C-5

PAPER – II
(WORKSHOP CALCULATION & SCIENCE AND ENGINEERING DRAWING)
FOR THE TRADES WITH MINIMUM QUALIFICATION 8TH PASS
SIX MONTH / ONE YEAR DURATION
SEMESTER – I

EXCAVATOR OPERATOR, SANITARY HARDWARE FITTER, CARPENTER, FOUNDRYMAN,
MASON (BUILDING CONSTRUCTOR), MECHANIC TRACTOR, PLUMBER,
SHEET METAL WORKER, WELDER (GAS & ELECTRIC),
WELDER (GWAW & GTAW), WELDER PIPE, WELDER STRUCTURAL, WELDER (WELDING &
INSPECTION), WELDER (FABRICATION & FITTING)

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

Note: This paper contains two parts – Part A & Part B.
Attempt all the questions. All questions carry equal marks.

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

Choose the correct answer:-

1. Paper is a fiberous _____ material.
   a. Conducting
   b. Semi conducting
   c. Insulating
   d. None of these

2. Muntz metal is a/ an _____.
   a. Metal
   b. Ore
   c. Alloy
   d. All of these

3. To change density of kg/m^3 into g/cm^3, we divide values with_____
   a. 100
   b. 10
   c. 200
   d. 1000

4. Mass is a measure of _____
   a. Weight
   b. Inertia
   c. Friction
   d. Matter

5. N is a unit of _____
   a. Weight
   b. Mass
   c. Speed
   d. Time

6. kg is a unit of _____
    a. Weight
    b. Density
    c. Resistance
    d. Mass

7. A cube-shaped block of pinewood has a surface area of 9 m² and a density of 0.5 g/cm³.
    Mass of the block = _____
    a. 4500 g
    b. 4500 kg
    c. 13500 g
    d. 13500 kg

8. If x% of $\frac{2}{7}$ is $\frac{1}{35}$ then the value of x is -
    a. 10
    b. 15
    c. 20
    d. 25

9. Which one of the following is non ferrous metal?
    a. Brass
    b. Copper
    c. Aluminium
    d. All of these

10. Density of a substance can be defined as _____
    a. Density = Mass × Volume
    b. Density = Mass / Volume
    c. Density = Volume / Mass
    d. None of these

11. 50% can be written as ___
    a. $\frac{100}{50}$
    c. $\frac{5}{6}$

    b. $\frac{50}{100}$
    d. $\frac{2}{5}$

12. In CGS system the unit of length is ____
    a. Meter
    b. Centimeter
    c. Inch
    d. Multimeter

13. Brittle material is also ductile _____.
    a. True
    b. False
    c. Can not say
    d. Unpredictable

14. Quantity of matter contained in a body is called ____.
    a. Density
    b. Mass
    c. Weight
    d. Volume

15. Which one of the following is ferrous metals?
    a. Copper
    b. Brass
    c. Bronze
    d. Low carbon steel

16. Weight of one casting is 2 kg and weight of another casting is 200 gram. Compare the weight ___.
    a. 1:10   c. 10:1
    b. 1:5   d. 5:1

17. Unit of Intensity of magnetic induction field is _____
    a. N/Am   c. wb/m^2
    b. Tesla   d. All of these

18. 10 N= _____dynes.
    a. 10^2 c. 10^6
    b. 10^4 d. 10^8

19. Sum of 1234 + 4321 is equal to ___
    a. 1234   c. 5555
    b. 4441   d. 4321

20. 0.07x 0.008 = _____
    a. 0.56   c. 0.0056
    b. .056   d. 0.00056

21. Reciprocal of - 4
    a. - 1   c. $\dfrac{-1}{4}$
    b. - 4   d. $\dfrac{1}{4}$

22. 0.6 x 0.6 + 0.6/0.6 =_____
    a. 0.16   c. 0.42
    b. 0.37   d. 0.46

23. √288/√128= _____
    a. √3/2   c. 3/2
    b. 3/√2   d. None of these

24. Express ½% as a decimal.
    a. 0.5   c. 0.0005
    b. 0.005   d. None of these

25. 45x ___ = 25% of 900
    a. 16.2   c. 4
    b. 500   d. 5

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

Choose the correct answer:

1. Engineering drawing is a language of _____.
   a. Engineers
   b. Traders
   c. Business men
   d. None of these

2. ISO stands for _____
   a. International Organization for Standardization
   b. Indian Standards Organization
   c. Society of International Standards
   d. Society of Indian Standards

3. "Methods of Dimensioning and Tolerances in Technical Drawing" are given by IS: _____ in India.
   a. 10711-1983
   b. 10713-1983
   c. 10714-1983
   d. 10718-1983

4. Well seasoned wood of _____ is used for making of drawing boards.
   a. Pine
   b. Fir
   c. Oak
   d. All of these

5. To prevent wraping, the drawing board is made of _____ numbers of narrow strips.
   a. 2 to 3
   b. 4 to 6
   c. 7 to 9
   d. None of these

6. The selection of drawing board for a particular use depends upon the size of _____.
   a. T- square
   b. Project
   c. Drawing sheet
   d. All of these

7. Size 'D$_2$' of the drawing board refers to _____ (l x w x t) mm.
   a. 1500x 1000x 25
   b. 1000x 700x 25
   c. 700x 500x 15
   d. 500x 350x 15

8. When not in use, T-Square be _____
   a. Left flat on drawing board
   b. Left flat in almirah
   c. Left flat any where
   d. None of these

9. T-Square is used to draw _____ lines.
   a. Only horizontal
   b. Only vertical
   c. Both (a) & (b)
   d. None of these

10. Which of the following grades of the wooden pencil is hardest?
     a. 9 H   c. H
     b. 9B   d. F

11. A triangle having all its sides of different lengths is called a -
     a. Scalene triangle   c. Equilateral triangle
     b. Isosceles triangle   d. None of these

12. Which of the following edges of wood pencil in preferred for use in compass
     a. Cylindrical   c. Chisel
     b. Conical   d. Bevel

13. Area of A0 drawing sheet is -
     a. 841 cm^2 c. 1 m^2
     b. 1189 cm^2 d. 1.2 m^2

14. Generally the thickness of thick lines is _____ times the thickness of the thin lines.
     a. 3   c. 1.5
     b. 2   d. 2.5

15. A set square comprises of _____ & _____ set square.
     a. 30°-60°, 45°   c. 30°-75°°, 60°
     b. 30°-45°, 60°   d. 30°-75, 45°

16. 297 x 420 (w x l) mm size drawing sheet is designated as _____ in engg. drawing
     a. A_0 c. A_3
     b. A_2 d. A_4

17. _____ lettering is recommended by BIS for use in engineering drawing.
     a. Single stroke   c. Both (a) & (b)
     b. Double stroke   d. Neither (a) nor (b)

18. Which of the followings is an arrangement of dimensioning?
     a. Chain   c. Super imposed running
     b. Parallel   d. All of these

19. The size of title block of all sizes of drawing sheet is _____ x _____ mm.
     a. 185, 65   c. 50, 120
     b. 200, 100   d. 150, 75

20. As per recommendations of IS: 11665- 1985, the RH side margin line of a drawing sheet for class work should be kept as _____.
    a. 5 mm
    b. 10 mm
    c. 15 mm
    d. 20 mm

21. The ratio of the thick to the thin line shall not be less than _____.
    a. 2: 1
    b. 1: 2
    c. 3:1
    d. 1: 3

22. The minimum spacing between parallel lines including hatching lines should be greater than _____ the thickness of the thickest line.
    a. Two lines
    b. Three lines
    c. Four lines
    d. None of these

23. How many sides does a decagon have?
    a. 8
    b. 10
    c. 6
    d. None of these

24. Minimum possible interior angle in a regular polygon is _____
    a. 70°
    b. 60°
    c. 90°
    d. 120°

25. Maximum possible exterior angle in a regular polygon is _____.
    a. 70°
    b. 60°
    c. 90°
    d. 120°

*****