

Electrical Machine-II

Very Short Answer type questions

- Q. The high speed motors are of ____ type..
- Q Define cogging.
- Q Yoke of an induction motor .
- Q A squirrel cage induction motor
- Q Why the induction motors are called asynchronous motor?
- Q Stator stampings are made of _____.
- Q For record players _____ Motors are suitable.
- Q A universal motor has _____ starting torque.
- Q The function of the starter .
- Q How will you reverse the direction of rotation of induction motor?
- Q Scharge motor is used in _____.
- Q Linear induction motor gives _____ motion.
- Q The value of slip of an induction motor at the starting instant is _____.
- Q Salient pole synchronous motors runs at _____ speed.
- Q Turbo alternators are usually operated at a speed of _____ r.p.m.
- Q Which type of induction motor develops higher starting torque?
- Q On what factors speed of induction motor depends?

Short answer type questions.

- Q Why distributed winding is preferred over concentrated winding?
- Q What are the advantage of rotation magnetic field?
- Q Explain the principle of operation of repulsion motor?
- Q Explain the advantages of double cage induction motor.
- Q What is crawling? Explain.
- Q Explain why is starter core of an alternator is laminated?
- Q What do you mean by synchronizing of alternator?
- Q Explain some applications of stepper motor.
- Q Compare the induction and synchronous motor.
- Q What are the advantages of parallel operation of alternator?
- Q Define leakage reactance in detail.
- Q What are the applications of induction motors?
- Q Explain the principle of operation of universal motor.
- Q How does capacitor start motor is differ from a resistance start motor?
- Q Explain hunting in detail.

Long answer type questions

- Q. What do you mean by special purpose machines? Explain in detail.
- Q. Explain the principle of operation of shaded pole motor?
- Q. Explain the various methods of speed control of induction motor.
- Q. Explain the comparison b/w squirrel cage & phase wound induction motor?
- Q. Explain the following:-
 - (a) Split phase induction motor.
 - (b) Capacitor run motor.

Industrial Electronics and Control of drives.

Very Short Answer type questions.

- Q. An SCR has _____ terminals.
- Q TRIAC is used for _____
- Q Draw structure of DIAC.
- Q What is di/dt rating of SCR?
- Q Define gate triggering.
- Q Name two methods of commutation of thyristors.
- Q Name any two materials generally used for heat sinks.
- Q Expand UJT.
- Q Define Controlled rectifier.
- Q The single phase fully controlled full wave rectifier uses _____ number of SCRs.
- Q The output voltage of a controlled rectifier is maximum, when firing angle is _____.
- Q The output frequency of an inverter depends upon _____.
- Q Compare class-D chopper and Class-E chopper.
- Q In dual converter, one converter acts as _____ and the other acts as _____.
- Q A Cycloconverter is a device which _____.
- Q What is Slip power?
- Q Define offline UPS.
- Q Expand SMPS.

Short answer type questions.

- Q. Explain V-I characteristics of SCR.
- Q Explain working principle of DIAC.
- Q What is the need of heat sinks for thyristors?
- Q Write a short note on "UJT relaxation oscillator".
- Q Explain dv/dt and di/dt protection of SCR.
- Q Write a short note on "Controlled rectifiers".
- Q Explain the concept of freewheeling diode.
- Q What are application of inverter?
- Q Explain the working principle of chopper.
- Q Write a short note on "Dual converters".
- Q Explain the block diagram of an Electric drive.
- Q Explain single phase full wave converter drives.
- Q Write a short note on "AC drive control"
- Q Write a short note on "Stabilizer"
- Q Draw block diagram of SMPS.

Long answer type questions.

- Q. Explain in detail, series and parallel operation of thyristors.
- Q. Explain with diagram single phase half wave controlled rectifier with resistive load and inductive load.
- Q. What is the principle of cycloconverter? Also write applications of cycloconverter.
- Q. Explain the block diagram of speed control of a DC motor using chopper.
- Q. Draw and explain block diagram of On-line UPS.

Elect. Power-I / Power system-I

Very Short Answer type questions.

- Q. The transmission and distribution line expenditure are maximum in _____ power station.
- Q The chemical formula for heavy water is _____.
- Q Usually, Primary transmission is done by ac _____ Phase _____ Wire.
- Q The higher the transmission voltage _____ is the conductor material required.
- Q ACSR stands for _____.
- Q For the larger sag _____ tower are required.
- Q As the transmission voltage increased the percentage resistance drop _____.
- Q If the power factor of the load is improved the line losses are _____.
- Q Distribution transformers are usually connected in _____.
- Q Feeder is a line conductor which connects _____.
- Q An under excited synchronous motor operate _____ power factor.
- Q $KVAR = \tan F$.
- Q The most important function performed at the substation is _____.
- Q Approximate formula for Sag _____.
- Q The ratio of average load to maximum load in power system is called _____.
- Q The capacitance formed across the metallic link of the disc is called _____ capacitance.
- Q Smaller the sag _____ is the tension in the conductor.
- Q Lattice steel tower are usually fabricated at _____.

Short answer type questions.

- Q What is air pre heater?
- Q what are the advantage and dis- advantage of 3 phase AC transmission over DC transmission?
- Q Explain how string efficiency is improved?
- Q Explain various methods by which we can reduce corona?.
- Q Explain ring main system for power distribution.
- Q The main consideration while designing a distributor is voltage drop in it, why?
- Q What are the merits and demerits of outdoor substation?
- Q What are the disadvantages of poor power factor?
- Q What are the causes of poor power factor?
- Q What is the function of condenser in steam power plant?
- Q What do you mean by spill way, where they are used?
- Q Define base load and peak load.
- Q Define the term penstock and DAM.
- Q What are the points keep in mind while selecting the site for hydro power plant?
- Q Explain different types of fault occur in underground system.

Long answer type questions.

- Q.3Derive a relation for string efficiency of a three unit string of suspension insulators.
- Q.what are the merits and demerits of ACSR conductors over copper conductors used in overhead line?
- Q. How power factor affect the cost of power system?
- Q. What are the various methods of laying of underground cables?
- Q. Draw key diagram of nuclear power plant & explain the functions of various parts.

Digital Electrical & Microprocessors

Very Short Answer type questions.

- Q. The radix of octal number is _____.
- Q Define 1's complement method.
- Q What is truth table?
- Q Define Combinational circuits.
- Q Define DeMorgan's theorem.
- Q Define De- multiplexer.
- Q Write any two applications of flip flops.
- Q Write any two types of counters.
- Q Define D/A converter.
- Q Define semi-conductor memories.
- Q IC 8085 has _____ number of pins.
- Q _____ is non- maskable interrupts.
- Q What is function of program counter?
- Q Define register indirect addressing mode.
- Q Define debugging.
- Q Define Opcode.
- Q Define stack.
- Q IC 8259 is used for _____.

Short answer type questions

- Q Write a short note on "BCD code".
- Q Subtract 11011 from 11110 using 2's compliment method.
- Q Why NAND and NOR gates are known as Universal gates?
- Q What are three basic laws of Boolean algebra?
- Q State and explain DeMorgan's Theorems.
- Q What is the difference between half adder and full adder?
- Q Draw block diagram and truth table of 4:1 MUX.
- Q Explain operation of J-K flip flops with the help of truth table.
- Q Write a short note on "Counters".
- Q What are different types of Semi conductor memories?
- Q Draw pin configuration of 8085 microprocessor.
- Q What are different types of addressing modes in 8085 microprocessor.
- Q What are different schemes of data transfer between peripheral and microprocessor?
- Q Write a short note on " IC 8257".
- Q What are the main features of 8085 microprocessor?

Long answer type questions.

- Q. Draw symbol and truth table of OR, AND, NAND, NOR & X-OR gates.
- Q. Find out the minimal expression for the function using K-Map
$$Y(A,B,C,D)=\sum (1,5,7,8,12)+d(3,10,14)$$
- Q. Draw diagram and explain working principle of R-2R D/A converter.
- Q. Draw architecture of 8085 microprocessor. Also explain each block of 8085 microprocessor.
- Q. Write an assembly language program for finding average of N given numbers.