

Objective questions for Practical Examination (CBCS scheme)

Subject: Fundamentals of Mechanical Engineering (ME -114)

1. Which one among the following welding processes uses non-consumable electrode?
 - (A) Gas metal arc welding
 - (B) Submerged arc welding
 - (C) Gas tungsten arc welding
 - (D) Flux coated arc welding
2. A hacksaw blade cuts on the
 - (A) Forward stroke
 - (B) Return stroke
 - (C) Both forward and return strokes
 - (D) Cutting depends upon the direction of force
3. The adhesiveness is the property of sand due to which
 - (A) It evolves a great amount of steam and other gases
 - (B) The sand grains stick together
 - (C) It clings to the sides of a moulding box
 - (D) None of these
4. In sheet metal work, the cutting force on the tool can be reduced by
 - (A) Grinding the cutting edges sharp
 - (B) Increasing the hardness of tool
 - (C) Providing shear on tool
 - (D) Increasing the hardness of die
5. The operation of bending a sheet of metal along a curved axis, is known as
 - (A) Plunging
 - (B) Notching
 - (C) Slitting
 - (D) Forming
6. In drilling operation, the metal is removed by
 - (A) Shearing

(B) Extrusion

(C) Shearing and extrusion

(D) Shearing and compression

7. Lathe bed is made of

(A) Mild steel

(B) Alloy steel

(C) Pig iron

(D) Chilled cast iron

8. A jig 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

9. The grinding operation is a

(A) Shaping operation

(B) Forming operation

(C) Surface finishing operation

(D) Dressing operation

10. The chuck preferred for quick setting and accurate centering of a job is

(A) Four jaw independent chuck

(B) Collect chuck

(C) Three jaw universal chuck

(D) Magnetic chuck

11. In an internal combustion engine, the process of removing the burnt gases from the combustion chamber of the engine cylinder is known as

(A) Scavenging

(B) Detonation

(C) Supercharging

(D) Polymerisation

12. Compression ratio of I.C. Engines is

- (A) The ratio of volumes of air in cylinder before compression stroke and after compression stroke
- (B) Volume displaced by piston per stroke and clearance volume in cylinder
- (C) Ratio of pressure after compression and before compression
- (D) Swept volume/cylinder volume

13. The nuclear energy is measured as

- (A) MeV
- (B) Curie
- (C) Farads
- (D) MW

14. A power plant giving least running cost of production of electrical power is

- (A) Steam power plant
- (B) Gas turbine power plant
- (C) Hydroelectric power plant
- (D) Nuclear power plant

15. Head developed by a centrifugal pump is

- (A) Proportional to diameter of impeller
- (B) Proportional to speed of impeller
- (C) Proportional to diameter and speed of impeller
- (D) None of the above

16. In centrifugal pumps, maximum efficiency is obtained when the blades are

- (A) Straight
- (B) Bent forward
- (C) Bent backward
- (D) Radial

17. Gas turbines use following type of air compressor

- (A) Centrifugal type
- (B) Reciprocating type

(C) Lobe type

(D) Axial flow type

18. In a closed cycle gas turbine, the air is compressed

(A) Isothermally

(B) Polytropically

(C) Isentropically

(D) None of these

19. The closed cycle in gas turbines

(A) Provides greater flexibility

(B) Provides lesser flexibility

(C) Is never used

(D) Is used when gas is to be burnt

20. The motion of a shaft in a circular hole is an example of

(A) Completely constrained motion

(B) Incompletely constrained motion

(C) Successfully constrained motion

(D) None of these

21. Cam size depends upon

(A) Base circle

(B) Pitch circle

(C) Prime circle

(D) Outer circle

22. The purpose of a link is to

(A) Transmit motion

(B) Guide other links

(C) Act as a support

(D) All of the above

23. In multi V-belt transmission, if one of the belt is broken, we have to change the

(A) Broken belt

(B) Broken belt and its adjacent belts

(C) All the belts

(D) There is no need of changing any one as remaining belts can take care of transmission of load

24. Crowning on pulleys helps

(A) In increasing velocity ratio

(B) In decreasing the slip of the belt

(C) For automatic adjustment of belt position so that belt runs centrally

(D) Increase belt and pulley life

25. The lower pairs are _____ pairs.

(A) Self-closed

(B) Force-closed

(C) Friction closed

(D) None of these

26. Whitworth quick return mechanism is obtained by inversion of

(A) Slider crank mechanism

(B) Kinematic chain

(C) Five link mechanism

(D) Roller cam mechanism

27. A coil is cut into two halves, the stiffness of cut coil will be

(A) Double

(B) Half

(C) Same

(D) None of these

28. When a gas is heated, change takes place in

(A) Temperature

(B) Pressure

(C) Volume

(D) All of these

29. Which of the following variables controls the physical properties of a perfect gas?

(A) Pressure

(B) Temperature

(C) Volume

(D) All of the above

30. Work done in a free expansion process is

(A) Zero

(B) Maximum

(C) Minimum

(D) Positive

31. The unit of temperature in S.I. units is

(A) Centigrade

(B) Celsius

(C) Fahrenheit

(D) Kelvin

32. The unit of mass in S.I. units is

(A) Kilogram

(B) Gram

(C) Tonne

(D) Quintal

33. The main cause for the irreversibility is

(A) Unrestricted expansion

(B) Mechanical and fluid friction

(C) Heat transfer with a finite temperature difference

(D) All of the above

34. The unit of energy in S.I. units is

(A) watt

(B) Joule

(C) joule/s

(D) joule/m

35. The measurement of a thermodynamic property known as temperature is based on

(A) First law of thermodynamics

- (B) Second law of thermodynamics
 - (C) Zeroth law of thermodynamics
 - (D) None of these
36. In a refrigeration cycle, the flow of refrigerant is controlled by
- (A) Compressor
 - (B) Condenser
 - (C) Evaporator
 - (D) Expansion valve
37. In a domestic vapour compression refrigerator, the refrigerant commonly used is
- (A) CO₂
 - (B) Ammonia
 - (C) R-12
 - (D) All of these
38. Domestic refrigerator working on vapour compression cycle uses the following type of expansion device
- (A) Electrically operated throttling valve
 - (B) Manually operated valve
 - (C) Thermostatic valve
 - (D) Capillary tube
39. The condition of refrigerant after passing through the expansion or throttle valve, in a vapour compression system is
- (A) High pressure saturated liquid
 - (B) Wet vapour
 - (C) Very wet vapour
 - (D) Dry vapour
40. The higher temperature in vapour compression cycle occurs at
- (A) Receiver
 - (B) Expansion valve
 - (C) Evaporator
 - (D) Compressor discharge
41. Time dependent permanent deformation is called _____.

- (a) Plastic deformation
- (b) Elastic deformation
- (c) Creep
- (d) Anelastic deformation

42. Figure-out the odd point in the following

- (a) Proportional limit
- (b) Elastic limit
- (c) Yield point
- (d) Fracture point

43. In a tensile test, necking starts at

- (A) Ultimate tensile stress
- (B) Lower yield stress
- (C) Upper yield stress
- (D) None of the above

44. Which phenomenon is not used in the measurement of hardness?

- (A) Wear
- (B) Fracture
- (C) Scratch
- (D) Indentation

45. Which hardness method can measure hardness of a grain?

- (A) Knoop
- (B) Shore
- (C) Rockwell
- (D) Vickers

46. The fatigue strength of mild steel is

- (A) equal to its yield strength
- (B) lower than its yield strength
- (C) equal to its tensile strength
- (D) lower than its tensile strength

47. Proof stress corresponds to

(A)elastic limit

(B)lower yield point

(C)higher yield point

(D)a specified strain

48. Strengthening of metal by plastic deformation is called

A. Strain Hardening

B. Work hardening

C. Cold Hardening

D. All of these

49. Plastic deformation is

A. Reversible

B. Irreversible

C. constant

D. temporary

50. Stress is directly proportional to strain. This statement is called

A. Hooke's law

B. Young's law

C. Stress law

D. None of these

Answer Key

1	C
2	A
3	C
4	A
5	D

6	C
7	D
8	A
9	C
10	B
11	A
12	A
13	A
14	D
15	C
16	C
17	D
18	C
19	A
20	B
21	A
22	D
23	C
24	C
25	A
26	A
27	A
28	D
29	D
30	A
31	D
32	A
33	D
34	B
35	C
36	D
37	C
38	D
39	C
40	D
41	C
42	D
43	A
44	B
45	A
46	B
47	D
48	D
49	B
50	A