

Directorate of Education, GNCT of Delhi
Annual Examination Practice Paper (Session: 2025-26)
Class:X; Subject: SCIENCE (086)

Maximum Marks: 80

Duration: 3 hours

General Instructions:

- 1. This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry, and Section C is Physics.***
- 2. All sections are compulsory. However internal choice is provided in some questions. A student is expected to attempt only one of these questions.***

Section A		
Q.No.	Question	Marks
1.	In human respiratory system, when a person breathes in ,the position of ribs and diaphragms will be- A. lifted ribs and curved diaphragm B. lifted ribs and flattened diaphragm C. relaxed rib and curved diaphragm D. relaxed ribs and flattened diaphragm	1
2.	In a person, the tubule part of the nephron is not functioning at all. What will its effect be on urine formation? A. The urine will not be formed. B. Quality and quantity of urine is unaffected. C. Urine will be more concentrated. D. Urine will be more diluted.	1
3.	Rajesh noticed that a potted plant kept in the window of his room shows bending towards sunlight. This could be due to: A. More growth in the well-lit region due to diffusion of auxin hormone B. More growth in the region away from light due to diffusion of auxin hormone C. More growth in the well-lit region due to diffusion of cytokinin hormone D. More growth in the region away from light due to diffusion of cytokinin hormone	1
4.	The cerebellum in the brain controls the voluntary actions of the body. Which of these actions is controlled by the cerebellum? A. Beating of the heart B. Blinking of the eyes C. Watering of the mouth D. Jumping from a height	1

5.	The correct sequence of reproductive stages seen in flowering plants is: A. Gametes, zygote, embryo, seedling B. Zygote, gametes, embryo, seedling C. Seedling, embryo, zygote, gametes D. Gametes, embryo, zygote, seedling	1
6.	Which of these statements is incorrect about a balanced ecosystem? A. It is made up of interconnected food chains. B. It involves interdependence among living organisms and the environment. C. Animals are dependent on plants, but plants are not dependent on animals. D. It involves communities made up of different populations of organisms	1
7.	Which of the following features relates to biodegradable substances? A. Broken down by biological processes B. Remain inert C. Persist in environment for long time D. May harm the ecosystem	1
The following two questions no.8,9 consists of two statements- Assertion (A) and Reason (R) . Answer these questions by selecting appropriate option given below: 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.		
8.	Assertion (A): A human female has a perfect pair of sex Chromosome. Reason (R): Sex chromosome contributed by the human male in the zygote decides the sex of a child	1
9.	Assertion (A): The energy which passes to the herbivores does not come back to autotrophs. Reason (R): The flow of energy in a food chain is unidirectional	1
10.	State one role of each of the following in human digestive system: (i) Hydrochloric acid (ii) Villi	2

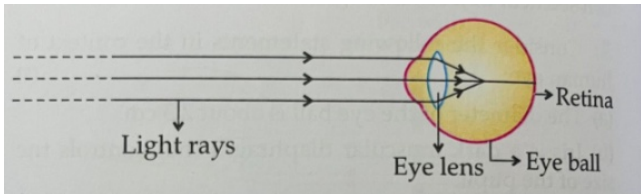
11.	<u>Attempt either option A or B.</u> A. (a) What is double circulation? (b) Why is the separation of the right side and the left side of the heart useful? OR B.(a) Which organisms have a three-chambered heart? (b) Why do they have three-chambered hearts?	2
12.	Name the term used for the materials which cannot be broken down by biological processes. Give two ways by which they harm various components of an ecosystem.	2
13.	Pertaining to endocrine system, what will you interpret if: (A) You observe swollen neck in people living in the hills. (B) Over secretion of growth hormone takes place during childhood. (C) Facial hair develops in boys aged 13.	3
14.	A green stemmed tomato plant denoted by (GG) is crossed with a tomato plant with purple stem denoted by (gg). (A) What colour of the stem would you expect in their F1 progeny? (B) In what ratio would you find the green and purple coloured stem in plants of F2 progeny? (C) What conclusion can be drawn for the above observations?	3
15.	Not all plants carry out photosynthesis by the same mechanism. In most plants, photosynthesis depends directly on the gaseous carbon dioxide that diffuses into the leaf through the stomata. However, some plants - such as pineapple - have the ability to store carbon dioxide in the vacuoles of the leaf cells as part of a complex carbon compound. This complex compound is transported to the chloroplasts and releases carbon dioxide when required, for photosynthesis to occur. This special photosynthesis mechanism is believed to have evolved as an adaptation to conserve water for survival in dry conditions. a. Which plant process does this photosynthesis mechanism minimise to enhance survival in dry conditions? b. When are such plants likely to take in carbon dioxide from the environment? <u>Attempt either subpart c or d.</u>	4

	c.How is the ability to store carbon dioxide as a complex compound likely to help minimise the process referred in question (A) here ? OR d.The leaves of a plant were covered with aluminium foil, how would it affect the physiology of the plant?	
16.	<u>Attempt either option A or B.</u> A. (i) Name three techniques/devices used by human females to avoid pregnancy. Mention the side effects caused by each. (ii) What will happen if in a human female (a) fertilisation takes place, (b) an egg is not fertilised. OR B.Give a reason for the following: (a) During reproduction, inheritance of different proteins will lead to altered body designs. (b) Fertilisation cannot take place in flowers if pollination does not occur. (c) All multicellular organisms cannot give rise to new individuals through fragmentation or regeneration. (d)Vegetative propagation is practised for growing only some types of plants. (e) The parents and off springs of organisms reproducing sexually have the same number of chromosomes.	5
Section B		
17.	What will happen, when silver chloride is placed in sunlight for sometime ? A. White silver chloride changes into grey coloured compound B. Decomposition takes place C. Both (A) and (B) takes place D. Nothing will happen	1
18.	Which of the following is exothermic reaction? A. Dissolution of sodium hydroxide in water B. Sublimation of silver chloride C. Evaporation of water D. (d) Dissolution of salt in water	1
19.	When zinc granules are reacted with dilute sulphuric acid,	1

	then which of the following gas is evolved? A. Oxygen gas B. Hydrogen gas C. Sulphur dioxide gas D. Hydrogen sulphide gas	
20.	Which of the following substances can be used to get relief from bee sting? A. Vinegar B. Baking soda C. Formic acid D. Alcohol	1
21.	An acid when dissolved in water gives_____ ions. A. hydroxide B. negative C. hydronium D. All of these	1
22.	Tomato is a natural source of which acid? A. Acetic acid B. Citric acid C. Tartaric acid D. Oxalic acid	1
23.	An element X reacts with hydrogen, when heated, to form a covalent hydride H_2X . If H_2X has a smell of rotten eggs, the element X is likely to be: A. carbon B. sulphur C. chlorine D. phosphorus	1
The following question no. 24 consists of two statements- Assertion (A) and Reason (R). Answer these questions by selecting appropriate option given below: 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		
24.	Assertion (A): Both aldehydes and ketones contain carbonyl group Reason (R): In aldehydes, the functional group is attached to atleast one hydrogen atom	1
25.	A copper coin is kept immersed in a solution of silver nitrate for some time. What will happen to the coin and colour of the solution ?	2
26.	Name two metals which are used: (a) for making electric wires. (b) for making domestic utensils and factory equipment. (c) for making jewellery and to decorate	3
27.	<u>Attempt either option A or B.</u> A. State reason for the following:	3

	(i) Lemon is used for restoring the shine of tarnished copper vessels. (ii) A metal sulphide is converted into its oxide to extract the metal from the sulphide ore. (iii) Copper wires are used in electrical connections OR B. A metal that exists as a liquid at room temperature is obtained by heating its sulphide in the presence of air. Identify the metal and its ore and give the reaction involved.	
28.	A student accidentally spilled concentrated H_2SO_4 on his hand. Before the teacher got to know, his friend washed his hands with water and also with soap but the burning sensation on hand still continued. His friend then rubbed solid sodium bicarbonate on his hand and then washed with water, finally the burning sensation is relieved. a. Can you recommend any other substance available in the laboratory which can be used instead of sodium bicarbonate? b. Write the chemical reaction involved in the treatment of acid burn with sodium bicarbonate <u>Attempt either subpart c or d.</u> c. Write any two important uses of bases. OR d. What effect does the concentration of H^+ have on the nature of a solution?	4
29.	<u>Attempt either option A or B.</u> A. (a) What are hydrocarbons? Give any two examples. (b) State the structural differences between saturated and unsaturated hydrocarbons with one example each. (c) What is a functional group? Give examples of four different functional groups. OR B. (i) Describe method of preparation of soap giving chemical equation for the reaction involved. (ii) Explain with diagram the mechanism of the cleansing action of soaps.	5
Section C		
30.	In torches, search lights and head lights of vehicles the bulb is placed A. Between pole and focus	1

	B. Very near to the focus C. Between focus and centre of curvature D. At centre of curvature	
31.	In the given figure, what is X? A. Cornea B. Pupil C. Iris D. Retina (For visually impaired students only) Which part of the eye produces maximum refraction of light rays? A. Lens B. Pupil C. Retina D. Cornea	1
The following question no.32 consists of two statements- Assertion (A) and Reason (R). Answer these questions by selecting appropriate option given below: 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.		
32.	Assertion (A): The ability of the eye to focus on both near and distant objects, by adjusting its focal length, is called the accommodation. Reason (R): Cornea in eyes helps in adjusting its focal length.	1
33.	If the image formed by a spherical mirror for all position of the object placed in front of it is always erect and diminished, what type of mirror is it?	2

	Draw a labelled ray diagram to support your answer.	
34.	<u>Attempt either option A or B.</u> A. Name two safety measures commonly used in electric circuits and appliances. OR B. Show how you would join three resistors, each of resistance $9\ \Omega$, so that the equivalent resistance of the combination is (i) $13.5\ \Omega$ (ii) $6\ \Omega$?	2
35.	Observe the following diagram and answer the following questions:  (i) Identify the defect of vision shown here. (ii) Mention any two causes of this defect. (iii) Name the lens used to correct it. (For visually impaired students only) A person is able to see nearby objects clearly but distant objects appear blurred. (i) Which defect of vision does the person have? (ii) Mention any two causes of this defect. (iii) Name the lens used to correct it.	3
36.	An electric motor rated 1100 W is connected to 220 V mains. Find: (i) The current drawn from the mains. (i) Electric energy consumed if the motor is used for 5 hours daily for 6 days. (il) Total cost of energy consumed if the rate of one unit is Rs 5.	3
37.	Define the term solenoid. Draw the pattern of magnetic field lines around a current-carrying solenoid. State how this magnetic field can be used to magnetise a piece of magnetic material, like soft iron.	3
38.	Anil held a concave mirror in his hand and directed its reflecting surface towards the sun. Later, he directed the light reflected by the mirror on to a white card-board held	4

	close to the mirror and moved the cardboard back and forth gradually until he found a bright, sharp spot of light on the board. This spot of light is the image of the sun on the sheet of paper; which is also termed as “Principal Focus” of the concave mirror. a. List two applications of concave mirror b. If the distance between the mirror and the principal focus is 15 cm, find the radius of curvature of the mirror. <u>Attempt either subpart c or d.</u> c. Draw a ray diagram to show the type of image formed when an object is placed between pole and focus of a concave mirror. OR d. An object 10 cm in size is placed at 100 cm in front of a concave mirror. If its image is formed at the same point where the object is located, find focal length of the mirror.	
39.	<u>Attempt either option A or B.</u> A. (a) State Ohm's law. Represent it mathematically. (b) What is resistivity. Write its SI unit. (c) What is the resistance of a conductor through which a current of 0.5 A flows when a potential difference of 2V is applied across its ends? OR B. (a) List the factors on which the resistance of a uniform cylindrical conductor of a given material depends. (b) The resistance of a wire of 0.01 cm radius is $10\ \Omega$. If the resistivity of the wire is $50 \times 10^{-8}\ \Omega\text{m}$. Find the length of this wire.	5