

PAPER – II
ELECTRICIAN, ELECTROPLATER, LIFT MECHANIC / LIFT & ESCALATOR
MECHANIC,
(WORKSHOP CALCULATION & SCIENCE)
SEMESTER – III

TIME: 3 HRS.

MARKS: 75

Note: Attempt all the questions.**All questions carry equal marks.****This paper carries negative marking. 25% marks will be deducted for each wrong answer.****Choose the correct answers.**

1. Which of following is rule of indices?
 a) $x^a \div x^b = x^{a+b}$
 b) $x^a \div x^b = x^{a-b}$
 c) $x^a \div x^b = x^{ab}$
 d) All of these
2. If the sum of roots are 12 and product of roots is 30, then the equation will be _____
 a) $x^2 - 10x + 30 = 0$
 b) $x^2 - 10x - 30 = 0$
 c) $x^2 - 30x + 10 = 1$
 d) None of these
3. Solve the factor of $x^2 - 36$
 a) $(x-6)(x+6)$
 b) $(x-6)(x-6)$
 c) $(x-6)(x-4)$
 d) None of these
4. The value of roots for the equation $x^2 - 9x + 20 = 0$
 (a) (5,4)
 (b) (-5,4)
 (c) (5,-2)
 (d) None of these
5. Divide $80x^{20}/80x^5$
 a) $0.1x^4$
 b) $0.1x^{10}$
 c) $0.1x^{15}$
 d) None of these
6. The time required to complete a revolution is known as _____
 a) Time period
 b) Frequency
 c) Amplitude
 d) None of these
7. The ratio of resistance and impedance called _____
 a) Inductance
 b) Power factor
 c) Amplitude
 d) None of these
8. The number of revolution completed by a wave in a second is called _____
 a) Frequency
 b) Time period
 c) Both (a) & (b)
 d) None of these
9. In alternating current $I_{R.M.S.} =$ _____
 a) $0.707 I_{max}$
 b) $0.637 I_{max}$
 c) $2.3 I_{max}$
 d) $5.6 I_{max}$
10. Peak value of alternating current can be _____
 a) Negative
 b) Positive
 c) Both (a) & (b)
 d) None of these

11. $I_{\text{average}} =$ _____
 a) $0.706 I_{\text{max}}$ b) $0.637 I_{\text{max}}$
 c) $8.67 I_{\text{max}}$ d) None of these
12. The value of current at instant _____ in positive or negative period.
 a) R.M.S. value b) Instantaneous value
 c) Less value d) None of these
13. $C = C_1 + C_2 + C_3 +$ _____ ? formula shows capacitors are _____
 a) In series connection b) In parallel connection
 c) In compound connection d) None of these
14. If two resistances are connected in parallel connection then resultant resistance will be-
 a) 10 ohm b) 20 ohm
 c) 5 ohm d) None of these
15. Which is the best material for magnet?
 a) Steel b) Cobalt
 c) Magnese d) All of these
16. If two inductor are connected in parallel connection then resultant inductance will be
 a) 5 Henry b) 20 Henry
 c) 100 Henry d) None of these
17. The ratio of lateral strain to longitudinal strain is _____
 a) Poisson ratio b) Stress
 c) Strain d) Compressive strain
18. Factor of safety = _____
 a) Real length / change in length b) Lateral ratio / longitudinal stress
 c) Ultimate stress / working stress d) None of these
19. A rod having length of 10 cm, on applying a tensile force its length changes to 10.2 cm then what will be the value of strain.
 a) 8.6 b) 5.6
 c) 3.6 d) None of these
20. The unit of magnetic motive force-
 a) Weber b) Weber/ampere
 c) Ampere turn d) None of these
21. According to hook law in elastic limit stress is _____ to strain.
 a) Directly proportional b) Inversely proportional
 c) Equal d) None of these
22. 1 bar = _____ pascal.
 a) 100000 b) 100
 c) 1000 d) None of these
23. Absolute pressure = gauge pressure + _____
 a) 1 x Atmospheric Pressure b) 2 x Atmospheric Pressure
 c) 3 x Atmospheric Pressure d) None of these

24. The atmospheric pressure is measured by-
- a) Barometer
 - b) Manometer
 - c) Hydrometer
 - d) None of these
25. The pressure measured above the zero level is _____
- a) Absolute Pressure
 - b) Gauge Pressure
 - c) Both (a) & (b)
 - d) None of these
