

## RSGSML Chemical Engineering Questions and Answers



1. Which one of the following is incombustible ?

- A.H<sub>2</sub>
- B.CCl<sub>4</sub>
- C.C<sub>2</sub>H<sub>2</sub>
- D.S

Answer: Option B

2. The softness or hardness of a grinding wheel depends upon the type & amount of bonding material used. For general purpose cutter grinding \_\_\_\_\_ grinding wheel is normally used.

- A.hard
- B.soft
- C.silicon carbide
- D.aluminium oxide

Answer: Option D

3. Tin based white metals are used, where bearings are subjected to

- A.high pressure & load.
- B.low pressure & load.
- C.high temperature.
- D.large surface wear.

Answer: Option A

4. Friction factor for fluid flow in pipe does not depend upon the

- A.pipe length.
- B.pipe roughness.
- C.fluid density & viscosity.
- D.mass flow rate of fluid.

Answer: Option A

5. All of the following alloying elements of steel increases hardness but sacrifice ductility, except

- A.nickel
- B.vanadium

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- C.molybdenum
- D.chromium

Answer: Option A

11. In chemical dehumidification process

- A.wet bulb temperature increases.
- B.dry bulb temperature remains constant.
- C.dew point temperature increases.
- D.dry bulb temperature increases.

Answer: Option B

12. Secondary hardening in steels arises out of the

- A.precipitation of fine alloy carbides at high temperatures.
- B.refinement of ferrite grain size by working.
- C.decomposition of retained austenite upon heat treatment.
- D.precipitation of complex inter-metal-lics upon heat treatment.

Answer: Option C

13. Drills are usually made of

- A.cermets
- B.high speed steel
- C.alloy steel
- D.tungsten carbide

Answer: Option B

14. Tumbling is the process of improving the \_\_\_\_\_ of the materials/parts.

- A.surface finish
- B.fatigue limit
- C.creep limit
- D.surface cleanliness

Answer: Option D

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15. The \_\_\_\_\_ of a double acting reciprocating pump as compared to the single acting pump will be almost double.

- A.flow output
- B.head developed
- C.overall efficiency
- D.weight

Answer: Option A

16. To counteract the bad effects of strain hardening on a cold formed part, it must be

- A.tempered
- B.normalised
- C.annealed
- D.hardened

Answer: Option C

17. The dew point temperature lines on psychrometric charts are straight inclined sloping downwards to the right. When relative humidity of moist air is 100%, then

- A.wet bulb temperature=dry bulb temperature.
- B.wet bulb temperature=dew point temperature.
- C.saturation temperature=dew point temperature.
- D.all 'a' , 'b' & 'c'

Answer: Option D

18. Galvanic corrosion can not be prevented by

- A.cathodic protection.
- B.anodic protection.
- C.usage of largest possible anodic area.
- D.any one of these.

Answer: Option B

19. Fire in fuel gas pipelines is extinguished most effectively by

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- A.spraying water.
- B.blanketting the area with nitrogen atmosphere.
- C.fire fighting foam.
- D.none of these.

Answer: Option B

20. Which of the following is the most suitable abrasive for grinding high tensile strength materials ?

- A.Silicon carbide
- B.Corundum
- C.Aluminium oxide
- D.Boron carbide

Answer: Option C

21. Case hardening is not done by

- A.nitriding
- B.hot dipping
- C.electroplating
- D.both b & c

Answer: Option D

22. Satellites burn off during re-entry to earth's atmosphere, because of the

- A.combustion with air.
- B.gravitational pull by earth.
- C.friction with earth's atmosphere.
- D.loss in weight of the satellite.

Answer: Option C

23. With increase in compression ratio, the volumetric efficiency of air compressor

- A.increases.
- B.decreases.
- C.remains same.

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D.may increase or decrease (depends on the suction pressure).

Answer: Option A

24. Neutrons are present in all atoms except that of

- A.He
- B.C
- C.H
- D.Ar

Answer: Option C

25. Biological shield in a nuclear reactor is generally provided to protect against the

- A. $\alpha$ -rays
- B. $\beta$ -rays
- C.gamma rays & neutrons
- D.electrons

Answer: Option C

26. Skull is not formed on the carbon blocks in the hearth of a blast furnace, when it becomes cold, because of its

- A.non-wetting characteristic.
- B.high thermal conductivity.
- C.high crushing strength.
- D.none of these.

Answer: Option A

27. Firing temperature of magnesite bricks is about \_\_\_\_\_ °C.

- A.800-1000
- B.1000-1200
- C.1600-1800
- D.2400-2600

Answer: Option C

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28. Hollow refractory bricks are made by

- A.slip casting
- B.hand moulding
- C.pressing/machine moulding
- D.extrusion

Answer: Option A

29. Quartz is

- A.stable form of silica upto  $870^{\circ}\text{C}$ .
- B(converted to tridymite on firing between  $870$  to  $1470^{\circ}\text{C}$ .
- C.transformed to cristoballite on heating above  $1470^{\circ}\text{C}$ .
- D.all (a), (b) and (c).

Answer: Option D

30. An indication of degree of firing in silica brick is its

- A.specific gravity
- B.fusion point
- C.RUL
- D.none of these

Answer: Option A