17/B/C/S-1/WS-ED

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10TH PASS

PAPER – II
(WORKSHOP CALCULATION & SCIENCE AND ENGINEERING DRAWING)
FOR THE TRADES WITH MINIMUM QUALIFICATION 10TH PASS
SEMESTER – I

TIME: 3 HRS. **MARKS: 150**

Note: This paper contains two parts – Part A & Part B.
Attempt all the questions. All questions carry equal marks.
This paper carries negative marking. 25 % marks will be deducted for each wrong answer.

PART – A (WORKSHOP CALCULATION & SCIENCE) (MARKS: 75)

Choose the correct answer :-

1. 1000 liters is equivalent to_____.
   a) 219.97 gallons b) 200 gallons c) 250 gallons d) None of these

2. 52.5 lbs equivalent to_____.
   a) 23.814 kg b) 26.25 kg c) 15.75 kg d) 115.5 kg

3. The value of "X" in the following ratio X : 4 = 9: 6 is _____.
   a) 2.66 b) 13.5 c) 6 d) 2.166

4. If the area of a square plot is 2304 m^2, then the side of the square is_____.
   a) 45 meters b) 48 meters c) 47.9 d) 49.02

5. A force of one kg is used to do the 10 kg meter work, then the distance covered is_____.
   a) 1 meter b) 10 meters c) 0.1 meters d) None of these

6. 25 square feet is equivalent to _____.
   a) 2.3225square meter b) 2.2323 square meter
   c) 2.2525 square meter d) None of these

7. 0.1 X 0.01 = _____.
   a) 0.1 b) 0.01 c) 0.001 d) 0.0001

8. The perimeter of a rectangle is 320 meters, its sides are in the ratio of 5:3 then its area is_____.
   a) 6000 Sq meters b) 3000 Sq meters c) 1200Sq meters d) 24000 Sq meters

9. What will be the number of zeros in the square of the number 400?
   a) 2 b) 3 c) 4 d) None of these

10. The unit of energy in SI system is_____.
    a) Erg b) Calorie c) Joule d) Electron volt

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11. The weight of cube material of 14 cm side and whose density is 7.8 gms/cc is_____.
a) 21.4 kg b)351 grams c) 25.14 kg d) 109.2 kg

12. Ram scored 553 marks out of 700 and Deepu score 486 marks out of 600, who performed better_____.
a) Ram b) Deepu c) Both performed equal d) None of these

13. In a white metal there are 20 parts tin, 3 parts copper and 2 parts of antimony their percentages are_____.
a) 80%, 20% and 20% b) 60%, 20% and 20%
c) 80%, 12% and 8% d) 80%, 10% and 10%

14. The ratio of distance covered to the time is termed as _____.
a) Velocity b) Speed c) Acceleration d) Retardation

15. If a mass of 4kg is dropped from a height of 100 meters, what is its velocity when it touches the ground_____.
a) 44.27 meters/sec b) 31.30 meters/sec
c) 93.91 meters/sec d) 125.21 meters/sec

16. Simplify (-4) /5 X 3/7 X 15/16 X (-14)/9 is equal to_____.
a) ½ b) 14/35 c) 45/80 d) – ½

17. The length, breadth and the height of the petrol tank are in the proportion of 8 : 5 : 2 and if the height is 25 cms then its volume is_____.
a) 156250 cc b)12500 cc c) 1000 cc d) None of these

18. If the weight of a substance is 150 grams and its density is 6, then its volume is_____.
a) 900 cc b) 25 cc c) 40 cc d) 0.04 cc

19. An automobile factory produces 480 vehicles per month and if the out put is increased by 15%, what is the increased out put?
a) 528 nos. b) 552 nos. c) 540 nos. d) 555 nos.

20. Normal temperature of the human body is 98.4^0F. If it is expressed in ^{0}C, it is equivalent to_____.
a) 38^0C b) 32^0C c) 36.8^0C d) 40^0C

21. A gun metal weighing 5 kg consists of 20 parts of copper, 3 parts of tin and 2 parts of zinc, then the copper and zinc contents are_____.
a) 4 kg of copper and 0.4 kg of zinc b) 4 kg of copper and 0.6 kg of zinc
c) 4 kg of copper and 0.5 kg of zinc d) 4 kg of copper and 0.7 kg of zinc

22. The square root of 0.09 is _____.
a) 0.03 b) 0.3 c) 0.003 d) 3.0

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23. Which number one among the following four numbers is to be subtracted from 1989 to get a perfect square ?
a) 53 b) 36 c) 140 d) None of these

24. A piece of alloy weighing 80 grams consists of 60 grams copper the remaining is zinc, then the ratio of copper to zinc is_____.
a) 3 : 4 b) 1 : 4 c) 3 : 1 d) 2 : 3

25. Which group of fractions is in descending order?
a) 2/3, 3/4, 5/8, 8/9 b) 5/8, 2/3, 3/4, 7/8
c) 2/3, 3/4, 5/6, 5/8 d) 5/6, 3/4, 2/3, 5/8

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PART – B (ENGINEERING DRAWING) (MARKS: 75)

Choose the correct answers:-

1. The length to height ratio of a closed filled arrow head is_____.
   a) 1 : 3 b) 3 : 1 c) 1 : 2 d) 2 : 1

2. With the help of a ruler and a compass, it is possible to construct an angle of _____.
   a) 35° b) 40° c) 37.5° d) 47.5°

3. A typical lay out of drawing sheet DO NOT contain_____.
   a) Centering mark b) Orientation mark c) Trimming marks d) Identification marks

4. The recommended method of dimensioning a sphere with a diameter 80 mm is _____.
   a) 80ΦS b) Φ80S c) S80Φ d) SΦ80

5. The mini drafter serves the purpose of every thing except_____.
   a) Scales b) Set square c) Protractor d) Compass

6. The principle views associated with orthographic projection are_____.
   a) Front view b) Right side view c) Top view d) All of these

7. The Top, Front and Bottom views align in this manner_____.
   a) Horizontally b) Vertically
   c) According to the planed views d) Parallel to the frontal planes

8. Which of the following is the lightest pencil?
   a) 2B b) 1B c) HB d) H

9. To draw a smooth curve of any nature, draughting instruments used is_____.
   a) Mini drafter b) French curve c) Template d) Eraser shield

10. Which of the following is not used to fix the drawing sheet on the board?
    a) Drawing pins b) Adhesive tapes c) Clips d) Thread

11. For orthographic projection, the engineering custom Bureau of Indian Standards dictates the use of:
    a) First-angle projection b) Second-angle projection
    c) Third-angle projection d) Fourth-angle projection

12. When a circle passes through three given points, its centre lies at the intersection of ____.
    a) The perpendicular bisector of the longest line and the perpendicular line drawn from the end of the shortest line.
    b) The perpendicular bisector of the shortest line and perpendicular line drawn from the end of the longest line
    c) The perpendicular bisectors of the line that connect the points
    d) The tangents drawn through ach point.

13. Sectional portions is represented by ---------- lines.
    a) Thick lines b) Dashed lines c) Hatching lines

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14. Hatching lines are drawn at an angle of _____.
a) 15° b) 30° c) 45° d) 60°

15. In an isometric sketch of a cube?
a) The frontal face appears in its true shape
b) The receding axes are at 45 degrees to the horizontal
c) All faces are equally distorted
d) Only the depth distances must be reduced

16. Which set of lead grades has a grade out of sequence?
a) H, HB, B, 3B b) 7B, H, F, 3H c) 6B, B, H, 4H d) 9H, HB, B, 2B

17. The standard size of Title block is_____.
a) 170mm X 65 mm b) 180mm X 80 mm
c) 200mm X 100 mm d) 250mm X 120 mm

18. The smallest drawing sheet, is designated as_____.
a) A0 b) A3 c) A2 d) A4

19. Super imposed dimensioning is the simplest method of _____.
a) Chain dimensioning b) Parallel dimensioning
c) Combined dimensioning d) Tabular dimensioning

20. When (1) visible outlines (2) hidden outlines (3) projection lines and (4) centre lines overlap, the recommended sequence of priority is_____.
a) 1-2-3-4 b) 1-2-4-3 c) 2-1-3-4 d) 2-1-4-3

21. Which type of line is thin and light?
a) Visible lines b) Centre lines c) Construction lines d) All of these

22. Some of the common terms used to describe technical drawing includes_____.
a) Drafting b) Engineering graphics
c) Engineering drawing d) All of these

23. Which of the following purpose is NOT served by a divider?
a) Divide lines or curves into a number of equal parts
b) Transfer measurements from one part of the drawing to another part
c) Make full size, reduced size or enlarged size drawing
d) Set off a series of equal distances on the drawing

24. In isometric drawings _____.
a) Two axes are perpendicular
b) True measurements can be made only along or parallel to the isometric axes
c) All faces are unequally distorted
d) None of the above

25. Which of the following publications made by Bureau of Indian Standards includes standard techniques for line conventions and lettering in detail?
a) SP 46 b) BIS 9609 c) ASME Y 14.2M d) ISO 2009

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