TECHNICAL PAPER-40 QUESTION, 45- MINUTES

(1)in a ckt. We r giving voltage of 50 Hz as well as 60. then what will be the resultant frequency.
(a)less than 50 (b)more than 60(c)in between 50 & 60
(d)none……….according to our conclusion answer will be none because if we apply two frequency component resultant frequency we can not say with such an ease.U should confirm the answer

2.In a ckt a single resistor is connected across a d.c. source, what will be the effect on current in first resistor if we connect one more resistance in parallel with earlier one….
Answer.. no change since it is a parallel combination.

3.why we don't like flashover in transmission line (t-line)-
(a) it may create earth fault(b)it reduces the life of insulator…..
Read something about flashover & puncture.

4.total no of strands in a arcs conductor is 81, then what is the no. of conductor in its outer layer….(a)36 (b)18 (c)24…….Also read some more on acsr.

5.Two questions based on p.u. calculation like , p.u. calculation is given with respect to some old base and u have to calculate it with reference to new base.
(new resistance/old)=(mva new /mva old)*(old voltage/new voltage) $^{2.}$
Other question is based upon transfer of p.u calculation in transformer i.e. how base changes when we we move from primary to secondary or like wise.read some more on p.u calculation.

6.which table is referred for sag calculation-
(a)stringing chart……answer

7.in a R-L ckt a ac voltage is applied , such that instantaneous power is negative for 2ms, then what will be the power factor.
(a) 9 deg, (b) 18 deg, (c) 36 Deg………..(I don't know the correct ans)

8. In an incandescent lamp
(a) luminous intensity is more than non-luminous intensity
(b) ,,   ,,   ,, less ,,   ,,   ,,

Ans: Since efficiency is less than 100%, hence ans is (b), u should confirm it further.

9. In which motor no-load to full-load diff. is lowest
(a) series motor, (b) shunt motor, (c) Compound motor
Ans: (b)

10. In a 60Hz induction motor full load speed is 850 rpm then what is the Synchronous speed. (a) 900 rpm, (b) 950 rpm, (c) 1600 rpm……………..Ans: (a)

11. A sync. Motor is running at synch. Speed, if al of sudden D.C. excitation is removed, then
(a) it will rotate at slip speed, (b) it will stop, (c) it will continue to rotate at sync. Speed
Ans: (a), because actually it will acts as Induction motor.

12. A transmission line is designed for 50Hz, 440KV. If we want to transfer power at 60Hz, 440 KV, then the power transfer capability will
(a) decrease, (b) Increase, (c)None
Ans: (a) …as P=(|Vt| |Ef| sin (delta)) / X, where (delta) is torque angle.

13. Increased rotor resistance in rotor ckt of induction motor is related with
(a) high starting torque, (b) more speed variation,…………………Ans: (a)

14. In the formulae E = 4.44 f N Φ, Φ is
(a) Avg value, (b) Rms value, (c) Maximum value…………………Ans: (a)…[confirm it]

15. Voltage & current in a ckt is given by V= V1+j V2 and I= I1 +j I2, then rms power is
 …….(refer book by Edministrator on NETWORK ..)

16. Input impedence of MOSFET is
(a) more than BJT……..(Ans)

17, 18. Remember truth table of AND,   NOR, NAND, OR, EX-OR ETC…

19. Conversion of Binary number into Equivalent decimal No.

20. Megger is used for the measurement of (a) Insulation resistance, (b) Conductor resistance………….Ans: (a)

21. Form factor for sinusoidal as well as DC

22. Formulae of Regulation (Vs- Vr)* 100/ Vr, then transmission line is
(a) short transmission line, (b) long, (c) medium………………Ans: (a)

23. Improvement in power factor reduces
(a) power consumed by consumer, (b) power generation, (c) both a & b………..Ans: (c)
[Confirm it]

24. Read about field test of Series Motor…

25. No-load test for Synchronous motor, the graph is drawn
(a) stator open ckt emf Vs field current…………………………………(Ans: a)

<!--[if !supLists]--> 26.   <!--[endif]-->An AC voltage of 50Hz is impressed in a resistive ckt, the oscillating power has a frequency (a) 50 Hz, (b) 100, (c) no oscillating power is there in resistive ckt……Ans: (a)

27. Insulation used in transformer _____ _____ leakage flux.
 (a) increases, (b) decreases…………Ans: (b)

28.After rain what happens to Insulator (a) break-down strength of Insulator decreases, (b)Arch length reduces, ……….Ans: (b)…..[Confirm it]

29.Diversity factor helps to …………(what ?)
[Read diversity factor, load factor, Reserve capacity factor in depth, with calculation]

30. Why capacitance is shown as a Shunt element in analysis of transmission line
 (a) it is between Conductor & earth, (b) because Admittance is used for calculation of capacitive reactance……………………Ans: (a)

31. B-R-Y sequence is followed in three phase system, if phase voltage in B-phase is Vm sin 100, then the phase voltage in R-phase would be (a) Vm sin (-20)……Ans:(a)

32. In a particular ckt I = Im Sin (wt -270) and V = Vm Sin wt, then type of ckt is (a) pure resistive ckt……………….[Ans]

33. In a L-R ckt energy lost = 2000 W, energy conserved = 500W, then what is the time constant………..Ans: time constant = L/R = 0.5

34. In electro-dynamometer A'meter & wattmeter the type of scale is …Ans:Non-uniform

35. For the same current carrying capacity corona loss of ACSR will be _____than copper conductor. (a) more, (b) less, (c) equal…Ans:(b)

36. A R-C ckt , supplied with DC, a bulb is connected across the Capacitor, then what happens to the illumination, if we change the capacitance.
Ans: No change at all

37. Read about surge impendence of over-head and under-ground cable, Surge impedence formula = sqrt(L/C)

*****[N.B] We are not mentioning the options in sequence, and do not think that ans for the most questions is option (a). Read all options very carefully as all are very close to each other.

QUANTITATIVE PAPER + PCM paper

45 Questions ---------45 minutes
1. About 10 quanti questions (based on Mixture, Work etc. of very easy type)
2. What is GDP ?
3. Vector algebra, codition for Co-planer vector etc.
4. Gravitation, geo-synchronous satellite(it's hight, orbit , radius etc.), escape velocity, how g (gravitational accln) varies, about gravitational potential.
 5. Basic electricity and Magnetism----Biot-savart law, current carrying conductor properties.
6. Nuclear physics, Bohr's constant, and Other theories related .
7. Problem based on VIBGYOR , how wave length and frequency is varying.

8. Questions based on Plank's Theory, E =hv

9. V=u + at , V2=u2 + 2as and W = mgh

questions based on above theory

10. Faraday's laws of electrolysis, m = Zit

11. Heat conduction problem.

12. Co lour-coding of resistor (BBROYGBVGW)

13. How velocity of light changes in different medium while frequency remain unchanged.

14. statistics , calculation of mode, co-efficient regression (3-4 Questions)

15. f(x) = Sin x + Cos x, find the maximum value of the function.......Ans: sqrt (2)

16. Formulae for parallel plate capacitor and force between plates.