Series

A

CODE : 22

Write here Roll Number and Answer Sheet No.

Question Booklet Sl. No.

A

Roll No.

Answer Sheet No.

Duration : 1 Hour

Total Marks : 100

Declaration by Invigilator :
I Certify that I have checked that the Roll Number and the Answer Sheet Number written by the Candidate on the question paper and the OMR Sheet are correct and the Answer Sheet Number matches the Question Booklet Number exactly.

Signature of the Invigilator with Name

Declaration by Candidate :
I undertake not to employ any unfair means in this exam. I have checked the Question Booklet Number and the Answer Sheet Number and both are identical and have been correctly entered by me wherever indicated.

Signature of the Candidate with Name

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS TO CANDIDATES

A

1. The Roll No. is a **7** digit No., the candidate needs to circle the Roll No. in the Answer Sheet.
2. The appropriate Circle should be shaded for Roll No. This should be done carefully because only the shaded circles are scanned.
3. Valuation of Answer Sheet will be done on the computer. Candidate should not make any stray marks on the Answer Sheet, tamper with or mutilate it. Otherwise it will not be evaluated.
4. Please check all the pages of the Booklet carefully. In case of any defect, please ask the Invigilator for replacement of the Booklet.
5. You must not tear off or remove any sheet from this Booklet. The Answer Sheet must be handed over to the Invigilator before you leave the Examination Hall.
6. All questions are compulsory and each Question carries **2** marks.
7. **The paper carries negative marking. For each wrong answer 0.50 mark will be deducted.**
8. This Booklet contains 50 questions.
9. Use of Calculator/Palmtop/Laptop/Other Digital Instrument/Mobile/Cell Phone/Pager is **not** allowed.
10. Candidates found guilty of misconduct/using unfair means in the Examination Hall will be liable for appropriate penal/legal action.
11. **No Rough Work is to be done on the Answer Sheet and only single OMR Answer Sheet will be provided.**
12. This booklet contains **12** pages.
13. **Directions** : Each question or incomplete statement is followed by four alternative suggested answers or completions. In each case, you are required to select the one that correctly answers the question or completes the statement and blacken (●) appropriate circle a, b, c or d by Blue / Black Ball-Point Pen provided by the board against the question concerned in the Answer Sheet.
14. Mark your answer by shading the appropriate circle against each question. The circle should be shaded completely without leaving any space. The correct method of shading is given below.

Wrong Method	Wrong Method	Wrong Method	Correct Method
○ ⊗ ○ ○	○ ⊘ ○ ○	○ ◉ ○ ○	○ ● ○ ○

The Candidate must mark his/her response after careful consideration, as it is not possible to change the response once it is marked.

15. There is only one correct answer to each question. You should blacken (●) the circle of the appropriate column, viz., a, b, c or d. If you blacken (●) more than one circle against any one question, the answer will be treated as wrong.
16. Use the space for rough work given at the beginning of the Question Booklet only and not on the Answer Sheet.
17. **You are NOT required to mark your answers in this Booklet. All answers must be indicated in the Answer Sheet only.**

DO NOT WRITE HERE

SPACE OR ROUGH WORK

SPACE FOR ROUGH WORK

1. The part that doesn't belong to T-square is
   (a) Working edge (b) Blade
   (c) Stock (d) Ebony

2. Which is not the use of divider ?
   (a) To divide curved or straight lines into desired number of equal parts
   (b) To draw circles
   (c) To transfer dimensions from one part of the drawing to another part
   (d) To set-off given distances from the scale to the drawing

3. According to the Indian Standard Institution (ISI), which among the following designation has the size 700 × 1000 (in mm) ?
   (a) B0 b) B1 (c) B2 d) B3

4. _____ is used to draw curves which are not circular.
   (a) ompass (b) Protractor
   (c) French curves (d) Pro circle

5. What is the next highest trimmed size of 210 mm × 297 mm in drawing papers ?
   (a) 148 mm × 210 mm
   (b) 297 mm × 420 mm
   (c) 420 mm × 594 mm
   (d) 105 mm × 148 mm

6. The Grade becomes _____ according to the figure placed in front of the letter B, 2B, 3B, 4B etc.
   (a) arder (b) lighter
   (c) darker (d) softer

7. According to the Indian Standard Institution (ISI), what is the size of the designation A0 in mm ?
   (a) 420 × 297 b) 841 × 594
   (c) 841 × 1189 (d) 297 × 210

8. What is the full form of BIS ?
   (a) The Business of International Standards
   (b) Bureau of International Standards
   (c) Bureau of Indian Standards
   (d) The Business of Indian Standards

9. Put the statements in an order to divide the line AB into 10 parts using the principle of diagonal scales.
   i. Number the division-points as 1, 2, 3 up to 9 starting from C and later join AC.
   ii. Divide the line BC into 10 equal parts.
   iii. Draw a perpendicular line BC to the line AB.
   iv. Hence 9′9 is 0.9AB and similarly, other 2′2 is 0.2AB.
   v. Number the cutting points on AC as 1′, 2′, 3′ and so on up to 9′.
   vi. raw lines parallel to AB through the division-points.

   (a) i, iv, v, ii, vi, iii (b) i, v, vi, ii, iv, iii
   (c) iii, ii, i, vi, v, iv (d) i, ii, iii, iv, v, vi

10. For the sheets A0 and A1, what is the width of the border ?
   (a) 10mm (b) 20mm (c) 1 mm (d) 5mm

11. Names of the persons who have designed and drawn the drawing are mentioned in
   (a) Borders (b) Margins (c) Title box (d) Grid system

12. Nine folds are allowed to which of the sheet designation (method I) when they are filed ?
   (a) A0 b) A1 (c) A2 d) A3

13. Which of the following is not the pictorial projection ?
   (a) Oblique projection (b) Isometric projection
   (c) Orthographic projection (d) Perspective projection

14. In perspective projection, which of the following gives the position of the observer's eye level ?
   (a) Ground plane (b) Vanishing point
   (c) Horizon line (d) Station point

15. In isometric projection, the isometric axes makes equal angles of _____ with each other.
   (a) 30° (b) 12° c) 120° (d) 45°

16. onometric projection can be sub classified into
   (a) Isometric, dimetric, trimetric
   (b) Dimetric, trimetric, trigonometric
   (c) Isometric, trigonometric, trimetric
   (d) Trigonometric, dimetric, isometric

17. The images of the individual surfaces are called
(a) Pictorial pictures (b) Views
(c) Isometric projections (d) Oblique projections

18. If the object is placed in the first quadrant, the projected view results in the
(a) First-angle projection (b) Second-angle projection
(c) Third-angle projection (d) Fourth-angle projection

19. B.I.S. Code of Practice for General Engineering Drawing is published in
(a) 1960 (b) 1955 (c) 2003 (d) 1973

20. In third angle projection, the projections of the object are in the _____ direction of the ray of sight.
(a) Same (b) Opposite
(c) Upward (d) Downward

21. The line given below is used for



(a) Long-break line (b) Cutting planes
(c) Centroidal lines (d) Outlines of adjacent parts

22. Which are the two systems of placing dimensions ?
i. Aligned system
ii. Break system
iii. Unidirectional system
iv. Directional system
(a) i, ii (b) i, iii (c) ii, iv (d) i, iv

23. The ratio of height to length of an arrow in dimensioning is
(a) 1 : 2 (b) 1 : 3 (c) 1 : 4 (d) 1 : 1.5

24. imension lines should be drawn at least _____ mm away from the outlines and from each other.
(a) 5 (b) 6 (c) 7 (d) 8

25. If there is a need for the center line, then it can be used as a
(a) imension line (b) Leader line
(c) Extension line (d) Section line

26. Representative fraction is the
    (a) ratio of the length in drawing to the actual length of object
    (b) ratio of the actual length of object to the length in drawing
    (c) reciprocal of actual length of object
    (d) square of the length in drawing

27. The relation between Main Scale Division (M.S.D.) and Vernier Scale Division (V.S.D) for backward Vernier scale is
    (a) n∗V.S.D. = (n – 2)∗M.S.D.
    (b) n∗M.S.D. = (n – 1)∗V.S.D.
    (c) n∗M.S.D. = (n – 2)∗V.S.D.
    (d) n∗V.S.D. = (n + 1)∗M.S.D.

28. Given are the steps to construct a square when the length of a side is given. Using T-square, set-squares only.
    Arrange the steps.
    i. Repeat the previous step and join A, B, C and D to form a square.
    ii. With a T-square, draw a line AB with given length.
    iii. At A and B, draw verticals AE and BF.
    iv. With 45° set-squares, draw a line making 45° with AB at A cuts BF at C.
    (a) i, iv, ii, iii (b) iii, ii, iv, i (c) iv, iii, i, ii (d) ii, iii, iv, i

29. point P is below HP, in front of VP then the point is in _____ quadrant.
    (a) first (b) second (c) third (d) fourth

30. A square ABCD of 50mm side has its corner A in the HP, its diagonal AC is inclined at 30° to the HP and the diagonal BD inclined at 45° to the VP and parallel, its top view is
    (a) line (b) square (c) rectangle (d) parallelogram

31. When a pyramid or a cone is cut by a plane parallel to its base, thus removing the top portion, the remaining portion is called
    (a) cylinder (b) frustum (c) prism (d) polyhedron

32. Straight lines drawn from the apex of a cone to the circumference of the base-circle are all equal and are called
    (a) edges (b) connecting lines (c) projectors (d) enerators

33. The solid formed by 12 equal and regular pentagons as faces is called
    (a) plantonic solid
    (b) dodecahedron
    (c) icosahedron
    (d) pyritohedron

34. To understand some of the hidden geometry of components an imaginary plane is used to cut the object which is called

(a) auxiliary plane (b) picture plane

(c) section plane (d) additional plane

35. To find the _____ of the section, it must be projected on a plane parallel to the section plane.

(a) actual shape (b) mirror shape (c) auxiliary shape (d) true shape

36. In _____ development method, the stretch out lines principle is to determine the surface.

(a) Approximate development (b) Parallel line development

(c) Triangulation method (d) Radial line development

37. Developments of the lateral surface of a prism consist of the same number of _____ in contact as the number of the sides of base of the prism.

(a) squares (b) rectangles (c) triangles (d) parallelograms

38. The development of lateral surface of a pyramid consists of a number of equal _____ triangle in contact.

(a) equilateral (b) isosceles (c) scalene (d) right angled

39. Which method of development is employed in case of pyramids ?

(a) Parallel-line development (b) Approximation method

(c) Triangulation development (d) Radial-line development

40. The value of the ratio of isometric length to true length is

(a) 0.141 b) 0.372 (c) 0.815 (d) 0.642

41. When a solid completely penetrates another solid, there will be two lines of intersection. These lines are called

(a) curves of interpenetration (b) concyclic curves of lines

(c) hidden lines (d) inside line

42. Lines of sights (projectors) for oblique projection will be

(a) Parallel to each other and perpendicular to projection plane

(b) Not parallel to each other and perpendicular to projection plane

(c) Parallel to each other and inclined to projection plane

(d) Not parallel to each other and inclined to projection plane

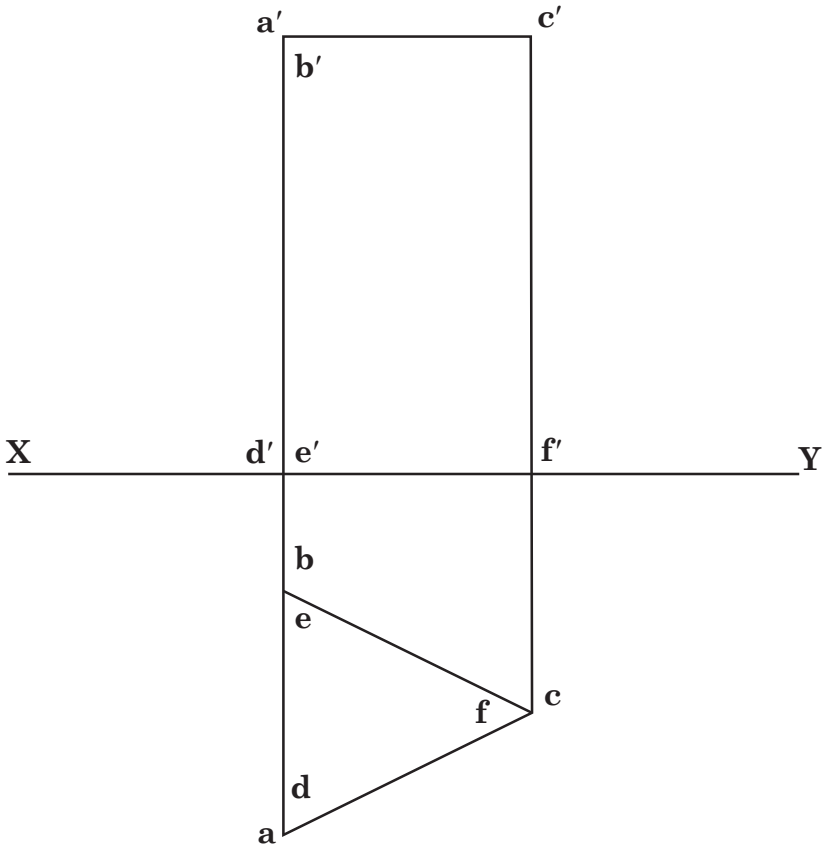
43. Which are not usually used as angle between the projection plane and receding lines for oblique projection ?

(a) 30 degrees
(b) 50 degrees
(c) 45 degrees
(d) 60 degrees

44. In oblique projection, the object is assumed to be placed with one face

(a) parallel to plane of projection
(b) parallel to adjacent edge
(c) perpendicular to plane of projection
(d) perpendicular to adjacent edge

45. Which of the following statements is true with respect to the following projection ?



(a) one with the base perpendicular to VP and HP
(b) Pyramid with the base perpendicular to VP
(c) Triangular prism with the base parallel to HP
(d) one with base inclined to HP

46. Which of the following constructions use parabolic curves ?
    (a) Cooling towers
    (b) Water channels
    (c) Light reflectors
    (d) Man-holes

47. Which of the following statement is incorrect with regard to plain scales ?
    (a) Plain scales represent two units
    (b) Zero should be placed between the units and its subdivisions
    (c) The representative factor should be mentioned below the scale
    (d) It can read up to three decimal places

48. Scales which can read different units and having the same representative fraction is called
    (a) Diagonal scales
    (b) Vernier scales
    (c) Comparative scales
    (d) Plain scales

49. What is the subtended angle value for the sector used in the development of the cone ?
    (a) 360° × radius of circular base/height
    (b) 360° × circumference of circular base/slant height
    (c) 360° × radius of circular base/slant height
    (d) 360° × diameter of circular base/slant height

50. What will be the value of the radius of the arc in the development of the pyramids ?
    (a) Height of the pyramid
    (b) The slant height of the pyramid
    (c) 4*Side of the pyramid
    (d) 0.5*Height of the pyramid

