

Basic Mechanical Engineering MCQs Part 2

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1) Which of the following statements is/are true for alloy steels?

- a. They contain carbon more than 1.7%
- b. They are ductile
- c. They have low resilience and toughness
- d. All of the above

ANSWER: They are ductile

2) Which of the following is a ferrous alloy?

- a. Brass
- b. Aluminum alloys
- c. Cast steel
- d. All of the above

ANSWER: Cast steel

3) Copper when alloyed with zinc is known as

- a. Brass
- b. Bronze
- c. Babbits
- d. All of the above

ANSWER: Brass

4) The plastic materials which do not undergo chemical change when heated are ____

- a.** Thermoplasts
- b.** Thermosets
- c.** Both a. and b.
- d.** None of the above

ANSWER: Thermoplasts

5) Which of the following is a characteristic of Polytetra-flouro-ethylene?

- a.** High coefficient of friction
- b.** Tough at high temperature
- c.** Resistance to chemical attack
- d.** All of the above

ANSWER: Resistance to chemical attack

6) Which of the following statements is/are true for mechanisms?

- a.** A slider crank mechanism is formed, if one link in slider crank chain is fixed
- b.** Three kinematic links joined together forms a mechanism
- c.** Kinematic chain is a part of kinematic pair
- d.** All of the above

ANSWER: A slider crank mechanism is formed, if one link in slider crank chain is fixed

7) Which body transmits force with negligible deformation?

- a.** Elastic body
- b.** Resistant body

- c. Deforming body
- d. All of the above

ANSWER: Resistant body

8) What is the primary function of mechanism?

- a. Power transmission
- b. Power absorption
- c. Force transmission
- d. Motion transmission

ANSWER: Motion transmission

9) Which of the following is an inversion of four bar chain?

- a. Coupled wheels of locomotive
- b. Whitworth quick return mechanism
- c. Reciprocating air compressor
- d. Hand pump

ANSWER: Coupled wheels of locomotiv

10) What are the number of sliding and turning pairs in a slider crank mechanism?

- a. 1 sliding pair and 3 turning pairs
- b. 2 sliding pairs and 2 turning pairs
- c. 3 sliding pairs and 1 turning pair
- d. None of the above

ANSWER: 1 sliding pair and 3 turning pairs

11) What is meant by drag in casting process?

- a. Upper part of casting flask
- b. Molten metal
- c. Lower part of casting flask
- d. Upper and lower part of casting flask

ANSWER: Lower part of casting flask

12) Casting replica used to make the cavity is called as

- a. Mould
- b. Pattern
- c. Cope
- d. None of the above

ANSWER: Pattern

13) The process of joining similar or dissimilar materials by heating them below 450° C using non-ferrous filler material is called as _____

- a. Brazing
- b. Soldering
- c. Welding
- d. All of the above

ANSWER: Soldering

14) At forging temperature when a compressive force is applied on the material, it deforms

- a. elastically in the direction of least resistance
- b. elastically in the direction of maximum resistance
- c. plastically in the direction of least resistance
- d. plastically in the direction of maximum resistance

ANSWER: plastically in the direction of least resistance

15) What is the average temperature required for hot forging of aluminium alloys?

- a. 1100 °C to 1200 °C
- b. 350 °C to 525 °C
- c. 2000 °C to 2500 °C
- d. None of the above

ANSWER: 350 °C to 525 °C

16) Which process squeezes metals into peaks and troughs with plastic deformation?

- a. Grooving
- b. Knurling
- c. Reaming
- d. None of the above

ANSWER: Knurling

17) Which of the following operations is/are performed on a lathe machine?

- a. Spot-facing
- b. Parting

- c. Reaming
- d. All of the above

ANSWER: Parting

18) The process of chamfering the entrance of a drilled hole is known as_____

- a. counter-boring
- b. counter-sinking
- c. counter-fillet
- d. trepanning

ANSWER: counter-sinking

19) On drilling machine, which process is known as reaming?

- a. Enlargement of existing hole
- b. Hole made by removal of metal along the hole circumference
- c. Smoothly finishing and accurately sizing a drilled hole
- d. All of the above

ANSWER: Smoothly finishing and accurately sizing a drilled hole

20) Which of the following statements is/are false for machine tools?

- 1. Pillar drilling machine drills holes up to 75 mm
- 2. Regulating wheel is a component of surface grinding machine
- 3. Sensitive drilling machine is also known as bench drilling machine
- 4. The chuck of an internal grinding machine placed in tailstock is driven by an electric motor

- a. Only 1
- b. 2 and 4

- c. 1 and 3
- d. All of the above

ANSWER: 2 and 4

21) The radiation pyrometers work on the principle of _____

- a. Newton's law
- b. Stefan Boltzmann's law
- c. Zeroth law
- d. None of the above

ANSWER: Stefan Boltzmann's law

22) Which of the following relations depict relation between Celsius and Fahrenheit scale?

- a. $(^{\circ}\text{C} / 5) = (^{\circ}\text{F} - 32) / 9$
- b. $(^{\circ}\text{C} / 9) = (^{\circ}\text{F} - 32) / 5$
- c. $(^{\circ}\text{C} / 32) = (^{\circ}\text{F} - 9) / 5$
- d. None of the above

ANSWER: $(^{\circ}\text{C} / 5) = (^{\circ}\text{F} - 32) / 9$

23) According to Joule's law, the internal energy of a perfect gas is the function of absolute _____

- a. density
- b. pressure
- c. temperature
- d. volume

ANSWER: temperature

24) According to Kelvin-Planck statement, it is impossible to construct a device operating on a cycle which transfers heat from ____

- a. low pressure heat reservoir to high pressure reservoir
- b. low temperature heat reservoir to high temperature reservoir
- c. high pressure heat reservoir to low pressure reservoir
- d. high temperature heat reservoir to low temperature reservoir

ANSWER: low temperature heat reservoir to high temperature reservoir

25) Which of the following relations is true, for coefficient of performance (C.O.P)?

- a. $(C.O.P)_{\text{heat pump}} - (C.O.P)_{\text{refrigerator}} = 1$
- b. $(C.O.P)_{\text{heat pump}} - (C.O.P)_{\text{refrigerator}} > 1$
- c. $(C.O.P)_{\text{heat pump}} - (C.O.P)_{\text{refrigerator}} < 1$
- d. $(C.O.P)_{\text{heat pump}} - (C.O.P)_{\text{refrigerator}} = 0$

ANSWER: $(C.O.P)_{\text{heat pump}} - (C.O.P)_{\text{refrigerator}} = 1$

26) Thermal efficiency of S.I. engines is low, due to ____

- a. low compression ratio
- b. high compression ratio
- c. medium compression ratio
- d. none

ANSWER: low compression ratio

27) Pump transfers input mechanical energy of an engine, into _____

- a.** pressure energy of a fluid
- b.** kinetic energy of a fluid
- c.** both a. and b.
- d.** none of the above

ANSWER: both a. and b.

28) Which of the following protects penstock due to sudden variation of flow or velocity of water?

- a.** Anchors
- b.** Forebays
- c.** Trash rack
- d.** Surge tank

ANSWER: Surge tank

29) One ton of refrigeration is equal to _____

- a.** 120 B Th U/hr
- b.** 200 B Th U/hr
- c.** 1200 B Th U/hr
- d.** 12000 B Th U/hr

ANSWER: 12000 B Th U/hr

30) What is the function of a moderator?

- a.** Increases the speed of neutrons
- b.** Increases the speed of electrons
- c.** Reduces the speed of neutrons
- d.** Reduces the speed of electrons

ANSWER: Reduces the speed of neutrons
