Basic Mechanical Engineering MCQs

Part 2

Basic Mechanical Engineering MCQ PDF Part 2

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^{o} 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 ^{o}C to 1200 ^{o}C

b. 350 ^{o}C to 525 ^{o}C

c. 2000 ^{o}C to 2500 ^{o}C

d. None of the above

ANSWER: 350 ^{o}C to 525 ^{o}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. $(^oC / 5) = (^oF – 32) / 9$

b. $(^oC / 9) = (^oF – 32) / 5$

c. $(^oC / 32) = (^oF – 9) / 5$

d. None of the above

ANSWER: $(^oC / 5) = (^oF – 32) / 9$

---

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

b. $(C.O.P)_{heat\ pump} - (C.O.P)_{refrigerator} > 1$

c. $(C.O.P)_{heat\ pump} - (C.O.P)_{refrigerator} < 1$

d. $(C.O.P)_{heat\ pump} - (C.O.P)_{refrigerator} = 0$

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

---

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
