

Sample ELGI Placement Question Paper

SET I:

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 polytrophic 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
a. $Q_1 / (Q_1 - Q_2)$ b. $Q_2 / (Q_1 - Q_2)$ c. $(Q_1 - Q_2) / Q_1$
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

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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 on whirlpool is due to
a. cavitation b. wake c. drag
24. Rotometer is used
25. Axial flow pump is used
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

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33. D1 and D2 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 recrystallation 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.

SET II:

compressor performance curve

laser machining a) hard matl b) soft matl)

dynamic viscosity

shock absorber purpose

sp. Heat ratio

cetane number why

cantilever, simple supported beam (SFD,BMD)

intercooler why

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multistage pr. Problems

rain water spherical why

supercharging

rankine cycle how many process

vapour comp ref high head pr same even if comp is switched off why

adiabatic saturation a)dbt same b)wbt same

3 phase induction motor direction to be reversed how

ratio of (not clear) temp in a gas comp adiabatic to isothermal a) >1 b).1 c)=1

know about isothermal, polytropic, adiabatic

structure in engg. Mech

equilibrium conditions

circle eqn 1d,2d,3d (dimensions)

$ax^2+bx+c=0$ product of roots

$2x+y=4$ slope

slip gages in used only for less time and then kept separately

fuel economy factor

pr. Gage (manometers)