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

2.   Circumference of a circle is given by_____.
     a. πD
     b. $2\pi r$
     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

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. $\pi R^2 H$
    b. $\frac{1}{3}\pi R^2 h$
    c. $\frac{2}{3}\pi R^2 h$
    d. $2\pi R^2 h$

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
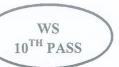   c. Load, battery, switch
    d. Switch, load, battery

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. $\mathrm{cosec}\ \theta$
   - b. $\sec \theta$
   - c. $\mathrm{cosec}\ .\tan^2 \theta$
   - d. $\sec^2 \theta$

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

24. $\mathrm{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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