PRACTICE PAPER – TERM 1

CLASS: XI (2021-22)

ENGINEERING GRAPHICS (046)

Time Allowed: 90 Min   **Maximum Marks: 35**

GENERAL INSTRUCTIONS:

1.   The Question Paper contains A, B and C sections.

2.   Section A has 25 questions. Attempt any 20 questions.

3.   Section B has 25 questions. Attempt any 20 questions.

4.   Section C has 6 questions. Attempt any 5 questions.

5.   All questions carry equal marks.

6.   There is no negative marking.

7.   All the figures in the question paper are drawn as per SP:46, revised in 2003 (First Angle method of projection)

SECTION A

Section A has 25 questions. Attempt any 20 questions.

1.   Name the instrument used to draw a 90^0 angle.

   a) Set-square

   b) Mini Drafter

   c) Protractor

   d) All of the above

2.   Centre line is shown by which of the following types of lines?

   a) Chain Thick

   b) Dashed Thin

   c) Chain Thin

   d) Dashed Thick

3. Which type of line is thick and continuous?

   a) Dimension Line

   b) Extension Line

   c) Object Line

   d) Hidden Line

4. Parallel Lines can be drawn with the help of…

   a) Mini-Drafter

   b) Pair of Set-square

   c) T-Square

   d) All of the Above

5. Which one of the following is not a reducing scale?

   a) 2 : 1

   b) 1 : 200

   c) 1 : 10

   d) 1 : 2

6. If a straight line is drawn parallel to one side of a triangle, it divides the other sides, _____.

   a) Equally

   b) Parallel

   c) Proportionately

   d) Half

7. The angle opposite to the base of a triangle is called the _____.

   a) Base angle

   b) Side angle

   c) Horizontal angle

   d) Vertical angle

8. The angle suspended by a side of a regular polygon at the centre is equal to _____ divided by the number of sides.

   a) 180^0

   b) 90^0

   c) 360^0

   d) 270^0

9. The interior angle of the regular pentagon is _____

   a) 100^0

   b) 104^0

   c) 108^0

   d) 112^0

10. A line segment dividing the circle into two parts is called the _____.

   a) Radius

   b) Chord

   c) Arc

   d) Circumference

11. A scalene set square is having a pair of angles?

   a) $10^0, 80^0$

   b) $30^0, 60^0$

   c) $40^0, 50^0$

   d) $70^0, 20^0$

12. The angle drawn in a semi-circle, by the end points of diameter is

   a) 90^0

   b) 60^0

   c) 45^0

   d) 30^0

13. One multi-view projection is

    a) Orthographic Projection

    b) Isometric Projection

    c) Symmetric Projection

    d) Systematic projection

14. In the orthographic projection which quadrant is not used for projection method?

    a) First

    b) Second

    c) Third

    d) None of the above

15. An inclined line shown in the front view will be inclined with

    a) Horizontal Plane

    b) Vertical Plane

    c) Profile Plane

    d) None of the above

16. A point in front view and a line in the top view means

    a) A line parallel to HP plane and perpendicular to VP

    b) a line parallel to HP and VP both

    c) a line parallel to VP and perpendicular to HP

    d) a line parallel to VP and inclined to HP

17. A semicircle having diameter 60mm, is kept on horizontal plane with diameter perpendicular to vertical plane then its front view will be

    a) A Line with 60mm

    b) A Line with 30mm

    c) A Point

    d) A Semicircle with diameter 60mm

18. A solid have one base and three isosceles triangles is known as

    a) Trapezoid

    b) Triangular Prism

    c) Triangular Pyramid

    d) Frustum of triangular pyramid

19. When a pyramid is cut by a plane and the lower portion is called frustum then the cutting plane cuts the solid at

    a) Parallel to axis and along with it

    b) Parallel to base

    c) Parallel to slant triangular faces

    d) None of the above

20. When the axis is parallel to HP and VP both then the base is shown in

    a) Front View

    b) Top View

    c) Side View

    d) All Of the above

21. Degree of Hardness and Softness of a pencil is determined by: -

    a) Alphabet H

    b) Alphabet B

    c) Numeral value

    d) All of the above

22. Which of the following instrument cannot be replaced by Mini Drafter :-

    a) Set Square

    b) Compass

    c) T-Square

    d) Protractor

23. In Engineering Graphics, ø is used as a symbol to represent :

   a) Diameter of the circle

   b) An angle

   c) Radius of a circle

   d) None of the above

24. Preferred unit of measurement in Engineering Graphics is :

   a) Centimetre

   b) Meter

   c) Millimetre

   d) Decimetre

25. A protractor helps in

   a) Writing Alphabets

   b) Drawing A Circle

   c) Drawing A Hole
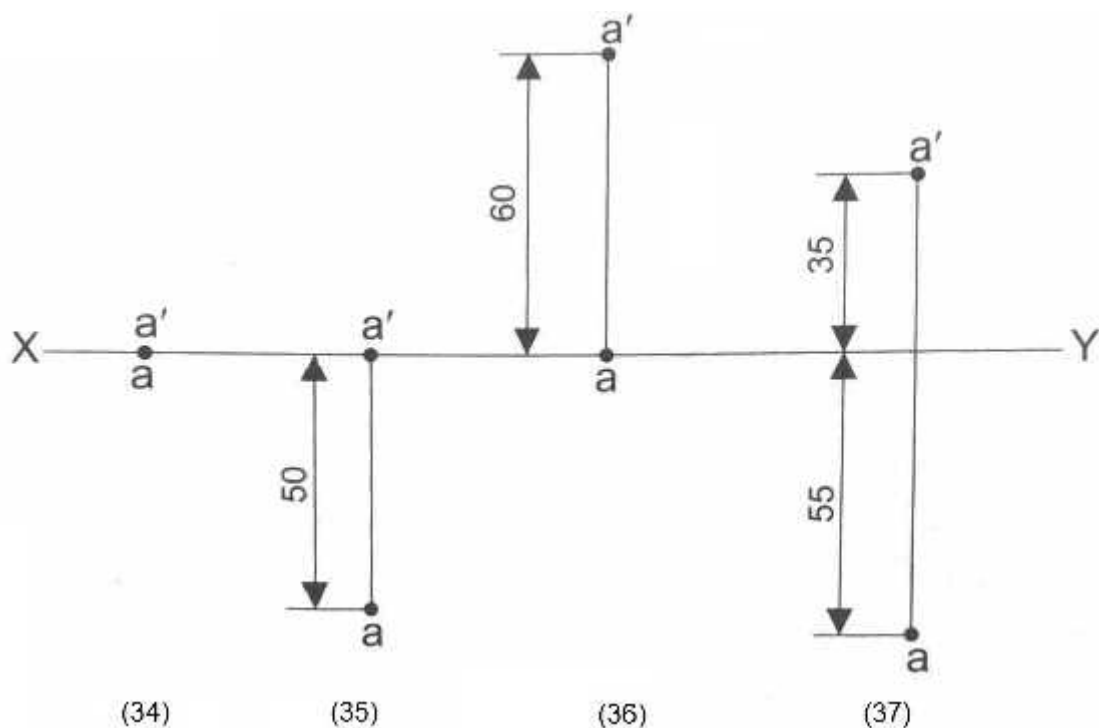
   d) None of these

SECTION B

Section B has 25 questions. Attempt any 20 questions.

26. When the boundary of the geometrical figure bound a circle by touching it then it is a _____ circle.

   a) Inscribing

   b) Circumscribing

   c) Tangential

   d) Circumferential

27. The diagonals of a rhombus bisect each other at _____ angle.

   a) 30^0

   b) 45^0

   c) 60^0

   d) 90^0

28. A reflex angle is an angle more than ____ right angle(s).

   a) One

   b) Two

   c) Three

   d) Four

29. The point where two inclined lines meet is called _____.

   a) Vertex

   b) Apex of the angle

   c) Point of intersection

   d) All of the above

30. Dimension lines are always.

   a) Thick and continuous

   b) Thin and continuous

   c) Thin and broken

   d) Thick and chain

31. _____ is used to transfer the distance from one place to another on the drawing sheet.

   a) Ruler

   b) Set Square

   c) Divider

   d) Mini Drafter

32. When one straight line stands on another straight line so as to make the adjacent angles equal to each other than the adjacent angles are called _____.

   a) Right Angle

   b) Acute Angle

   c) Obtuse Angle

   d) Reflex angle

33. Two circles having _____ centres are called concentric circles.

   a) Same

   b) 10 mm Apart

   c) 20 mm Apart

   d) 30 mm apart

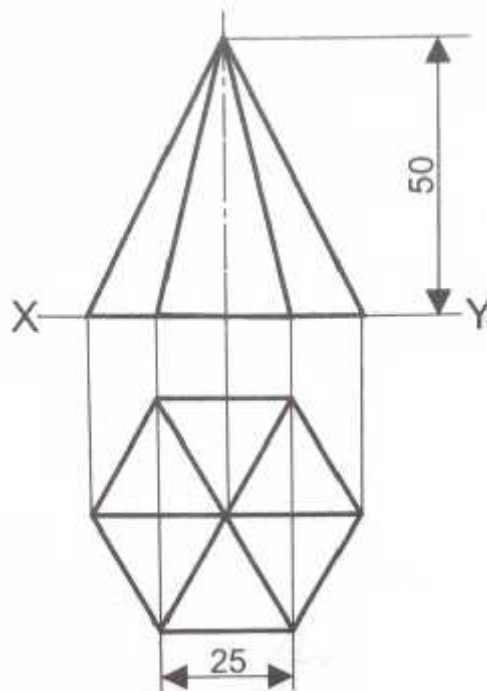**Answer the question number 34-37 after carefully examining the separate figures given below for each question.**

(34)   (35)   (36)   (37)

34. The point 'a' lies

   a) Touching HP and 50mm from VP

   b) Touching HP and 55mm from VP

   c) Touching VP and HP both

   d) Touching VP and 60mm from HP

35. The point 'a' lies

   a) Touching HP and 50mm from VP

   b) Touching HP and 55mm from VP

   c) Touching VP and HP both

   d) Touching VP and 50mm from HP

36. The point 'a' lies

   a) Touching HP and 60mm from VP

   b) Touching HP and 55mm from VP

   c) Touching VP and HP both

   d) Touching VP and 60mm from HP

37. The point 'a' exists at

   a) 35mm from VP and 55mm from HP

   b) Touching VP and 55mm from HP

   c) 35mm from HP and 55mm from VP

   d) Touching HP and 55mm from VP

38. If the front view and top view of a solid are circle then the solid is a

   a) Prism

   b) Cube

   c) Sphere

   d) Pyramid

39. If the front view and top view of a solid are rectangle then its axis is

    a) Perpendicular to HP and parallel to VP

    b) Perpendicular to VP and parallel to HP

    c) Perpendicular to HP and VP both

    d) Parallel to VP and HP both

Answer the question number 40-41 after carefully examining the figure given below for each question.

40.   a) A pentagonal pyramid resting on its base

    b) A hexagonal pyramid resting on its base

    c) A pentagonal prism resting on its base

    d) A hexagonal prism resting on its base

41.   a) It is an inverted solid

    b) It is an upright solid

    c) (a) and (b) both

    d) None of the above

TWO STATEMENTS ARE GIVEN – ONE LABELLED ASSERTION (A) AND THE OTHER LABELLED REASON (R). SELECT THE CORRECT ANSWER TO THE FOLLOWING QUESTIONS FROM THE GIVEN CODES (a), (b), (c) AND (d):

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.

42. A: In orthographic projection 2nd and 4th angle method of projection are not used.

   R: In 2nd and 4th angle method of projection, the front view and top view overlaps each other.

43. A: The internal angle of regular pentagon is 108^0.

   R: The total internal angle of any polygon is (n-2) X 180^0, where n is the no. of sides and in pentagon n=5.

44. A: Diameter is the largest chord of the circle.

   R: Chord is the line segment dividing circle into two parts.

45. A: Quadrilateral is a plane figure bounded by three straight lines and has three angles.

   R: Square is a regular polygon.

46. A: An isosceles triangle has all the three sides equal.

   R: A right angle triangle could be an isosceles triangle.

47. A: Ruler is the instrument which is used to measure angles.

   R: Angles are drawn through measuring by protractor.

48. A: Pencils of 2H are harder than 2B.

   R: Pencils are made of graphite and clay.

49. A: Surface of sphere is the set of all points which are at equal distance from its centre.

   R: Sphere is a solid, described by the revolution of a semi-circle about the diameter, which remains fixed.

SECTION C

Section C has 6 questions from 50 – 55. After reading the passage attempt any 5 questions.

Manoj is a brilliant and curious student. He is very fond of geometrical shapes and always tried something new and innovative. Wherever he goes he starts collecting different objects. In such a way he collected squares of different measurements. He finds that the collected squares are in decreasing order of side ie. 25 mm, 24mm, 23mm, ... , up to 12mm. He curiously put one square over another square in decreasing order of size.

50. What will be the shape of the solid made after such assembly?
   a) Triangular pyramid
   b) Square pyramid
   c) Square Frustum
   d) Triangular Frustum

51. What will be the front view of the solid thus formed?
   a) Trapezium
   b) Rectangle
   c) Triangle
   d) Square

52. What will be the position of the axis of the solid?
   a) Perpendicular to VP
   b) Perpendicular to HP
   c) Parallel to HP and VP both
   d) None of the above

53. What will be the front View when its axis is perpendicular to VP?

   a) Square

   b) Trapezium

   c) Rectangle

   d) Triangle

54. If all the squares are of same size then the solid thus obtained will be

   a) Pyramid

   b) Prism

   c) Trapezoid

   d) Square

55. If all the squares replaced by circles of same diameter the solid thus obtained will be

   a) Sphere

   b) Cone

   c) Cylinder

   d) Hemisphere