

SECTION I : TECHNICAL 50 QUESTIONS 30 MINS

- 1) Magnetic compass indicates
 - a. true north pole
 - b. alionic earth pole
 - c. geographic north pole
 - d. magnetic north pole
- 2) For a cantilever beam with uniformly varying load, shape of bending moment curve is
 - a. parabolic
 - b. hyperbolic
 - c. straightline
 - d. cubic
- 3) For perfectly elastic bodies, coefficient of restitution is
 - a. 0
 - b. 0.5
 - c. 1
 - d. infinity
- 4) For 1st order lever, mechanical advantage is
 - a.<math><1</math>
 - b.>math>>1</math>
 - c. =1
 - d.none
- 5) 18:4:1 in H.S.S represent
 - a. 18tu : 4vn : 1 cr. Other choices r just interchanged
- 6) Due to intense braking of an automobile reaction of wheels on road
 - Will be equally distributed to all 4 wheels.
 - Will be more at rear wheels
 - Inertia will be on the front wheels.
 - Not remember.
 - if u apply brakes on the weels of a bicycle then
 - a. normal reaction on the wheel increases
 - b. normal reaction on the wheel decreases
 - c. normal reaction remains same as there is no radial component of frictional force
- 7) thermal efficiency of I.C engines will be
 - a.20-25%
 - b.30-35%
 - c.60-75%
 - d. 45- 55%.
- 8) when a mass is supportedby spring of spring constant k, which is cut in 4 equal pieces and the connected in parallel way the equilent spring constant is
 - a. k/4
 - b. 16k
 - c. 64k
 - d. k
- 9) when a mass is supported on roof of a elevator and elevator moves with an acceleration of 4.9 m/s² shows a spring reading of 15kg, then the weight of the body is
 - a. 10
 - b. 15
 - c. 30
 - d. 20.
- 10) Mass production of bolts and rivets is by
 - a. hot extrusion
 - b. forging
 - c. cold heading
 - d. cold peening
- 11) why doesn't mercury stick to glass tube
 - a. cohesive force>adhesive force
 - b. cohesive force<adhesive force
 - c. cohesive force= adhesive force
 - d. none of the above
- 12) How r bolts and nuts manufactured?
 - a. head stamping
 - b. cold extrusion
 - c. cold peening
 - d. forging
- 13) Eulers formula is used for column of length
 - a. >math>>80</math>
 - b. <math><80</math>
 - c. >math>>90</math>
 - d. >math>>110</math>
- 14) If a body weighing 40kg floats in water with 40% of volume immersed, the sp.gravity of the body is
 - A. 1
 - b. 0.16
 - c. 0.25
 - d.
- 15) Axial claw clutches
 - a.Disengages
 - b. engages
 - c. engages only with load
 - d. operates only with load
- 16) If center distance of a involute mating gear changes then the pressure angle
 - a. Increases
 - b. decreases
 - c. remains unaltered

- 17) Normalising is
a. heated above critical temp and cooled in air.
b. heated above critical temp and quenched in oil
c. heated below critical temp and cooled in air
- 18) The best suited material for permanent magnet
a. Alnico b. silicon
- 19) Hookes joint is used for
a. parallel and intersecting shafts b. non parallel non intersecting
c. nonparallel and intersecting d. parallel and non intersecting
- 20) To have a const.velocity ratio the two gears should have (or) angular velocity of the gear will remain the same if the cuts the line joining at a fixed point ans law of gearing (check for ans)
- 21) Which of the following is a loose running fit
a. h6f6 b.h6e6 c. h6d6
- 22) Farenheit and centigrade are equal at
a.-40 b.0 c. 32 d.100
- 23) M10 hexagonal bolt is manufactured
a. upset forging and thread rolling b. casting and thread rolling
- 24) specific speed in a turbo machine depends on
a.geometric shape, b.size, c.head, d.all the above.
- 25) unit of surface roughness is
a.micron, b.PPM, c.mm² ,d.meter
- 26) mohr's circle is used to find
a.principle stress, b.resultant of... ANS:c (check for ans)
- 27) storage, transportation, operation, delay, inspection symbols are used in
a.process chart, b.mam m/c chart, c.grant chart, d.all the above.
- 28) melting point of ice changes with
a.increase with pressure, b.increase with pressure ratio.
- 29) If the speed of fan is doubled,quantity of air displaced is
a.doubled, b.4times, c.1/2 times d.remains same.
- 30) which has less carbon content
a.tool steel, b.spring steel, carburising steel, forging steel.
- 31) when a helical compressive spring is subjected to axial compression load,the stress induced in the spring will be
a. tensile, b. compressive, c. shear. d. none
- 32) for a bar element if area, length, and stress are doubled the elastic strain energy will be
a. Half b. doubled c. 4 times d. 8 times
- 33) for a punching die, 2mm thick sheet, dia. D, force f, the shear force is
ans: 8800 (check for ans)
- 34) spheroidising is a process of
a. annealing b. normalizing c. tempering d. case hardening

35) what type of thread is used in lead screw of a lathe
a. acme thread b. V c. square d. buttress

36) Wear allowance of a go nogo end plug gauge is given for
a. go end b. nogo end

37) Internal spur gears can be made by using
a. gear shaping b. slotting c. gear hobbing

38). Height of the capillary varies with
a. increase with increase in dia of tube
b. increase with increase in sp. weight
c. increase with decrease in dia
d. increase with decrease in sp. weight

39) a bolt of nominal diameter 33mm the stress of 100N/mm² the safe load is
a. 60KN b. 100 kn c. 160kn.

40) a cylinder with in 1% of the tolerance capacity limit, the permissible tolerance in height and radius are
ans is 0.2% radius and 0.25 height. (check for ans)

41) in ball bearings cage is used for
a. to maintain the ball position b. to maintain parallelism between inner and outer race.

42) Pumped storage plants are used mainly for
a. high head b. run off river.

43) For an incompressible solid, poisson's ratio is

44) distance of ozone layer from surface of earth
a. 0 to 100 km b. 20 to 50 km c. 50 to 100 km d. 10 to 15 km

45) An elevator is moving up with an acc. of 4.9 m/sec² a body weighing 15 kg is attached with spring balance. what is the value in the spring balance
a. 10 b. 15 c. 20 d. 30

46) at same heat input and max pressure
a. efficiency of otto cycle more than diesel
b. efficiency of dual cycle more than diesel
c. efficiency of diesel cycle more than otto
d.related

47) bending stress is (y is the distance from the neutral axis)
a. inversely proportional to y b. proportional to y
c. independent of y d.

48) if the body is 40% immersed in water what will be its specific gravity

49) the temp at the three edges of a square shaped body is 0 C and on the fourth edge is 100 c
find the temp at the centre of the square
a. 25 b. 100 c. 50 d. 0

50) True or false

- i) Plaster of paris is made from dolomite, bauxite, and limestone.
- ii) Highest temperature is represented by red colour.
- iii) In ball bearing grease lubrication acts as boundary layer lubrication.

SECTION II : APTITUDE 50 QUESTIONS 30 MINS

- 1) Complete the series: 462, 420, 380, (), 306 ans.342 ..
- 2) Complete the series: 1, 4, 9, 16, 25, () ans 36
- 3) Pick odd one out: geometry, algebra, arithmetic, mathematics
- 4) Analogy - moon : satellite :: earth: ? ans:planet

INTERVIEW QUESTIONS

- Components of a motor transformer -types
- Design of motor
- Poka yoke, kanban
- 5 P's inmarketing,(price,place)
- What is turbo charger?
- Design of silencer and it's purpose
- Reinforced concrete beam (rcc beam)
- Formula for moment of inertia
- How will analyse rcc beam in ansys
- Laws of thermodyamics
- Carnot cycle explain?
- What is tqm, tpm, jit, 5s principle?
- Define force?
- Charles law ,boyles law
- Why do you use collant while machining?
- Iron carbon equilibrium diagram explain?
- Questions regarding your electives & inplant training
- Your personal interest
- Different types of load acting on beam
- Wheather shear force act on railway bridge?
- What subjects you studied, questions on the subjects you say
- Design a fan
- What is the direction of rotation of ceiling fan ?
- Why it always rotates in anticlockwise direction?
- If you change direction of rotation what will happen?