

SAMPLE QUESTIONS FOR PULEET - 2022

1. The efficiency of a Carnot engine is dependent on:
(a) Specific heat of gas used
(b) Temperatures of source & sink
(c) Rapidity of compression and expansion of gas used (d) All of the above
2. The ball of 100 g is in uniform circular motion of radius 4m and has a constant speed of 2 m/s. The centrifugal force acting on it will be
(a) 100 N
(b) 0.1 N
(c) 10 N
(d) None of these
3. The value of $\sin 10^\circ + \sin 20^\circ + \sin 30^\circ + \dots + \sin 360^\circ$ is
(a) 1
(b) 0
(c) -1
(d) None of these
4. The system of linear equations $AX=b$ where A is $m \times n$ matrix of coefficients, X is $n \times 1$ vector of unknowns, b is $m \times 1$ vector of unknowns is consistent if
(a) $\text{rank } A = \text{rank } (A|b)$
(b) $\text{rank } A \neq \text{rank } (A|b)$
(c) $\text{rank } A = 0$
(d) $\text{rank } A = n+m$
5. If one root of a quadratic equation with real coefficients is $\frac{1}{3+4i}$, then the other root is
(a) $3-4i$
(b) $\frac{3}{25} + \frac{4}{25}i$
(c) $\frac{3}{25} - \frac{4}{25}i$
(d) $\frac{4}{25} - \frac{3}{25}i$
6. Pitot tube is used to measure
(a) Discharge
(b) Velocity
(c) Temperature
(d) None of these
7. During Throttling _____ remains constant
(a) Heat
(b) Temperature
(c) Enthalpy
(d) Internal Energy
8. In a differential amplifier, CMRR can be improved by increasing
(a) Emitter Resistance
(b) Collector Resistance
(c) Power Supply Voltage
(d) Source Resistance
9. If an amplifier with a gain of -1000 had a gain change of 20% due to temperature. It was provided the feedback with feedback factor $\beta = -0.1$, now the change in gain with feedback will be
(a) 10%

- (b) 5%
 - (c) 0.2%
 - (d) 0.01%
10. 8085 microprocessor can address memory space of
- (a) 256 B
 - (b) 128 KB
 - (c) 64 Kb
 - (d) 1 MB
11. Default access types of member variable in classes is
- (a) private
 - (b) public
 - (c) protected
 - (d) static
12. Which of the following operator has the highest precedence
- (a) +
 - (b) /
 - (c) *
 - (d) ++
13. Which of the following statement is invalid
- (a) $x=y+++z;$
 - (b) $x+=y;$
 - (c) $++x++;$
 - (d) $a+b=c+d;$
14. A series RLC circuit offers the impedance value at resonance that is
- (a) maximum
 - (b) minimum
 - (c) infinite
 - (d) none of these
15. In Star connection for balanced load, the current flowing in neutral wire is
- (a) minimum
 - (b) maximum
 - (c) zero
 - (d) none of above
16. In an SCR, the break over voltage V_{BO}
- (a) increases with increase of positive gate current
 - (b) is independent of gate current
 - (c) decreases with increase of positive gate current
 - (d) none of above