tiffin can be arranged in the school and children can be protected from many infectious diseases by banning khokhas and food vendors practicing unhygienic food practices at school gates. In this direction, the mid-day meal program which is being run by the government provides free food to student of pre-primary, primary and middle class (upto class VIIIth) during the recess time.

Q1. How many calories are provided by one gram of protein?

- |            |             |
|------------|-------------|
| (a) 4 kcal | (b) 6 kcal  |
| (c) 9 kcal | (d) 11 kcal |

Ans. (a) 4 kcal

Q2. The tiffin of a children's school should be \_\_\_\_\_.

- |              |                |
|--------------|----------------|
| (a) balanced | (b) Unbalanced |
| (c) Garishta | (d) Sweet      |

Ans. (a) Balanced

Q3. Which of the following is a hygienic dietary habit for children?

- (a) Washing hands before and after meals
- (b) Consuming food after taking a bath and wash hands later
- (c) To eat more food
- (d) To eat while playing

Ans. (a) Washing hands before and after meals

Q4. The process of giving a supplementary food is called \_\_\_\_\_.

- |                  |                  |
|------------------|------------------|
| (a) Mid-day meal | (b) Tiffin       |
| (c) Weaning      | (d) Immunization |

Ans. (c) Weaning

## CASE STUDY - 2

Modern lifestyles have adversely affected the health of the people. Less physical activities and oily food is making people unwell. Hospitals are well equipped to provide health services, yet due to negligence in life-style, the number of patients is increasing continuously. People are adopting many types of tips to keep themselves healthy. People try to stay fit by doing yoga, exercise, morning walk, yet they are not able to remain completely healthy, mainly because of the irregularity of routine, such as not having breakfast on time, going to bed late at night, therefore the body is infested by various diseases.

Q1. Lifestyle deals with \_\_\_\_\_.

- (a) Size
- (b) Height
- (c) Time
- (d) Sleep

Ans. (c) Time

Q2. Development of a good physique and posture is the primary objective of which education?

- (a) Social
- (b) Spiritual
- (c) Mental
- (d) Physical

Ans. (d) Physical

Q3. The term \_\_\_\_\_ means having all four dimensions of health in good shape and equally balanced.

- (a) Social health
- (b) Physical health
- (c) Mental health
- (d) Wellness

Ans. (b) Wellness

Q4. Lifestyle is the way of

- (a) living
- (b) eat
- (c) dancing
- (d) reading

Ans. (a) Living

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### CASE STUDY - 3

Communication is the backbone of education. Without communication, both education and learning cannot be imagined. Communication is a process in which a person exchanges information and ideas. Communication is also a social process through which human relations are established, relationships are strengthened and are also developed. The process of communication is so entrenched in the social structure that it is difficult to imagine a social life without communication.

Q1. Which of the following psychological social aspects are involved in communication?

- (a) Thoughts
- (b) Sensations
- (c) Feelings
- (d) All of the above

Ans. (d) All of the above

Q2. Which of the following is not a function of communication?

- (a) Providing information
- (b) Sending instructions
- (c) Not establishing co-ordination
- (d) awakening mutual trust

Ans. (c) Not establishing co-ordination

Q3. \_\_\_\_\_ Communication is a fundamental element for good learning.

- (a) Distorted
- (b) Effective
- (c) Unclear
- (d) Opposite speaking

Ans. (b) Effective

Q4. Communication is a process of \_\_\_\_\_.

- (a) Exchange
- (b) Sharing
- (c) Brotherhood
- (d) Staying dormant

Ans. (a) Exchange

#### **CASE STUDY - 4**

Rights in general, and human rights in particular, are the resultant of certain essential basic human needs, responsibilities are sincere and committed efforts by an individual made for ensuring the protection of human rights of both, self and others. By fulfilling one's responsibilities properly one can ensure protection of one's own rights as a human being.

Q1. Human rights are the result of some essential basic\_\_\_\_\_.

- (a) Freedom
- (b) Life
- (c) Human needs
- (d) Equality

Ans. (c) Human needs

Q2. How does one person's sincere and dedicated effort, help other people?

- (a) Protection of rights
- (b) Time protection
- (c) Life safety
- (d) Needs protection

Ans. (a) Protection of rights

Q3. What do you understand by the right to life, liberty, security, equality, and respect?

- (a) Fundamental liability
- (b) Basic needs
- (c) Basic wishes
- (d) Basic rights

Ans. (d) Basic rights

## **CASE STUDY - 5**

A resource consists of assets, money, or funds, which are used to achieve goals. Like Money, Time, Space, and Energy Resources. Almost all resources are limited to each person, but they are overused by some individuals when some resources are used in proper management, and some are reduced even if they have the same number of resources. That is, collective and efficient management of tools increases their overuse.

Q1. Which human resources are necessary for the achievement of goals in life?

- (a) Money
- (b) Attitude
- (c) Space
- (d) Equipment

Ans. (b) Attitude

Q2. What is necessary to know to increase more and proper use of any resource?

- (a) Knowledge of resources
- (b) Resource availability
- (c) Collective and efficient management of resources
- (d) Limited resources

Ans. (c) Collective and efficient management of resources.

Q3. Is a non-human resource:

- (a) Skill
- (b) Energy
- (c) Furniture
- (d) Knowledge

Ans. (c) Furniture



## CASE STUDY - 6

The tradition of child adoption in India is quite old but over time the practice of adopting children outside the family was also institutionalized and legalized. Where the Government of India and the State Governments provide the necessary support and guidance through policies and programs (NGOs) provide the necessary delivery system for the adoption process. The Government of India advised the Supreme Court to strengthen adoption rules and facilitate adoption under (C.A.R.R.A.) a central institute has been formed. Which safeguards the welfare of children and their rights and creates guidelines for adoption.

Q1. Full name of C.A.R.A. –

- (a) Central Adoption Resource Authority
- (b) Protection and Reinvestment Act
- (c) Infant Adoption Resource Institute
- (d) Central Adoption Resource Association

Ans. (a) Central Adoption Resource Authority

Q2. Which central institution was formed by the Government of India under the advice of the High Court?

- (a) Protection and Reinvestment Act
- (b) Infant Adoption Resource Institute
- (c) Central adoption resource institution
- (d) Central Adoption Resource Association

Ans. (c) Central adoption resource institution

Q3. \_\_\_\_\_ and \_\_\_\_\_ provide the support and guidance required by policies and programs in the process of adoption of children.

- Ans. (a) The Government of India
- (b) The State governments

## CASE STUDY - 7

Children's Special Education Needs (S.E.N.) are met through certain special education methodologies. Special education is not a separate or special education, for handicapped students. It is an approach that facilitates learning for them and makes their participation in various activities possible. Most children can read easily in normal school classes, while some children who have severe difficulties due to the nature of their disability, they get a lot of benefit if they fall into the classes designed only for them. Because there is a relatively small number of students together in a group and where the teacher interacts personally with the students. Teachers who impart special education are called special teachers.

Q1. What kind of students are special classes suited for?

- (a) Physically fit students
- (b) Students with defects in both hearing and seeing
- (c) Students with intellectual impairments
- (d) b and c both

Ans. (d) b and c both

Q2. What is inclusive education?

- (a) Arrangement for students with hearing impairment to read with their peers in normal classes.
- (b) Arrangement for students with visual impairments to read with their peers in normal classes.
- (c) Arrangement for students with intellectual impairments to read with their peers in normal classes.
- (d) Arranged reading for physically challenged children in a normal classroom with their peers.

Ans. (d) Arranged reading for physically challenged children in a normal classroom with their peers.

Q3. What are the characteristics of special classes?

- (a) There are a small number of students.  
Special Educators impart special education.
- (b) Teachers interact personally with students.
- (c) All three above

Ans. (d) All three above

### **CASE STUDY - 8**

Human ecology term is related to branches of biology. In this we study the relation between living organisms with their environment. Family is a central and important part where children are nurtured more importantly it deals with the interaction of human beings as members of their families and the society with the environment.

Q1. In which college was the first-time home science was introduced?

- (a) Lady Irwin College
- (b) Shri Ram College
- (c) Gargi College
- (d) Lady Harding college

Ans. (a) Lady Irwin College

Q2. If anyone wants to become interior designer then what field he has to choose in home science?

- (a) Human Development
- (b) Food and Nutrition
- (c) Resource Management
- (d) Communication and Extension

Ans. (c) Resource Management

Q3. For taking care of a child in which field we study about it?

- (a) Textiles
- (b) Food and Nutrition
- (c) Resource Management
- (d) Human Development

Ans. (d) Human Development

Q4. In which state Lady Irwin College is established?

- (a) Delhi
- (b) Mumbai
- (c) Bihar
- (d) Himachali

Ans. (a) Delhi

### **CASE STUDY - 9**

Knowledge is the resource one uses throughout one's life and it is necessary for carrying out any activity or goal. For example - A car driver must have knowledge about different parts of the car like-wise a teacher before teaching should have complete knowledge about the subject.

Motivation/ interest is a very important resource which help us to move forward in life interest help people in finding their goal and ways to complete the task or goal. For example, if we have no interest in doing any work still we arrange resources and organize things for doing that activity but at the end we may delete this task because we don't have any interest in doing the task.

Q1. Home is the example of what kind of resource?

- (a) Material resource
- (b) Natural resource
- (c) Personal resource
- (d) Human resource

Ans. (a) Material resource

Q2. While doing management of resources in what stage we Plan a Scheme for our goal?

- (a) Planning
- (b) organising
- (c) Evaluation
- (d) controlling

Ans (a) planning

Q3. Which of the following is not a resource?

- (a) Material resource
- (b) Human resource
- (c) Human development
- (d) Non-human resource

Ans. (c) human development

Q4. In which stage of management of resources, we compare things aur result?

- (a) Evaluation
- (b) Implementation
- (c) Organising
- (d) Planning

Ans. (a) Evaluation

### **CASE STUDY - 10**

Growth is related to size. Anything which increases in size is called growth. We can measure growth like measuring weight and height of children. Development is related to quality like how our body works . Growth is not only increase in height and weight but also increase in size of internal organs.

We can measure growth like measuring the weight and height of the child On the other hand, development is directly related to quality as the growth and functioning of different organs. Increase is not only in the weight or length but also in the size of our internal organs. Qualities like a child first lifts his head and then learns to sit and walk on the right left, it reflects qualitative development.

Q1. When a child wants to do any activity what kind of development is that?

- (a) Physical development      (b) Motor development  
(c) Cognitive development      (d) Language development

Ans. (b) Motor development

Q2. Newborn firstly interact with?

- (a) Friends      (b) caretaker  
(c) teacher      (d) none of the above

Ans. (b) caretaker

Q3. Drawing anything shows what kind of motor development?

- (a) Gross motor development      (b) Fine motor development  
(c) Language development      (d) Cognitive development

Ans. (b) Fine motor development

Q4. In what stage of cognitive development are senses will develop more strongly?

- (a) Pre-operational      (b) Sensory motor stage  
(c) Formal operational stage      (d) None of the above

Ans. (b) Sensory motor stage

### **CASE STUDY - 11**

Irregular meals and skipping - means the numbers of meals teenagers miss and eat away from home increases from early adolescence to late adolescence, reflecting the growing need for independence and time away from home. In some homes with limited resources, adolescents may not even receive an adequate number of meals or amounts leading to nutrition deficiency.

**Snacking** – many adolescents fail to eat three regular meals per day because of the skipping meal factor.

**Fast food** - Adolescence in urban areas often eat fast food because it is convenient. It is often packed with fat and empty calories.

**Dieting** - Obesity is becoming a social problem among adolescents

Q1. What are the healthy dietary practices among adolescence?

- (a) Do not use substance abuse      (c) Drinking less water  
(b) Diet journal      (d) Television viewing

Ans. (b) Diet journal

Q2. \_\_\_\_\_ is diet related disorder among adolescence.

- (a) Dieting      (b) Anorexia  
(c) Bulimia      (d) Both b and c

Ans. (d) Both b and c

Q3. Which is the prominent nutrient present in milk and Milk products?

- (a) Protein      (c) Vitamin-B  
(b) Carbohydrates      (d) Fat

Ans. (a) Protein

Q4. Science of food and nutrients and their action on our health is Called :

- (a) Food      (c) Protein  
(b) Nutrition      (d) Vitamin

Ans. (b) Nutrition

## CASE STUDY - 12

It has been stated that physical changes in the body and the changing social expectations are two main aspects that influence the process of Identity formation. During the period of adolescence in traditional Indian society, the onset of puberty places many restrictions on the girls but the boys retain their freedom of movement. In Indian context, a large majority of adolescents continue to be fairly dependent on parents and the family continue to exercise control over them. The increase in choices and exposure to order that lifestyle is leading the adolescence in conflict with parents and other authority figures in society. The culture and society impact adolescent identity development.

Q1. Which is the important aspect of self-concept?

- (a) Self-esteem
- (b) Support
- (c) Expression
- (d) None of the above

Ans. (a) Self-esteem

Q2. In adolescence \_\_\_\_\_ is used to emphasize aspects of their personality.

- (a) Artistic quality
- (b) Physical quality
- (c) Internal quality
- (d) Cultural quality

Ans. (c) Internal quality

Q3. What is the effect of peer pressure on adolescence?

- (a) Positive and negative
- (b) Only positive
- (c) Only negative
- (d) None of the above

Ans. (a) Positive and negative



### CASE STUDY - 13

Clothes enrich our personality. They are made from a variety of substances and are sewn into various forms, called costumes or dresses. Wearing a well-stitched dress on an occasion and wearing it at an appropriate time reflects the habits, interest, social status, behaviour and other qualities of the person. In general, men, women and children wear different types of clothing and have different dresses for different purposes and occasions, for example, formal, informal occasions, sports and night-time dresses.

Q1. The first manufactured fibre was\_\_\_.

- (a) Silk
- (b) Nylon
- (c) Rayon
- (d) Polyester

Ans. (c) Rayon

Q2. Diapers are primary and very mandatory for\_\_\_\_\_.

- (a) Infants
- (b) School children
- (c) Teenagers
- (d) Adults

Ans. (a) Infants

Q3. \_\_\_\_\_ is the primary criterion in children's

- a) Colour
- b) comfort
- c) design
- d) Ornamentation

Ans. (b) Comfort

Q4. People's social and financial status can be determined through their \_\_\_\_\_.

- (a) Colour
- (b) Makeup
- (c) Clothing
- (d) Age

Ans. (c) Clothing

### CASE STUDY - 14

A garment can be made stronger and more bright, strengthened and unshrinkable on washing thru various finishes because when the cloth is woven on the looms, it is rough, dirty and has stains and spots, it is necessary to refine it so that it becomes usable, so it can be said that the process that is done to refine the fabric after weaving it is called a finish.

When garments are made, at that time, they are not white in colour, to make them white or to colour them in a lighter colour these fabrics are bleached, the colour of the cloth is changed by the appropriate bleaching agents. The process of bleaching is done on cotton, wool and silk fabrics. The man-made fibres do not require bleaching, they are naturally white. You need a lot of caution in the process of bleaching because colour removing chemicals can also damage the fabric to some extent. Hydrogen peroxide is a bleaching agent that can be used on all types of fabrics.

Q1. Dyeing gives the whole fabric a solid colour when dyeing is used at designated places it is called\_\_\_\_\_.

- (a) Cleaning
- (b) Washing
- (c) Harvesting
- (d) Printing

Ans. (d) Printing

Q2. If \_\_\_\_\_ is written on the label on the cloth, it means that the shrinkage control finish on the fabric has been given and it will not shrink after washing

- (a) Calendering
- (b) Sanforized
- (c) Tentering
- (d) Bleached

Ans. (b) Sanforized

Q3. Cotton, etc., natural fibres or other artificial fibres when twisted in to \_\_\_\_\_ is called spinning.

- (a) Lace (b) Yarn  
(c) Cloth (d) Textiles

Ans. (b) Yarn

Q4. Bandhani is an art of \_\_\_\_\_ after tying or knotting, prevalent in India.

- (a) Dyeing (b) Washing  
(c) Harvesting (d) Printing

Ans. (a) Dyeing

### **CASE STUDY 15**

The immediate purpose of financial management is to provide adequate simplicity and profitability for the undertaking. The objective of financial management in a comprehensive way is to provide maximum support in achieving the objectives of the firm. The main objective of financial management is to earn maximum profit by minimum financial instruments.

This objective of financial management is most important. Some of the major objectives of financial management are as follows, Proper management of finance, i.e., where, at what time, how much finance is to be put in it is called financial management. Proper management of finance yields maximum profit.

Q1. \_\_\_\_\_ is that income, which the head of the family and other family members earn from their professions.

- (a) Indirect income                      (b) Direct income  
(c) Expenditure                          (d) Accumulation

Ans. (b) Direct income

Q2. The plan for future expenditure is called \_\_\_\_\_.

- (a) Budget                                  (b) Income  
(c) Money    (d) Savings Ans. (a) Budget

Q3. Currently receiving money and goods, services and paying it in the future is called \_\_\_\_\_.

- (a) Capital                                  (b) Character  
(c) Credit                                    (d) Capacity

Ans. (c) Credit

Q4. The satisfaction that is achieved after the use of services and goods is called \_\_\_\_\_.

- (a) Income management                  (b) Psychic income  
(c) Direct income                          (d) Indirect income

Ans. (b) Psychic income

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## **ASSERTION AND REASONING BASED QUESTIONS**

### **Unit no. – 1**

Read the following statements — Assertion (A) and Reason (R) and select the most appropriate answer from the options given below:

**Ques 1. Assertion: Home science makes a person's life valuable.**

**Reason:** Home science includes subjects like arts, sociology, natural science, applied science, psychology and commerce.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans. a)** Both A and R are true and R is the correct explanation of A.

### **Unit no. - 2**

**Ques 1. Assertion: Adolescence is considered as a period of stress and storm.**

**Reason:** Stress during adolescence is caused by physical, emotional and social changes.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.

d) A is false but R is true.

**Ans. a)** Both A and R are true and R is correct explanation of A.

**Ques 2. Assertion: Large amounts of macronutrients are required in the diet.**

**Reason:** The main function of the macro nutrients is to regulate various chemical processes in the body.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans. c)** A is true but R is false.

**Ques 3. Assertion: Planning is the planning of actions to be taken in the future to achieve a goal.**

**Reason:** Planning is the last step in the management process and is the basic foundation of the entire operation.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans. c)** A is true but R is false.

**Ques 4. Assertion: Rayon is widely used in medical clothes, surgical pads and operating drapes.**

**Reason:** Rayon is a man-made fiber made from regenerated

cellulose.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R true but R is not correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** c) A is true but R is false.

**Ques 5. Assertion: Blended fibres such as terrycott, terrywool etc. are more useful than things made of natural fibres.**

**Reason:** Blended fibres increase the desired properties depending on the composition.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 6. Assertion: Modern media is more popular and useful than traditional media.**

**Reason:** Modern communication media has improved the transmission quality capability of information and messages, making it more convenient and increasingly prevalent even in remote areas.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.

d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 7.** **Assertion: The results obtained after the implementation of the plan should not be evaluated.**

**Reason:** It is necessary to manage resources effectively to achieve goals.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** d) A is false but R is true.

**Ques 8.** **Assertion: During adolescence there are some universal physiological changes in the body which have a particular sequence.**

**Reason:** The development of the human body takes place in a certain order.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.



**Ques 9. Assertion: Resources should be used appropriately, that is - resources should not be misused.**

**Reason:** All resources are limited.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 10. Assertion: Planning helps us to visualize the way to reach the goals.**

**Reason:** All resources are useful.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false
- d) A is false but R is true.

**Ans.** b) Both A and R are true but R is not the correct explanation of A.

**Ques 11. Assertion: The audience cannot be persuaded or induced to accept a belief by the medium of communication.**

**Reason:** Media inculcates good values in children.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.

- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** d) A is false but R is true.

**Ques 12. Assertion: Human resources are the key to any work.**

**Reason:** Knowledge and skill are not necessary to perform any work

- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** c) A is true but R is false.

**Ques 13. Assertion: The use of the fabric is affected by the finish, color, texture, etc.**

**Reason:** Finishes can be durable or renewable.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** b) Both A and R are true but R is not the correct explanation of A.]

### Unit no. 3

**Ques 1. Assertion: Nutrition and health are closely related and complement each other.**

**Reason:** Adequate nutrition is required for the growth and good health of the body.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans. a)** Both A and R are true and R is the correct explanation of A.

**Ques 2. Assertion: India is bearing the double burden of malnutrition.**

**Reason:** Deficiency diseases of micronutrients are found in India.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true and R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans. b)** Both A and R are true but R is not the correct explanation of A.

**Ques 3. Assertion: We should take such a balanced diet in which all the nutrients are available in proper quantity.**

**Reason:** There is a close relationship between good health and proper nutrition.

- a) Both A and R are true and R is the correct explanation of A.

- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** b) Both A and R true but R is not the correct explanation of A.

**Ques 4. Assertion: Lighting in the building can be provided only by natural sources.**

**Reason:** Light and clean air help in maintaining a healthy environment.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** d) A is false but R is true.

**Ques 5. Assertion: Circulation of air in the rooms has been considered essential.**

**Reason:** Air regulates the temperature of the rooms.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** b) Both A and R are true but R is not the correct explanation of A.

**Ques 6. Assertion: The space can be shown bigger by proper use of mirrors and lighting.**

**Reason:** Better space management not only provides comfort but also looks attractive.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** b) Both A and R are true but R is not the correct explanation of A.

**Ques 7. Assertion: Work curve is a tool to see time according to work.**

**Reason:** The work curve begins with a period of energizing then reaches a steady state at maximum capacity to do work and then declines.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** d) A is false but R is true.

**Ques 8. Assertion: In a house the dining area is near the kitchen and the kitchen is away from the toilet.**

**Reason:** It will give a feeling of openness to the people living in that house.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** c) A is true but R is false

**Ques 9. Assertion: In India we face a double burden of malnutrition.**

**Reason:** Many men and women in urban areas are overweight.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** b) Both A and R are true but R is not the correct explanation of A.

#### **Unit no. 4**

**Ques 1. Assertion: New-born's have certain reflexes right from the time of birth.**

**Reason:** Reflex actions help them to survive and adapt until their functional abilities are developed.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 2. Assertion: Rohan does not feel exceptionally tired and has sufficient resistance to infection.**

**Reason:** Rohan is physically fit and healthy.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 3. Assertion: During adolescence, adolescents create an imaginary audience.**

**Reason:** For this reason, teenagers become concerned about their body image.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 4. Assertion: Teenagers can think abstractly.**

**Reason:** By thinking about many possibilities, they become capable of negotiating with various arguments and strategies.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 5. Assertion: Increase in height and weight is called physical development.**

**Reason:** Infancy and adolescence are the stages of rapid growth.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans. b)** Both A and R true but R is not the correct explanation of A.

**Ques 6. Assertion: Crying is the first form of communication of children and it is an congenital instinct**

**Reason:** The child's environment plays an important role in his language learning.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans. b)** Both A and R true but R is not the correct explanation of A.

**Ques 7. Assertion: The World Health organization (W.H.O.) recommends exclusive breastfeeding for at least 6 months.**

**Reason:** Breast milk is rich in all the nutrients the baby needs



and is easily absorbed.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 8. Assertion: Nowadays children are attracted by advertisements and make every possible effort to eat junk food.**

**Reason:** Junk foods do not according to nutritional requirements of the children and also reduce the appetite towards regular diet.

- a) Both A and R true and R is the correct explanation of A.
- b) Both A and R true and R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** b) Both A and R true but R is not the correct explanation of A.

**Ques 9. Assertion: It becomes necessary to give supplementary food to the baby above six months.**

**Reason:** Supplementary food fulfils the requirements of essential nutrients.

- a) Both A and R are true and R is the correct explanation of A.

- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R true and R is the correct explanation of A.

**Ques 10. Assertion: Toddlers shoes should have flexible soles and should be without heels.**

**Reason:** Shoes with covers are essential for children who have just learned to walk.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R true and R is the correct explanation of A.

### **Unit no. 5**

**Ques 1. Assertion: Daily exercise of about 20-30 minutes helps in preventing lifestyle diseases.**

**Reason:** Regular exercise expends excess calories and improves blood circulation and respiration.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.

- c) A is true but R is false.
- d) A is false but R is true,

**Ans.** a) Both A and R true and R is the correct explanation of A.

**Ques 2.** **Assertion: BMI is an indicator commonly used to classify underweight, overweight and obesity in adults.**

**Reason:** A correct BMI is an indicator of a healthy lifestyle.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 3.** **Assertion: Exercise done thrice a week for at least 20 minutes is beneficial.**

**Reason:** Regular exercise burns more consumed calories and reduces the chances of extra calories being converted into fat.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of is
- c) A is true but R is false.
- d) A is false but R is false.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 4. Assertion: The positive difference between income and expenditure is called savings.**

**Reason:** Saving is important to fulfil future requirements.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** b) Both A and R are true but R is not the correct explanation of A.

**Ques 5. Assertion: Keeping household accounts is very important.**

**Reason:** Keeping accounts can avoid spending on non-essential items.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** a) Both A and R are true and R is the correct explanation of A.

**Ques 6. Assertion: Wise investment leads to increase in wealth.**

**Reason:** Investment is not required to achieve economic goals.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.

- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** c) A is true but R is false.

**Ques 7. Assertion: Mental income refers to the sense of satisfaction that we get after doing work.**

**Reason:** It is difficult to assess mental income in the form of currency.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is false.

**Ans.** b) Both A and R are true but R is not the correct explanation of A.

**Ques 8. Assertion: Friction is the most commonly used method for washing clothes.**

**Reason:** Friction is best suited for delicate fabrics such as silk and wool.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true and R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

**Ans.** c) A is true but R is false.

**Ques 9. Clothes should be stored properly.**

**Reason:** There is no need to repair the clothes before storage.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false and R is true.

**Ans.** c) A is true but R is false.

**Practice question paper –1 (2023-2024)**

**HOME SCIENCE (THEORY) (064)**

**Class XI**

**Time- 3:00**

**M. Marks-70**

**General Instructions:**

There are total 35 questions in this Question Paper.

1. All questions are compulsory.
2. All questions carry marks as mentioned in each section.
3. Question paper is divided in to three section A, B and C.
4. Section A has questions no. 1 to 18 and are of 1 mark each.
5. Section B has questions no. 19 to 25 of 2 marks and quesyions no. 26 to 29 of 3 marks each
6. Section C has questions no. 30 to 33 of 4 marks each and questions no. 34 and 35 of 5 marks each.
7. Internal choices are given in some questions.
8. Support your answers with suitable examples as required.

**Section – A**

**Objective type questions**

**1. Which of the following is not a career option after food and nutrition?**

- a) Opening a crèche
- b) Tiffin Service
- c) Catering
- d) Dietician

**2. In which year Lady Irwin College was established?**

- a) 1960
- b) 1952
- c) 1932
- d) 1944

**3. Use of our resources in an effective manner is known as \_\_\_\_\_**

- a) Human Resources
- b) Management Process

- c) Evaluation
- d) Implementation

**4. Car is an example of which resource?**

- a) Natural Resource
- b) Non-Human Resource
- c) Human Resource
- d) Shared Resource

**5. Which of the following is a “Bast fibre”?**

- a) Cellulose
- b) Protein
- c) Mineral Fibre
- d) Animal Fibre

**6. Menarche usually is considered the point of \_\_\_\_\_ in girls.**

- a) Sexual maturity
- b) Cognitive maturity
- c) Physical maturity
- d) Emotional maturity

OR

**Personal aspect of self is associated with \_\_\_\_\_ only.**

- a) Others
- b) You
- c) Yours
- d) Their

**7. What is the full form of BMI?**

- a) Basic Meal Index
- b) Brain Mapping Index
- c) Body Mass Index
- d) Bowel Movement Index



**8. Match the following**

- |               |                     |
|---------------|---------------------|
| A. Jatra      | i) Gujarat          |
| B. Doha       | ii) Bengal          |
| C. Dashavatar | iii) Madhya Pradesh |
| D. Deoria     | iv) Karnataka       |

- a) A i, B ii, C iii, D iv
- b) A ii, B i, C iv, D iii
- c) A iv, B iii, C ii, D i
- d) A iii, B iv, C i, D ii

**9. Match the following**

- |                          |                                |
|--------------------------|--------------------------------|
| A. Cognitive Development | i) Crying and Smiling          |
| B. Emotional Development | ii) Capabilities and Dreams    |
| C. Sensory Development   | iii) Smell and Hearing         |
| D. Personal Development  | iv) Thinking and Understanding |

- a) A iii, B ii, C iv, D i
- b) A ii, B iii, C i, D iv
- c) A iv, B i, C iii, D ii
- d) A i, B iv, C ii, D iii

**10. During Corona period education saw a drastic innovation in Teaching-Learning methods. Through shared documents, interactive online classes etc, students and teachers had a good effective teaching learning experience.**

\_\_\_\_\_ and \_\_\_\_\_ are examples of modern communication technology

**11. Email**

**12. Poster**

**13. TV**

**14. Google classroom**

- a) i and ii
- b) iii and iv
- c) ii and iv
- d) i and iv

OR

**Which of the following are examples of traditional media?**

- i. Puppet
- ii. Video movie
- iii. Satellite TV
- iv. Folk theatre

- a) i and iii
- b) ii and iv
- c) iii and iv
- d) i and iv

**11. 1gm of fat provides how much calories?**

- a) 7 kcal
- b) 9 kcal
- c) 4 kcal
- d) 3 kcal

**12. Given below are two statements label as Assertion (A) and Reason (R).**

Assertion (A): Blended fibres such as terrycot, terrywool etc are more useful than natural fibres.

Reason (R) Blended fibres increase the desired properties depending on the composition.

**Select the Correct Option**

- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is true but R is falls.
- d) A is falls but R is true.

**13. Given below are two statements label as Assertion (A) and Reason (R).**

Assertion (A): WHO (World Health Organisation) recommends exclusive breastfeeding for at least six months.

Reason (R): Breast milk is rich in all the nutrients that the baby needs and is easily absorbed.

**Select the Correct Option**

- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A

- c) A is true but R is falls.
- d) A is falls but R is true.

**14. Case study based questions from number 14 to 18**

Growth is related to size. Anything which increases in size is called growth. We can measure growth like measuring weight and height of children. Development is related to quality like how our body works. Growth is not only increase in height and weight but also increase in size of internal organs. We can measure growth like measuring the weight and height of the child. On the other hand, development is directly related to quality as the growth and functioning of different organs. Characteristics like a child first lifts his head and then learn to sit and walk on the right-left, it reflects qualitative development.

**When a child wants to do anything, what kind of development is that?**

- a) Physical development
- b) Motor development
- c) Cognitive development
- d) Language development

**15. Growth is a term used to describe \_\_\_\_\_.**

- a) Mental changes in the body
- b) Physical changes in the body
- c) Emotional changes
- d) Social changes

**16. Development is a continuous process, but growth does not continue throughout life, which stops when \_\_\_\_\_ has been attend.**

- a) Childhood
- b) Adolescent
- c) Adulthood
- d) Maturity

**17. Drawing anything shows what kind of motor development?**

- a) Gross motor development
- b) Fine Motor development
- c) Language development
- d) Cognitive development

**18. In which stage of cognitive development, senses will develop more strongly?**

- a) Pre-Operational
- b) Sensory Motor Stage
- c) Formal Operational Stage
- d) Concrete Operational

## Section B

19. Adolescence is a period of “Storm and Stress”. Do you agree with the statement? Give four reasons for your answer. (2)

20. “Planning is prediction for which forecasting techniques are used”. Mention the four steps of planning in this context (2)

OR

“There is always a substitute for each and every resource”. Explain this statement.

21. List any two categories under which stains can be classified. Give examples. (2)

22. “Weaving is the oldest form of textile art, which was only originally used for making mats and baskets”. Mention four characteristics of weaving. (2)

23. “Media plays a vital role in an individual’s life”. List four functions of media. (2)

24. Why time management is important? Give two reasons.

OR

What is “Peak load Period”? Explain briefly.

25. Classify two types of activities with examples. (2)

26. Flow of commodities and services available for satisfaction of human wants and needs over a given period of time is known as real income. Write any six ways to increase real income? (3)

27. Which points you will keep in mind while preparing balanced diet using food groups? Explain with the help of food pyramid diagram. (3)

OR

Write name of one eating disorder at adolescence stage. Suggest any two ways of preventing this disease.

**28. What do you understand by investment? Explain any four principles of sound investment?** (3)

**29. What do you mean by work simplification? How can work simplification be made by changing the working methods?** (3)

OR

The best use of available space using your knowledge and skill is known as space management. Discuss the principles of space management for indoor area.

**30. Intake of nutrients greater than or less than the required amount, both these conditions create problems of malnutrition in India. We often face problems on both ends in India.** (4)

A) Explain malnutrition?

B) Explain any three causes of nutritional problems in India?

**31. Explain four techniques of stain removal?** (4)

OR

Write points you will keep in mind during storage of clothes?

**32. Your friend Kavita is suffering from stomach related illness. Explain about any four methods of water purification at home?** (4)

**33. Your friend Renu has weak teeth and bones, her head bones are deformed and forehead bones are emerged more than necessary.** (4)

A) Identify the disease.

B) Which three measures can be taken to prevent the above disease?

**34. A) Define fitness?** (5)

B) Write any four benefits of exercise that influence mental and physical development in a positive manner?

OR

- A) What is stress?
- B) Suggest any eight ways to cope up with stress?

**35. Adolescents prefer fitted clothes and follow latest fashion trends.**

- A) Explain the term “Fads”?
- B) Suggest any eight points to be kept in mind during selection of clothes for adolescents.

**Practice question paper –1 (2023-2024)**

**MARKING SCHEME(EM)**

MM70

**SECTION A**

- |                                    |                               |
|------------------------------------|-------------------------------|
| 1. a. Opening a creche             | 11. b. 9Kcal                  |
| 2. c. 1932                         | 12. a.                        |
| 3. b. Management Process           | 13. a.                        |
| 4. b. Non-Human Resource           | 14. b. Motor Development      |
| 5. a. Cellulose                    | 15. b. Physical Changes       |
| 6. a. Sexual Maturity OR b. You    | 16. d. Maturity               |
| 7. c. Body Mass Index              | 17. b. Fine Motor Development |
| 8. b. A ii, B i, C iv, D iii       | 18. b. Sensory Motor Stage    |
| 9. c. A iv, B i, C iii, D ii       |                               |
| 10. d. (i and iv) OR d. (i and iv) |                               |

**Sec. B**

**19. Adolescence is a period of “Storm and Stress. Yes.**

$\frac{1}{2} \times 4$

Reasons: - Rapid physical and sexual changes in body

- Career tensions
- Mood swings
- Parental and peer pressure
- Stressed due to social emotional changes

Any Other, Any 4

**20. Four steps of planning:**

- Identifying the problem
- Identifying different alternatives
- Choosing between alternatives
- Putting the plan into action
- Accepting consequences

2

OR

This means:

- Every resource has a substitute. If any resource is not available, then substitute of that resource is also available.
- We can replace that resource with a substitute to fulfil our goals.

**21. Stains can be classified into:**

$\frac{1}{2} \times 2 =$  (2)

- Vegetable stains - Tea, Coffee etc.
- Animal stains - Blood, Milk, Meat, Egg etc.
- Oil stains - Ghee, Butter, Oil etc.
- Mineral stains - Rust, Ink, Coal tar, Medicine etc.
- Dye bleeding - Colour from another fabric

Any Two

**22. Four characteristics of weaving:**

$\frac{1}{2} \times 2 =$  (2)

- A woven fabric consist of two sets of yarns, interlaced at right angles to each other.
- One set of yarns which determines length and width of fabric to be woven are called WARP YARNS
- The second yarn, which is the filling yarn is WEFT YARNS
- Direction of yarns in a woven fabric is called GRAIN

**23. Four functions of media:**

$\frac{1}{2} \times 4 =$  (2)

- Information
- Motivation
- Entertainment
- Education / Training
- Development

Any Other, Any Four



24. Time management is important because -

$\frac{1}{2} \times 2 = 2$

- to get maximum work done in minimum time.
- time is a finite resource, so cannot be wasted.
- to achieve goals as well as incorporation of recreation and relaxation time.
- (Any Other, Any Two)

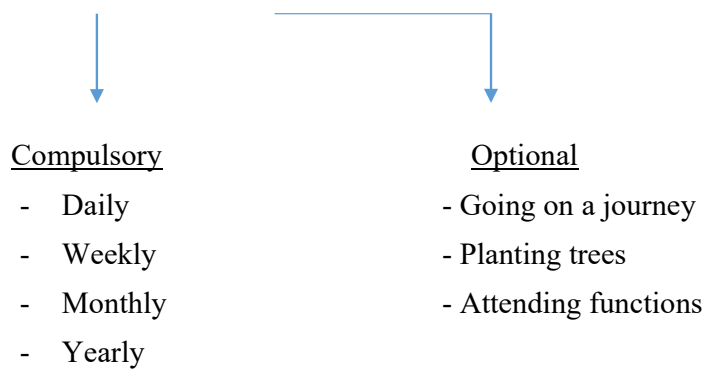
OR

PEAK LOAD PERIOD - it's a maximum load of work during a specified period of time. Eg: morning hours or dinner time.

$1+2 = 2$

25. Two types of activities

$1+2 = 2$



26. 6 ways to increase “Real Income”:

$\frac{1}{2} + 6 = 3$

- Produce from your own land
- Maintaining kitchen garden
- Stitching at home
- Laundering at home
- Use of common resources (parks, libraries etc.)
- Tuitions
- Rent out any extra room available
- Part time jobs

(Any Other, Any 6)

**27. Points to be kept in mind while preparing balanced diet are -**

- Include variety of food items from all food groups
- Meat RDA for all nutrition
- Promotes and maintains good health.
- Maintains ideal body weight

1+2= **3**



OR

Name of eating Disorder = Anorexia Nervosa or Bulimia

Ways of prevention -

Anorexia Nervosa – 1. Maintain ideal body weight of adolescent

2. By correcting psychological factors

3. By fixing the reasons/causes that lead to this disorder

Or

Bulimia: 1. Nutrition/Diet therapy is useful in prevention.

2. Behavioural therapy is an effective way of treatment here.

3. Treatment of depression using pills based on the suggestion of doctor

**28. Investment - Using the money/savings for further production. Savings have to be put to productive use in the economic sense to result in investment.** 1+2=

3

Four principles of sound investment are:

- Safety of principal amount
- Reasonable rate of return
- Easy liquidity
- Tax efficient
- Easy accessibility
- Time period
- Capacity

(Any Other, Any 4 Principles)

**29. Work Simplification: To do the work in an orderly manner, so that minimum time and energy are consumed.** 1+3=

3

Work simplification can be done by making the following changes in working methods.

- By changing the movement of hand and body parts.
- By collecting work resources and making changes in equipment.
- Changes in production and use of new production.

OR

Principles of space management for indoor area:

- Planning
- Effect
- Privacy
- Position of different rooms
- Openness

(Explain briefly any three)

3

**30. a) Malnutrition: Is the condition of any person getting more or less nutrients than the essential requirement.**

1+3= (4)

b) Causes of nutritional problems in India:

- i. Poverty
- ii. Ignorance
- iii. Unemployment
- iv. Unavailability of food
- v. Absence of health awareness.

(Explain briefly any 3)

**31. Four techniques of stain removal:**

1+4= (4)

- a) Scrapping
  - b) Dipping
  - c) Sponging
  - d) Drop method
- Explain briefly.

OR

Storage of clothes:

- a. Drying clothes before properly storage
- b. Brushed well
- c. Dry cleaning
- d. All stains should be removed
- e. Iron and folded
- f. Trousers and arms also to be inverted
- g. Pockets to be inverted from the inside out.
- h. Clean the storage space, dry and pest free and dirt free

**32. Methods of purifying water at home:**

- Boiling
- Filtration
- Chlorination
- Electric filter

- Reverse osmosis water purifier

**33. a) Rickets**

1x4= **4**

- b) Ways of preventing Rickets:
- Exposure to sunlight.
  - Consumption of food like egg yolk, mushrooms.
  - Seafoods – codliver, fish etc.

**34. a) “The state of being physically fit and healthy is called fitness or physical fitness”.** (1+2+2)

- b) Four benefits of exercise on physical health:
- Bones get stronger
  - Exercise reduces disabilities while improving endurance
  - Keeps active and alert
  - Increases flexibility
  - Maintain body weight.
- (Any 4 any other)

Four benefits of exercise on mental health:

- Beneficial to reduce mental stress
- Promotes positive thinking
- Improves concentration
- Decreases negative thoughts and stress

OR

- a) Stress is a mental state, created by physical, mental and social effect on the mind.  
It can be of two types.
- i) Good stress ii) distress.
- b) Eight ways of coping with stress.
- Positive thinking
  - Exercise

- Yoga
  - Meditation
  - Creative work
  - Happiness
  - Changes in routine
  - Music
  - Reading habit
  - Learn to say 'NO'
- (Any eight, Any Other)

**35. 'FADS': There are some fashions that greatly highlight some characteristics of the garment and only effect a particular section or region of the society.**

1+4=5

Points to be kept in mind while selecting clothes for adolescent.

- Clothing should be according to the physical appearance, height of adolescent
- It should be according to the colour
- It should be easy to wash
- Should be soft, flexible and comfortable
- Should allow free movement and absorption of perspiration
- For sports and workouts, should be comfortable and allow free movements
- Clothes should be of good fit style and fashion.
- Clothes should not be disrespectful in any way.

## Practice question paper –2

### HOME SCIENCE

#### **Class XI (2023-2024)**

Time- 3:00 Hours

M. Marks-70

#### **General Instructions:**

1. All questions are compulsory.
2. There are total 35 questions.
3. Question paper is divided in to three section A, B and C.
4. Section A has questions no. 1 to 18 (multiple choice questions) and are of 1 mark each.
5. Section B has questions no. 19 to 25 of 2 marks and questions no. 26 to 29 of 3 marks each
6. Section C has questions no. 30 to 33 of 4 marks each and questions no. 34 and 35 of 5 marks each.
7. Internal choices are given in some questions.
8. Support your answers with suitable examples as required.

#### Section – A

S.NO		Marks
1.	Which of the following is not the field of Home Science? a. Agriculture science b. Fabric and apparel c. Human development d. Food and nutrition	1
2.	Which of the following nutrient is not present in milk? a. Protein b. Vitamin A c. Fats d. Iron	1
3.	In the development from Neonate to _____ there are rapid biological changes . a. Infancy b. childhood c. Adulthood d. Adolescent	1
4.	Name the vaccine invented by scientist Albert Calmette and Camille Guerin .	1

	<ul style="list-style-type: none"> <li>a. MMR</li> <li>b. DPT</li> <li>c. BCG</li> <li>d. OPV</li> </ul>									
5.	<p>How do we use our resources in an effective manner?</p> <ul style="list-style-type: none"> <li>a. Resource Management</li> <li>b. Human resource</li> <li>c. Natural resource</li> <li>d. Implementation</li> </ul>	1								
6.	<p>Firm and affectionate parenting style helps to develop independence and _____ in children.</p> <ul style="list-style-type: none"> <li>a. Self-concept</li> <li>b. Self-reliance</li> <li>c. Self-image</li> <li>d. Self-recognition</li> </ul> <p>(OR)</p> <p>Personal aspect of self is associated with _____ only.</p> <ul style="list-style-type: none"> <li>a. Others</li> <li>b. Their</li> <li>c. Yours</li> <li>d. Self</li> </ul>	1								
7.	<p>What is the full form of SITE?</p> <ul style="list-style-type: none"> <li>a. Satellite Instructional Television Experiment</li> <li>b. Solar Instructional Television Experiment</li> <li>c. Satellite Informative Television Experiments</li> <li>d. Satellite Instrument Television Experiment</li> </ul>	1								
8.	<p>Match the list one with list two</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">A. Jatra</td> <td style="width: 50%;">i. Kashmir</td> </tr> <tr> <td>B. Duha</td> <td>ii. Bengal</td> </tr> <tr> <td>C. Tamasha</td> <td>iii. Gujarat</td> </tr> <tr> <td>D. Chakri</td> <td>iv. Maharashtra</td> </tr> </table> <p>Choose the correct option</p>	A. Jatra	i. Kashmir	B. Duha	ii. Bengal	C. Tamasha	iii. Gujarat	D. Chakri	iv. Maharashtra	1
A. Jatra	i. Kashmir									
B. Duha	ii. Bengal									
C. Tamasha	iii. Gujarat									
D. Chakri	iv. Maharashtra									



	<p>a. A-iv B-i C-ii D-iii  b. A-ii B-i C-iii D-iv  c. A-ii B-iii C-iv D-i  d. A-iii B-ii C-i D-iv</p>	
9.	<p>A. Self concept                      i. Believe in your abilities  B. Self esteem                        ii. Collection of beliefs about oneself  C. Self                                    iii. One's evaluation of oneself  D. Positive self esteem            iv. Identity of the person</p> <p>Choose the correct option -</p> <p>a. A-(i), B-(iv), c-(iii), D-(ii)  b. A-(iii), B-(iv), c-(i), D-(ii)  c. A-(iii), B-(ii), c-(iv), D-(i)  d. A-(ii), B-(iii), c-(iv), D-(i)</p>	1
10.	<p>Money is a resource by which everyone needs to fulfil their goals, desires and complete their work. Money as a resource is not equally available to everyone in equal amounts.</p> <p>Money is _____ and _____ resource.</p> <ol style="list-style-type: none"> <li>1. Human</li> <li>2. Non-human</li> <li>3. Natural</li> <li>4. limited</li> </ol> <p>Choose the correct option from the following</p> <ol style="list-style-type: none"> <li>a. i and iv</li> <li>b. i and ii</li> <li>c. ii and iii</li> <li>d. ii and iv</li> </ol> <p style="text-align: center;">OR</p> <ol style="list-style-type: none"> <li>1. Skills</li> <li>2. Property</li> <li>3. Knowledge</li> <li>4. Money</li> </ol> <p>Choose the correct option from the following</p> <ol style="list-style-type: none"> <li>a. i and iv</li> <li>b. i and ii</li> <li>c. i and iii</li> </ol>	1

	d. ii and iv	
11.	<p>Deficiency of Insulin in the body leads to rise in which of the following?</p> <ul style="list-style-type: none"> <li>i. Glucose in blood</li> <li>ii. Protein in blood</li> <li>iii. Glucose in urine</li> <li>iv. Fat in the body</li> </ul> <p><b>Choose the correct option</b></p> <ul style="list-style-type: none"> <li>a. i and iv</li> <li>b. i and ii</li> <li>c. ii and iii</li> <li>d. i and iii</li> </ul>	1
12.	<p>Given below are two statements labelled as Assertion(A) and reason(R)</p> <p>ASSERTION (A) : Speed of development is obstructed by communication media.</p> <p>REASON (R): Media communication is a motivation for national development.</p> <p>Select the most appropriate answer from the options given below:</p> <ul style="list-style-type: none"> <li>a. Both A and R are true and R is the correct explanation of A.</li> <li>b. Both A and R are true but R is not the correct explanation of A.</li> <li>c. A is true but R is false.</li> <li>d. A is false but R is true.</li> </ul>	1
13.	<p>Given below are two statements labelled as Assertion(A) and reason(R)</p> <p>ASSERTION (A): All adolescents have a different identification.</p> <p>REASON (R): Adolescents react differently in the same conditions. Actually they all face the same situations in this phase.</p> <p>Select the most appropriate answer from the options given below:</p> <ul style="list-style-type: none"> <li>a. Both A and R are true and R is the correct explanation of A.</li> </ul>	1

	<p>b. Both A and R are true but R is not the correct explanation of A.</p> <p>c. A is true but R is false.</p> <p>d. A is false but R is true.</p>	
14.	<p>Case Study Based Questions</p> <p>Read the passage carefully. Answer question number 14 to 18</p> <p>Mother's milk is nature's gift to the newborn baby. It is enriched with all the required nutrients which are easily absorbed in the body. WHO recommends exclusive breastfeeding for 6 months. During breastfeeding even water is not required. Babies should be put on breast milk soon after birth. During breastfeeding for the first two to three days, yellow colour fluid known as colostrum is produced. Babies must be fed on it as it is very rich in antibodies and protects a child from infection.</p> <p>Which of the following is correct?</p> <p>a. Mother's milk does not provide nutrition to the infants.</p> <p>b. It is a simple, clean and convenient way of feeding.</p> <p>c. Weakens the bones.</p> <p>d. Mother's milk is not available all the time.</p>	1
15.	<p>Mother's milk is not recommended for infants whose parents have—?</p> <p>1. Infectious diseases</p> <p>2. Cannot produce healthy breast milk supply</p> <p>3. Protects against various diseases</p> <p>4. Available every time</p> <p>a. i and iii    b. ii and iii</p> <p>c. i and ii    d. iii and iv</p>	1
16.	<p>Which of the following is correct ?</p> <p>a. Water is required by infants during lactation.</p> <p>b. Water is not required by infants during lactation.</p> <p>c. Protein requirement is low during lactation.</p> <p>d. Breastfeeding is not nutritionally favourable.</p>	1
17.	<p>Name the protein present in mother's milk which is easily</p>	1

	<p>digestible</p> <ol style="list-style-type: none"> <li>Lactalbumin</li> <li>casein</li> <li>Arginine</li> <li>Lysine</li> </ol>	
18.	<p>The milk made by the mother's body in the first days after birth has a certain name. What is it?</p> <ol style="list-style-type: none"> <li>Lactose</li> <li>Colostrum</li> <li>Hormone</li> <li>Cholesterol</li> </ol>	1
19.	<p style="text-align: center;"><u>SECTION B</u></p> <p>Identity is the person's mental representation of who he or she is. Identity help people define themselves in the eyes of both others and themselves. What do you understand about Personal and Social Identity ?</p>	2
20.	<p>Renu has purchased a latest designed car which has wireless communications and other technology fitted facilities. Which type of communication and technology is being used these days.Mention four examples</p> <p>OR</p> <p>Information technology is no less than a boon for today's students. Mention four benefits in your own words.</p>	2
21.	<p>Mention any two categories of resources with examples.</p>	2
22.	<p>"Dieting is a bad way to lose weight". Justify this statement with two reasons.</p>	2
23.	<p>After studying different fields of Home Science, mention the four scope of any field.</p>	2
24.	<p>Well managed time and space not only gives comfort while working but is also effective. How will you define time and space resources in this context ?</p> <p>OR</p> <p>A lobby or corridor is a room in a building used for entry from</p>	2

	the outside. Why is the lobby or corridor important ? Write two benefits.	
25.	Why are minerals and vitamins essential for our body ? Mention two key roles of each.	2
26.	Anita wants to buy and give a Silk frock to her daughter on the occasion of her first birthday in January month . Give any three usefulness of Silk.	3
27.	Why should we limit the intake of saturated fats, excess sugar and salt in a school child's diet? OR "Childhood obesity is on the increase." Give three reasons.	3
28.	What do you mean by family income ? Give three types of family income with examples.	3
29.	Human resources are central for completing any task. Explain briefly? OR Why is there a need to manage resources ? Mention six reasons in your support.	3
30.	SECTION C  Dirt word- used for lube (grease) stains spots and dust particles stuck between the weaving of the fabric. Reagents reduce the surface tension of water, due to lessening of this effect. Water is absorbed more easily into the clothes and removes water, spots and dirt more quickly for example- soap and detergent.  a. What is 'dirt'. b. How do water soaps and detergents combine to remove dirt from fabrics?	4
31.	Discuss any four dietary patterns in adolescence. OR Mention four tips to adopt healthy dietary practices.	4
32.	Your aunt has recently given birth to a new born baby. Mention any four clothing requirements from birth to six months (infant).	4

33.	<p>Your friend Minu's eyes and nails are mostly yellow, feels difficulty in breathing, gets tired quickly and cannot concentrate on her studies.</p> <p>a. Identify the probable disease.</p> <p>b. What three measures can be taken to prevent the above disease?</p>	4
34.	<p>a. What is wellness ?</p> <p>b. Mention any four dimensions of Wellness briefly.</p> <p>OR</p> <p>a. What is Fitness ?</p> <p>b. How do regular exercises and physical activities have a positive impact on mental health and well-being of a person? Mention two features of each.</p>	5
35.	<p>Budget reflects the family's goal and values by how you spend and save.</p> <p>a. Mention the five advantages of planning family budget</p> <p>b. List the five steps in making a budget.</p>	5

**COMMON ANNUAL SCHOOL EXAMINATION (2022-23)**

**CLASS : XI**

**SUBJECT : HOME SCIENCE (064)**

Time Allowed : 3 hours

Maximum Marks : 70

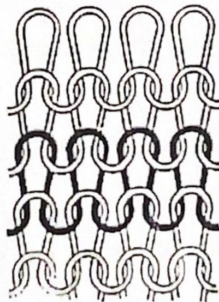
**General Instructions:**

1. All questions are compulsory.
2. There are total 35 questions in this question paper.
3. Question Paper is divided into three sections - A, B and C.
4. Section A has Question No. 1 to 18 (Objective Type Questions) and are of 1 mark each.
5. Section B has Question No. 19 to 25, each of 2 marks and Question number 26 to 29 each of 3 marks.
6. Section C has Question No. 30 to 33 each of 4 marks and Question number 34 to 35 each of 5 marks.
7. Internal choices are given in some questions.
8. Support your answers with suitable examples, wherever required.

**(SECTION-A)**

1. Reena wants to become a dietician. Which of the following subject is essential for her to study? 1
  - (a) Foods and Nutrition
  - (b) Human Development and Childhood studies
  - (c) Fabric Apparel and Science
  - (d) Communication Development and Extension

2. ....is a strong fibre, stronger when wet and can withstand hard friction. 1
- (a) Wool (b) Cotton  
(c) Rayon (d) Silk
3. Home Science is a .....field of education: 1
- (a) Confidential (b) Limited  
(c) Multidisciplinary (d) Theoretical
4. At what age does an infant use words like 'I', 'mine' and 'me'? 1
- (a) 12-16 months (b) 10-15 months  
(c) 18-24 months (d) 6-12 months
5. The salary received by the family members after working over a period of time in which type of income? 1
- (a) Psychic Income (b) Direct Real Income  
(c) Money Income (d) Indirect Real Income
6. Picture based question: 1
- Identify the picture given below:





- (a) Warp Knitting                      (b) Nets  
(c) Weft Knitting                      (d) Laces

**For visually impaired candidates:**

Which is that method that can change fabric's appearance, its texture and its behaviour for specific use?

- (a) Weaving                              (b) Finish  
(c) Braiding                              (d) Knotting

7. Ramu eats vegetarian food. Which of the following food items can he consume for protein in place of non-vegetarian food? 1
- (a) Nutrinuggets                      (b) Green vegetables  
(c) Fruits                                (d) Root vegetables
8. Which of the following qualities is not found among the people placed in higher 'ranks' on the basis of wellness? 1
- (a) High self-esteem  
(b) Pleasant nature  
(c) Physically unfit and getting tired soon  
(d) Responsible and committed.
9. Match the following: 1
- |  |                   |
|--|-------------------|
| A. Large comfortable neckline            | i. Pre-school age |
| B. Loose and hasslefree on feet garments | ii. Adolescence   |
| C. Self help                             | iii. Infancy      |
| D. Latest Fashion                        | iv. Crawling age  |

Choose the correct option:

- (a) A (ii), B (iv), C (iii), D (i)
- (b) A (iii) B (iv), C (i), D (ii)
- (c) A (i), B (ii), C (iii), D(iv)
- (d) A (iv), B (i), C (ii), D (iii)

10. Match the following:

1

- |               |                     |
|---------------|---------------------|
| A. Jatra      | i. Gujarat          |
| B. Garba      | ii. Bengal          |
| C. Dashavatar | iii. Madhya Pradesh |
| D. Dadoria    | iv. Karnataka       |

Choose the correct option:

- (a) A(ii), B(i), C(iv), D(iii)
- (b) A (i), B (ii), C(iii), D(iv)
- (c) A(iv), B(iii), C(ii), D(i).
- (d) A(iii), B(iv), C(i), D(ii)

11. Nonu is two year old infant. He is capable of performing which of the following activities? 1

- |                        |                                |
|------------------------|--------------------------------|
| (i) Can walk backwards | (ii) Ride a bicycle            |
| (iii) Climbs on stairs | (iv) Throws and catches a ball |

Choose the correct option:

- (a) i and ii
- (b) ii and iii
- (c) i and iii
- (d) ii and iv

12. Conservation of resources is essential because: 1

- (i) All resources are limited
- (ii) All resources are inexpensive
- (iii) All resources are unlimited
- (iv) All resources are useful

Choose the correct option:

- (a) i and ii
- (b) i and iii
- (c) i and iv
- (d) ii and iii

13. Many resources and conditions are required for the overall development of a child. 1

- (i) Availability of adequate nutrients.
- (ii) Safe, hygienic and healthy environment.
- (iii) Adequate health care services for care of health.
- (iv) Arrangement of to large number of expensive toys.

Choose the correct option:

- (a) i, ii, iii
- (b) i, iii, iv
- (c) ii, iii, iv
- (d) i, ii, iv

## CASE STUDY BASED QUESTIONS

Read the following passage carefully and answer Question number 14 to 18.

Every person wants to live a good quality life and have a sense of well-being. As far back as 1948, the Universal Declaration of Human Rights stated: "Everyone has the right to a standard of living adequate for the health and well-being of oneself and one's family including food." Yet, many of the environmental conditions and our own lifestyles affect our health, sometimes having harmful effects. At the outset let us define "health". The world's premier organisation concerned with health, the World Health Organisation (WHO) defines health as "a state of complete mental, physical and social well-being and not merely the absence of disease." Disease means impairment of body health, alteration/disruption/derangement in function of some part or organ of the body, interrupting normal functions and deviating from a state of complete well-being. Health is a fundamental human right.

14. Social health implies health of ..... 1
- (a) People and environment
  - (b) People and society
  - (d) Environment and society
  - (c) People and weather

15. There are many nutrition related problems in India. 1

- (i) Iodine deficiency goitre
- (ii) Shortage of grains
- (iii) Vitamin 'B' deficiency
- (iv) Low birth weight and stunted
- (v) Nutritional Anaemia

Choose the correct option:

- (a) i, ii, iii
- (b) i, ii, iv
- (c) i, iv, v
- (d) iii, iv, v

16. Which of the following is not a micro-nutrient? 1

- (a) Protein
- (b) Iron
- (c) Selenium
- (d) Zinc

17. Who among the following are most vulnerable to be affected by malnutrition? 1

- (i) Infants and small children
- (ii) Pregnant and lactating mothers
- (iii) Working women
- (iv) People with low income group
- (v) Sportsmen

Choose the correct option:

- (a) i, ii, iii
- (b) i, iii, v
- (c) i, ii, iv
- (d) ii, iii, iv

18. Which of the following is NOT a food-borne illness? 1
- (a) Typhoid (b) Cholera  
(c) Covid-19 (d) Dysentery

**(SECTION-B)**

19. Your uncle often suggests you not to indulge in wastage of money and save it. Write any two reasons for saving money and doing financial planning. 1+1=2
20. Body Mass Index (B.M.I.) is commonly used to classify underweight, overweight and obesity in adults. 1+1=2
- (a) How will you calculate B.M.I.? (Give formula)  
(b) What is the B.M.I. for a person in normal range?
21. How can we classify communication on the basis of means or modes of communication? Also give any one example of each. 2

OR

Explain the SMRCE model of communication with the help of flow chart.

**For visually impaired candidates:**

Explain the S.M.CR.E. model of communication. (No need to make flow chart)

22. Which points you should keep in mind while developing an effective plan for arranging your birthday party? 2

OR

Manoj tears pages from his school library books. In order to explain him the importance of resources, first, tell him the characteristics of resources. ?

23. Mehak lives in Jodhpur city of Rajasthan. It is very hot there. What two points should she keep in mind while purchasing clothes for herself according to the climate over there? 2

24. On staying home, your younger brother has become very lazy. Ask him to include exercises in his daily routine by explaining him four importance of doing exercise. 2

OR

Seema is a dietician. Which four instructions should she give as a dietician for "the use of health promoting diets among children"?

25. Differentiate between individual resources and shared resources. 2
26. Why is optimum nutritional status important for a person? Give three reasons. 3

OR

Suggest three ways to a food seller selling food on roadside on how he can make his food more safe.

27. Your 15 year old brother is finding difficulty in formation of his identity. Mention any three reasons for it. 3
28. Differentiate between growth and development. 1x3=3
29. Mr. and Mrs. Shekhar are getting their new home made. Make them aware of the following principles of space planning - 1x3=3
- (i) Aspect
  - (ii) Internal Privacy
  - (iii) Roominess

**(SECTION-C)**

30. (a) What do you understand by food guide pyramid?  
(b) What does size of its each section represent?  
(c) Illustrate the different sections of food guide pyramid.

**Visually Impaired Students only:**

- (c) Name the various sections of food guide pyramid.



OR

Many times adolescents want to develop their body image and get affected with eating disorders.  $2+2=4$

(a) Name such two eating disorders that may arise during adolescence.

(b) Explain each disorder briefly.

31. Priyanka faces difficulties while buying clothes for her family members. Help her by explaining her any four factors which affect selection of clothes. 4

OR

List four points to be borne in mind while buying clothes for a child with special needs.  $1 \times 4 = 4$

32. Mr. Khanna needs money for establishing his new business. Explain him about 4 C's of credit. 4

33. Mrs. Manjri is a sixty year old woman. She takes long time to complete her household work and gets exhausted.  $1+3=4$

(1) Explain her the meaning of 'work simplification'.

(2) How can she simplify her work by changing the end products and using new products?

34. "Breast milk is the best gift of nature for a newborn child". Explain this to Rohini who has recently become mother of a newborn child. 5

OR

"Immunisation protects children from various diseases."  
Prepare an immunisation schedule of various vaccines given  
from birth till one year of age. 5

35. Raksha lives in a hostel for her studies. Due to improper care of  
her clothes, stains have developed on her clothes and they took  
dirty.  $2\frac{1}{2}+2\frac{1}{2}=5$

- (a) Inform her stains can be of how many types?
- (b) Explain her five advantages of proper care and proper  
storage of her clothes.



