(M)

PAPER – II
DRAUGHTSMAN (CIVIL)/ DRAUGHTSMAN (MECHANIC)/ FITTER/ MACHINIST/ MACHINIST GRINDER/ MECH. AGRICULTURE MACHINERY/ MECH. MACHINE TOOL MAINTENANCE/ MECH. MOTOR VEHICLE/ MECHANIC (REFRIGERATION & AIR- CONDITIONER) / OPERATOR ADVANCE MACHINE TOOL/ TOOL & DIE MAKER (DIES & MOULDS)/ TOOL & DIE MAKER (PRESS, TOOLS, JIGS & FIXTURE)/ TURNER/ REFRACTORY TECHNICIAN
(WORKSHOP CALCULATION AND SCIENCE)
SEMESTER – IV

TIME: 3 HRS.

MARKS: 75

Note: Attempt all questions.

All questions carry equal marks.

This paper carries negative marking. 25% marks will be deducted for each wrong answer.

Choose the correct answer.

1. What is the correct value of π?
   a) 22/7 b) 7/22 c) 3.4 d) 3/4

2. The outer diameter of a pipe is 100cm, and then the outer circumferences will be _____.
   a) 62.8 m^2 b) 628.32 mm^2 c) 6283.2 m^2 d) 628.32 cm^2

3. The pressure is given by _____.
   a) Force/ Area b) Area/ Force c) Stress/ Strain d) Strain/ Stress

4. 2.5 tonnes can be expressed in kg as _____.
   a) 250 kg b) 25 kN c) 250 N d) 2500 kg

5. Tanθ is equal to _____.
   a) Cosθ/ Sinθ
   c) Adjacent side/ Hypotenuse
   b) Opposite/ Adjacent side
   d) Opposite/ Hypotenuse

6. What is the correct value of $\frac{22}{7}$ x 350 x 2?
   a) 1100 b) 1200 c) 1800 d) 2200

7. The area of an equilateral triangle of side 8 mm is equal to _____.
   a) 27.7 mm^2 b) 27.7 cm^2 c) 2.7 cm^2 d) 88 mm^2

8. The area of a half circle, with radius r, is given by _____.
   a) $\frac{\pi r^2}{4}$ b) πr^2 c) $\frac{\pi r^2}{8}$ d) $\frac{\pi r^2}{2}$

9. 100° C can be written as _____.
    a) 100 F   b) 212 F   c) 36 F   d) 222 F

10. Mass/ Volume, refers to _____.
    a) Specific gravity   b) Density   c) Young modulus   d) Bulk modulus

11. What is the appropriate SI unit for distance?
    a) Centimeters   b) Inches   c) Meters   d) Kilometres

12. A homogenous material is defined as being _____.
    a) An element   b) Any material with uniform composition
    c) Synonymous with "Solution"   d) More than one of these

13. One horse power is equal to _____.
    a) 475 W   b) 1000 W   c) 746 W   d) 876 W

14. The sum of the internal angle of a triangle is _____ degree.
    a) 90   b) 180   c) 360   d) 270

15. 1 Gallon is equal to _____litres.
    a) 3.785   b) 3   c) 4   d) 5.5

16. Brass is an alloy of _____.
    a) Copper and Zinc   b) Bronze and Iron
    c) Iron and Steel   d) Aluminium and Copper

17. 110 F can be written as _____ °C.
    a) 37   b) 40   c) 43.33   d) 27

18. A 50 cm radius and 250 cm height cylinder is melted to for a square cube, what will be
    the side of the cube so formed?
    a) 100 cm   b) 125 cm   c) 150 cm   d) 200 cm

19. If the value of tanθ = 1, then the value of cosθ will be _____.
    a) 1   b) 0   c) 1/2   d) $1/\sqrt{2}$

20. One sq.m is equal to _____ sq.cm.
    a) 100   b) 1000   c) 10000   d) 10

21. The formula (Force x Displacement)/ Time, refers to _____.
    a) Power   b) Energy   c) Time   d) Work

22. An object can store energy as the result of its position. This stored energy of position is
    referred to as _____.
    a) Potential energy   b) Kinetic energy   c) Mechanical energy   d) Work

(M)

31/217, 32/224, 36/227, 42/222,
43/223, 47/216, 52/225, 55/215,
56/218, 58/226, 65/228, 66/229,
67/221, 274

23. The unit of volume is _____ .
a) Sq.m   b) cu.m   c) cusec   d) m

24. Length, Mass and Time are known as _____ .
a) Fundamental quantities   b) Derived quantities
c) Similitude   d) SI Unit

25. Surface area of a cylinder is _____ .
a) πDH   b) πD   c) πH   d) DH

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