



1. The pressure p in terms of its mean kinetic energy/unit volume E is
a. $E/3$ b. $E/2$ c. $3E/4$ d. $2E/3$ e. $5E/4$
2. Convert volumetric to gravitational, relative volume of each constituent of flue gas
a. %mw b. xmv c. me d. xsw e. %sw
3. Which is correct for reversible polytropic process?
a. temperature constant b. density constant c. volume constant
d. entropy constant e. same heat transfer
4. if a gas or vapour allowed to expand through a minute hole
a. free expansion b. hyperbolic c. adiabatic expansion
d. parabolic e. throttling
5. Minimum work of compressor is possible, when the adiabatic index is
a. 0.75 b. 1 c. 1.27 d. 1.35 e. 2
6. Under ideal condition, isothermal, isochoric, adiabatic and isobaric are
a. static b. dynamic c. quan-static d. stable e. thermodynamic
7. If a heat engine attains 100% efficiency, then it is
a. zeroth law b. I law c. II law d. no e. all
8. If Q_1 is the heat in source, Q_2 is the cold sink for heat pump then COP

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a. $Q1 / (Q1 - Q2)$ b. $Q2 / (Q1 - Q2)$ c. $(Q1 - Q2) / Q1$

9. The output of diesel engine is increased if

- a. more fuel
- b. flywheel size
- c. incoming air
- d. scavenging
- e. supercharging

10. Accumulation of carbon in the cylinder increases when

- a. decrease in volume
- b. volumetric efficiency
- c. ignition time
- d. effective compression ratio
- e. travel time

11. The most popular firing sequence

- a. 1234
- b. 1324
- c. 1423
- d. 1243
- e. 1342

12. for same power, same speed, flywheel of petrol and diesel engine are

- a. smaller
- b. greater
- c. equal
- d. none

13. If petrol is used in diesel engine, then

- a. higher knocking
- b. black smoke
- c. lot of fuel
- d. improper combustion

14. Ans .d) mechanical efficiency

15. Reciprocating compressor is used for

- a. large quantity of air at high pressure
- b. large quantity of air at low pressure
- c. low quantity of air at low pressure
- d. low quantity of air at high pressure



16. Thermal diffusivity

a. Dimensionless d. used in radiation process

17. Critical pressure

18. Cryogenics Ans - Option with engineering

19. Lean relation for

a. specific gravity b. dynamic viscosity

20. Centre of pressure = centre of gravity when

21. Flow of particles in definite path without change in the path of the particle

a. one dimensional b. c. turbulent d. steady state

22. Pressure coefficient is given by

23. Vortex or whirlpool is due to

a. cavitation b. wake c. drag

24. Rotometer is used

25. Axial flow pump is used

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26. To avoid cavitation

27. Fan laws

28. Rupture (what it is)

29. A belt drive, where pulley dia is double, and then its key length must be

a. doubled b. same c. increase the critical length d.

30. Surface contact in motion is called

a. roll pair b. surface pair c. lower pair d. slide

31. For fluctuating load----- is used

a. ball bearing b. roll bearing c. thrust bearing d. sleeve bearing

32. Transmit power

33. D_1 and D_2 are pulley dia, and then the speed is given by

34. To keep the noise to minimum

35. In pinion and gear design, the design must be made by

a. gear b. pinion c. both



36. The plate is severely deformed at a side then its grains become

- a. ductile b. malleable c.

37. What is recrystallization temperature?

38. What is austempering?

39. Acetylene is stored in ----- form

- a. liquid b. solid c. compressed

40. Tool life is concentrated on

- a. cutting speed b. material c. feed or depth

41. Reamer is used for

- a. b. to correct the size and finish

42. Statistical quality control charts use

- a. statistics b. probability c. all the above.