

- 1) Impedance measured in the synchronous Impedance method is \_\_\_  
 (i) less than the actual (ii) greater than the actual (iii) near to actual bcz it considers the magnetic saturation (iv) near to actual bcz it doesn't consider the mag saturation (v) none of these
- (2) What happens if the turbine I/p is increased \_\_\_ (real power will increase, reactive power will increase, reactive power will increase but power angle will decrease, reactive power will increase and power angle will increase)
- (3) if a shunt capacitor is added to the bus which is driven by a syn m/c \_\_\_ (stability increases, stability decreases, remains same)
- (4) when will the 2 diff T/Fs working in parallel will share the load acc to the their KVA rating \_\_\_ (in terms of leakage imp)
- (5) Moving coils instruments are used to measure \_\_\_ (Dc only)
- (6) If a 100mA instrument has a accuracy of +/- 2%, what is the accuracy if it reads 50mA \_\_\_
- (7) In blocked rotor test power drawn from the src is wasted in \_\_\_ (core + copper losses)
- (8) In SC test of T/F the predominant losses are \_\_\_ (cu losses)
- (9) In which case Thyristor converter can act as Inverter \_\_\_
- (10) Function of auxiliary diode in the Thyristor commutation circuit \_\_\_
- (11) Sinusoidal pulse width modulation is used to contro \_\_\_  
 (i) Voltage (ii) frequency (iii) voltage & frequency
- (12) in RH table no of sign changes of the first row will indicate \_\_\_ (no of roots with +ve coefficient)
- (13) one fn in S-domain was given asked to find-out the final value \_\_\_ (Ans: multiply the fn with 'S' and replace the value of s=0))
- (14) Steady st and transient values of the fn  $v/R [1 - (e^{-3t})]$  \_\_\_ (Ans:  $V/R, v*(e^{-3t})/R$ )
- (15) Some 10 -12 from mechanical engg
- (16) What happens if Dc series motor started without/light load \_\_\_ (speed will be dangerously

high)

(17) In a 3-ph T/F delta connection if one of the ph disconnected, then the open delta T/F can be loaded to\_ \_ \_ (57.7% of the capacity)

(18) which way does the reluctance motor operates\_ \_ \_ (starts as a reactance and runs as a IM, starts as 1ph IM ...)

(19) Motor used in hand tools\_ \_ \_

(20) Hysteresis motor can run in\_ \_ \_ (above/below syn speeds, only above syn speed...)

(21) what is Rsh in Dc shunt m/c indicates\_ \_ \_ (field winding, max R above which m/c fails to start, min R above which m/c fails to start,...)

(22) What is the cut-off voltage of the Si \_ \_ \_

(23) Which the semiconductor in the given list\_ \_ \_ (Germanium)

(24) 8085 is a\_ \_ \_ (8-bit processor)

(25) When will T/F regulation can be zero\_ \_ \_ (lagging load, leading load, UPF, zero, never)

(26) Load current of the T/f at max efficiency\_ \_ \_ (Ans: if  $W_i \rightarrow$  core loss and  $R \rightarrow$  eq resistance ( $\sqrt{W_i/R}$ ))

(27) Generated e.m.f depends on\_ \_ \_ (Ans: max flux, speed, no of poles & type of wng)

(28) in flux control method of dc Motor if the flux is reduced what happens to the speed and torque \_ \_ \_

(29) What is the purpose of external resistance in slip-ring IM\_ \_ \_

(30) Op Amp will have\_ \_ \_ (high I/P imp and zero O/p Imp)

(31) Constant amplifier and .... Both will have\_ \_ \_ (high I/P imp)

(32) 2 generators G1, G2 are working in parallel, what is the necessary condition of the G1 has to disconnect and the whole has to be carried out by G2\_ \_ \_

- (33) Lagging p.f load will be burden to the\_\_\_ (consumer, power plant, both ...)
- (34) Percentage of oxygen in the air is\_\_\_ (21%)
- (36) One question on Circuit breakers
- (37) Nuclear & high capacity steam plants are preferred for\_\_\_ (Ans: base load)
- (38) N-type semi conductor can be formed by\_\_\_ (option: pure Si, Si + boron, si+ phosphorous, ..)
- (39) Which is correct in the below list in reverse bias operation of diode\_\_\_ (Ans: very negligible reverse current flows)
- (40) in electrolytes current flows bcz of the moment of\_\_\_ (electrons, protons, atoms, molecules)
- (41) P-type semi -conductor will have\_\_\_ (deficiency of electrons)
- (42) 2 questions on Thevenin and Nortons theorems
- (43) one que on A/d converters something like which of the following converts uses the internal slope
- (44) Why is BJT have  $V_{cc}$  at collector\_\_\_
- (45) Schmitt trigger can be used for\_\_\_ (square wave generator)
- (45) BJT characteristics\_\_\_ (in terms of junction imp)
- (46) Which of the below controller gives good steady st and transient stability\_\_\_ ( PID, PI, PD ...)
- (47) In general computer the CPU including all the busses, ALU & control unit on single chip is called \_\_\_ (hard ware, microprocessor, mother board, RAM)
- (48) The component which is generally programmed after packing is\_\_\_ (Ans: PROM)
- (49) The most dangerous fault near the generator\_\_\_ (3-ph, p-ph to grd, 2-ph ...)

- (50) relation b/w stator and rotor fluxes. \_ \_ \_
- (51) max difference b/t true value and instrument reading is called\_ \_ \_ (error, discrepancy, accuracy, deficiency..)
- (52) Corrosion is an example of\_ \_ \_ (option: erosion, oxidation....)
- (53) A transmission line has 50K-ohm for 2Km, what is resistance for 200Km ? \_ \_ \_
- (54) what happens to the armature reaction if a leading pf load is connected\_ \_ \_ (only demagnetization, only cross magnetization, both ..)
- (55) In India % of voltage regulation allowed\_ \_ \_ (+/- 5%, +/- 3%, +/- .01%,....)  
Also some question infinite bus
- (56) Tap changing T/F are used for\_ \_ \_ (STEP UP, STEP DOWN, BOTH, to provide low voltage/current to instruments)
- (57) time constant of a RLC parallel circuit. \_ \_ \_
- (58) Quality factor\_ \_ \_ (WL/R)
- (59) Half adder is an equivalent of\_ \_ \_ (options ex-or,nand,nor,ex-nor..)
- (60) Which of the below is a universal gate\_ \_ \_ (Nand, AND,OR..)
- (61) 741 IC is\_ \_ \_ (op-amp, timer....)
- (62) Out-put equation of chopper\_ \_ \_
- (63) one que on multi vibrators\_ \_ \_
- (64) in thyristor Gate pulse is applied b/t\_ \_ \_ (anode and gate)
- (65) ideal voltage source src and constant amplifier will have\_ \_ \_ (high i/p imp)
- (66) The component which works on last in first out in micro-processor is called\_ \_ \_ (Stack)
- (67) Combinational circuit in the below list \_ \_ \_ (Nand, AND, multivibrator ...)

(68) When is the MHO relay used\_ \_ \_

(69) What is a multiplexer\_ \_ \_ (Ans: Device which selects a single i/p from n lines and transmits to a single o/p line depending upon the select lines)

(70) function of program counter\_ \_ \_ (Ans: stores the address of the next instruction to be fetched)

(71) A watt meter current coil is connected in R-ph and potential coil b/t Y & B, what is reading indicates. \_ \_ \_

(72) In 3-ph circuit if the P.f is 0.3 then\_ \_ \_ (one watt meter is -ve, can't determine, both are -ve...)

1. The ratio of two specific heats of air is equal to. = 1.41

2. A perfect gas at 270C is heated at constant pressure till its volume is double. The final temperature is = 3270C

3. An engine operates between temperature of 9000K and T2 and another engine between T2 and 8000K. For both to do equal work, value of T2 will be. = 6500K

4. Internal energy of a substance depends on = Temperature

5. Work done in compressing 1kg of gas adiabatically from p1,V1,T1 to p2, V2, T2 is equal to =  $C_v(T_2-T_1)$

6. The unit of entropy is = J/kg 0K

7. Indicated power of a 4-stroke engine is equal to =  $pLAN/2$

8. Which of the following is not an internal combustion engine : a) 2 stroke petrol engine b)4 stroke petrol engine c) Diesel engine d) steam engine e) Gas turbine. = (d)

9. If one cylinder of a diesel engine receives more fuel than the others, then for that cylinder the:  
a) exhaust will be smoky b) piston rings would stick into piston grooves c) exhaust temperature will be high d) engine starts overheating e) all of the above. = (e)

10. The spark plug gap is normally maintained at: = 0.45 to 0.6mm
11. A distributor in spark ignition engines performs the function of : = Providing the correct firing order in engine
12. Which of the following does not relate to C.I. engine:: a) fuel pump b) fuel injector c) governor d) carburetor e) flywheel = (d)
13. Air fuel ratio in a jet engine is = 60:1
14. What is the value of Prandtl No.?
15. In domestic refrigerator, the tubes at the back of the refrigerator are: a) evaporator b) condenser c) capillary tubes d)
16. Which refrigerants has the highest critical point temperature. = Freon-11
17. Wet bulb temperature is. = indication of amount of moisture in air
18. On psychrometric chart, dry bulb temperature lines are. = Vertical
19. Surface tension has the units. = newtons/m
20. The line of action of the buoyant force acts through the. = centroid of the displaced volume of fluid
21. A pressure of 25m of head of water is equal to. =245kN/m<sup>2</sup>
22. For a submerged body to be in stable equilibrium, the centre of gravity should be. =Below the centre of buoyancy.
23. The actual velocity at vena contracta for flow through an orifice from a reservoir of height H=? . = $C_v\sqrt{2gH}$
24. A body weighing 2kg in air weights 2.5kg when submerged in water. Its specific gravity is. = 6
25. In a free vortex motion: = each particle moves in a circular path with a speed varying inversely as the distance from the centre.

26. A centrifugal pump has speed-1000rpm, Flow-1200l.p.m, Head-20m, Power-5H.P. If its speed is increased to 1500rpm, new flow will be.: = 1800l.p.m
27. Runaway speed of a hydraulic turbine is: = the speed if the turbine runner is allowed to revolve freely without load and with the wicket gates wide open.
28. 10m of water column is equal to = 100kN/m<sup>2</sup>
29. M.I. of a circular area about an axis perpendicular to the area is: =  $\frac{\pi r^4}{2}$
30. A projectile is fired at an angle  $\theta$  to the vertical. Its horizontal range will be maximum when  $\theta$  is . =45°
31. An elevator weighing 1000kg attains an upward velocity of 4m/sec in two seconds with uniform acceleration. The tension in the supporting cables will be = 1200kg.
32. A 13m ladder is placed against a smooth vertical wall with its lower end 5m from the wall. What should be the co-efficient of friction between ladder and floor so that it remains in equilibrium. = 0.21
33. A car is moving with a velocity of 60km/hr and possesses energy of  $5 \times 10^5$  joules. The mass of the car will be. =3000kg.
34. If  $l$  is the span of a light suspension bridge whose each cable carries total weight ( $w$ ) and the central dip is  $y$ , the horizontal pull at each support is: =  $wl/y$  OR
35. A beam of length  $l$ , having uniform load  $w$  kg/unit length is supported freely at the ends. The moments at mid span will be: =  $wl^2/8$ .
36. A boiler shell 200cm dia and plate thickness 1.5cm is subjected to internal pressure of 1.5MN/m<sup>2</sup>, then the hoop stress will be. = 100N/m<sup>2</sup>
37. 100KW is to be transmitted by each of two separate shafts. A is turning at 250rpm and B at 300rpm. Which shaft must have greater diameter.: = B
38. Two identical leaf springs of spring constant  $k$  are arranged like cantilevers in parallel and attached at free end by a spring of spring constant  $k$ . The equivalent spring constant of combination is; = 1.5k.
39. Automobile steering gear is an example of: = lower pair.

40. The type of coupling used to join two shafts whose axes are neither in same straight line nor parallel, but intersect is. = Universal coupling.
41. To transmit power from one rotation shaft to another whose axes are neither parallel nor intersecting, use: = Spiral gear.
42. A gear having 100 teeth is fixed and another gear having 25 teeth revolves around it, the centre lines of both gears being joined by an arm. How many revolutions will be made by gear of 25 teeth for one revolution of arm. = 5 rev.
43. The secondary critical speed of a shaft occurs at: = twice the speed of primary critical speed.
44. Brittle coating technique is used for: = experimental stress analysis.
45. Factor of safety is the ratio of: = yield stress/working stress.
46. Type of gear used for non-intersection perpendicular shafts: = Hypoid gears.
47. Corrosion resistance of steel is increased by adding: = Chromium & Nickel
48. The product of Cupola is called: = cast iron
49. Brinell tester uses a hardness steel ball of size: = 10mm
50. Sintered and tungsten carbides can be machined by: = EDM
51. What kind of abrasive cut off wheel should be used to cut concrete, stone and masonry?  
=Diamond grit.
52. In break-even analysis, total cost consists of: = Fixed cost + Variable cost.
53. The amount deducted from the salary of workers towards employees provident fund is :  
=deposited in the account of worker with Provident Fund Commissioner.
54. PERT is: = event oriented technique
55. Bar charts are suitable for: = minor works.
56. ? on a PERT/CPM chart represents: = a significant event representing some mile-stone



57. Electron volt is the unit of : = Energy.

58. Seamless tubes are made by?

59. Reheating in gas turbine results in: = increase of work ratio and decrease of thermal efficiency.

60. Why DC current is not used in transformer?

61. What is the purpose of draft tube in hydraulic turbines: = to convert the kinetic energy into pressure energy.

62. A mass of 100kg is falling from a height of 1m and penetrates the sand to 1m. what is the resistance force of the sand?

63. Two cars travel in the same direction at 40km/hr at a regular distance. A car comes in the opposite direction at 60km/hr. It meets each car in a gap of 8 seconds. What is the distance between the two cars?