

PAPER – 1 MODEL QUESTION FOR THE POST OF ASSISTANT DRILLER (TRAINEE)

1. The design of a beam is based on strength criteria, if the beam is sufficiently strong to resist _____

- a. shear force
- b. deflection
- c. both a. and b.
- d. none of the above

ANSWER: shear force

2. Couple is formed due to two _____

- a. like, parallel and non-collinear forces of same magnitude
- b. like, perpendicular and collinear forces of different magnitude
- c. unlike, parallel and non-collinear forces of same magnitude
- d. unlike, perpendicular and non-collinear forces of different magnitude

ANSWER: unlike, parallel and non-collinear forces of same magnitude.

3. It is necessary to maintain the valve clearances as they

- (A) Reduce the resistance to sliding that occurs between the cam and the tappet
- (B) Allow for lengthening of the valves owing to the heat of combustion
- (C) Increase the speed at which the valves move up and down
- (D) Make the crankshaft turn smoothly

ANSWER: Allow for lengthening of the valves owing to the heat of combustion.

4. A clutch is usually designed to transmit maximum torque which is

- (A) Equal to the maximum engine torque
- (B) 80% of the maximum engine torque
- (C) 150% of the maximum engine torque
- (D) None of these

Answer: 150% of the maximum engine torque

5. The aluminium alloy is used in cylinder blocks because

- (A) It is lighter and has good heat dissipation characteristics
- (B) Material cost is low
- (C) It does not require any cylinder liners
- (D) The piston is also made of aluminium alloy

Answer: **It is lighter and has good heat dissipation characteristics**

6. Work done in a free expansion process is

- (A) Zero
- (B) Maximum
- (C) Minimum
- (D) Positive

Answer: **Zero**

7. The insulation ability of an insulator with the presence of moisture would

- (A) Increase
- (B) Decrease
- (C) Remain unaffected
- (D) May increase/decrease depending on temperature and thickness of insulation

Answer: **Decrease**

8. Which of the following pump is suitable for small discharge and high heads?

- (A) Centrifugal pump
- (B) Axial flow pump
- (C) Mixed flow pump
- (D) Reciprocating pump

Answer: **Reciprocating pump**

9. A-B-C analysis

- (A) Is a basic technique of materials management
- (B) Is meant for relative inventory control
- (C) Does not depend upon the unit cost of the item but on its annual consumption
- (D) All of the above

Answer: **All of the above**

10. The power transmitted by means of a belt depends upon

- (A) Velocity of the belt
- (B) Tension under which the belt is placed on the pulleys
- (C) Arc of contact between the belt and the smaller pulley
- (D) All of the above

Answer: All of the above

11. A fixture is defined as a device which

- (A) Holds and locates a workpiece and guides and controls one or more cutting tools
- (B) Holds and locates a workpiece during an inspection or for a manufacturing operation
- (C) Is used to check the accuracy of workpiece
- (D) All of the above

Answer: **Holds and locates a workpiece during an inspection or for a manufacturing operation**

12. The stress induced in a body due to suddenly applied load compared to when it is applied gradually is

- (A) Same
- (B) Half
- (C) Two times
- (D) Four times

Answer: **Two times**