PAPER – II
WORKSHOP CALCULATION & SCIENCE & EMPLOYABILITY SKILLS
(MORNING SESSION)
10TH PASS (TWO YEAR TRADES)
SEMESTER – II

TIME: 3 HRS. **MARKS: 125**

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. Tan45^0, cot 45^0 =
   a. 1
   b. $\frac{1}{2}$
   c. $\frac{1}{\sqrt{2}}$
   d. 0

2. Circumference of a circle is given by_____.
   a. πD
   b. 2πr
   c. Both (a) & (b)
   d. Neither a nor b

3. The area of a parallelogram is 72 cm^2 and its altitude is twice the corresponding base. Then the length of the base is _____.
   a. 12 cm
   b. 9 cm
   c. 6 cm
   d. 3 cm

4. The ratio of area of a circle to the area of semi-circle is-
   a. 1: 2
   b. 2: 1
   c. 4:1
   d. 1: 4

5. A circular well with a diameter of 2 meters, is due to a depth of 14 meters. What is the volume of the earth dug out?
   a. $40m^3$
   b. 42 m^3
   c. 44 m^3
   d. 46 m^3

6. If x+y = 18 and x-y= 2. Find the value of x and y.
   a. 6, 4
   b. 8, 6
   c. 10, 8
   d. 12, 9

7. 2 x 0.2x 0.02x 0.002x 20= _____.
   a. 0.032
   b. 0.0032
   c. 0.00032
   d. 0.000032

Contd....2/-

8. Add 110.035, 32, 18.6, 0.79, 3.5427
   a. 416.9677
   b. 164.9677
   c. 146.9767
   d. 461.7977

9. What is the reciprocal of tanθ?
   a. $\frac{1}{tan\theta}$
   b. cosθ
   c. cotθ
   d. cosecθ

10. Volume of cylinder -
   a. πR^2H
   b. $\frac{1}{3}\pi R^2h$
   c. $\frac{2}{3}\pi R^2h$
   d. $2\pi R^2h$

11. Latent heat of ice is –
   a. 40 cal/gram
   b. 80 cal/gram
   c. 120 cal/gram
   d. 160 cal/gram

12. The ratio of distance moved by the effort to the distance by the load is called -
   a. Efficiency
   b. Velocity ratio
   c. Mechanical advantage
   d. All of these

13. What is the formula for given ratio of a velocity simple wheel and axle -
   a. d/D
   b. πd/D
   c. D/d
   d. πD/d

14. In a parallel circuit operating with a battery of 30 VAC, designed to carry a total current of 6 A, the resistance suddenly changes to 2 Ω. The fuse will _____.
   a. Closes
   b. No change
   c. Shorts to ground
   d. Opens

15. Which of the following parameters should be considered while connecting a voltmeter into a DC circuit?
   a. rms
   b. Resistance
   c. Polarity
   d. Power factor

16. Which one of the following is not a electrical quantity?
   a. Voltage
   b. Current
   c. Distance
   d. Power

17. Ohmmeter is used for measure -
   a. Current
   b. Potential difference
   c. Resistance
   d. All of these

18. Correct sequence of current flow in simple electric circuit is -
   a. Load, switch, battery
   b. Battery, switch, load
   c. Load, battery, switch
   d. Switch, load, battery

Contd....3/-

19. $\sqrt{0.9} \times \sqrt{1.6}$=?
   a. 0.12
   b. 1.2
   c. 0.75
   d. 12

20. The boiling point of alcohol is 78° C. What is this temperature on the Kelvin scale?
   a. 151° K
   b. 251° K
   c. 351° K
   d. 451° K

21. In A.C supply number of cycles per second is called-
   a. Frequency
   b. Voltage
   c. Current
   d. Resistance

22. $1+\tan^2\theta$= _____.
   a. cosec θ
   b. sec θ
   c. cosec .$\tan^2\theta$
   d. $\sec^2\theta$

23. $\sin^2 45^\circ + \cos^2 45^\circ$=
   a. 1
   b. $\frac{1}{2}$
   c. 0
   d. $\frac{1}{\sqrt{2}}$

24. Cosec 0°= _____.
   a. 1
   b. $\sqrt{3}$
   c. $2/\sqrt{3}$
   d. None of these

25. Wheel and axle is an example of _____.
   a. Lever
   b. Inclined plane
   c. Pulley
   d. Simple machines

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