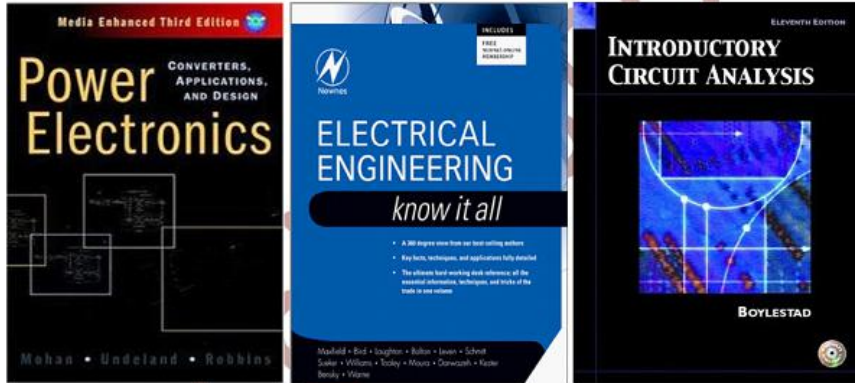


EEE(ইইই) রিলেটেড বই ডাউনলোড এবং রিকুয়েস্ট করতে জয়েন করতে পারেন আমাদের ফেসবুক গ্রুপ এ

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Electrical Interview Questions

Question) s Part 1

Question) :What is electric traction?

Answer:Traction means using the electric power for traction system i.e. for railways,trams, trolleys etc. electric traction means use of the electricity for all these . now a days, magnetic traction is also used for bullet trains. basically dc motors are used for electric traction systems.

Question) :How can you start-up the 40w tube lite with 230v AC/DC without using any choke/Coil?

Answer:It's possible by means of Electronic choke.otherwise it's not possible to ionize the particles in tube. light, with normal voltage.

Question) :What is "pu" in electrical engineering?

Answer:Pu stands for per unit and this will be used in power system single line diagram there it is like a huge electrical circuit with no of componenes (generators, transformers, loads) with different ratings (in MVA and KV). To bring all the ratings into common platform we use pu concept in which, in general largest MVA and KV ratings of the component is considered as base values, then all other component ratings will get back into this basis.Those values are called as pu values. ($p.u = \text{actual value} / \text{base value}$).

Question) :Operation carried out in Thermal power station?

Answer:The water is obtained in the boiler and the coal is burnt so that steam is obtained this steam is allowed to hit the turbine , the turbine which is coupled with the generator generates the electricity

Question) :Why link is provided in neutral of an ac circuit and fuse in phase of ac circuit?

Answer:Link is provided at a Neutral common point in the circuit from which various connection are taken for the individual control circuit and so it is given in a link form to withstand high Amps. But in the case of Fuse in the Phase of AC circuit it is designed such that the fuse rating is calculated for the particular circuit (i.e load) only.So if any malfunction happen the fuse connected in the particular control circuit alone will blow off.

Question) : what is the diff. btwn. electronic regulator and ordinary rheostat regulator for fans?

Answer:The difference between the electronic and ordinary regulator is that in electronic reg. power losses are less because as we decrease the speed the electronic reg. give the power needed for that particular speed but in case of ordinary rheostat type reg. the power wastage is same for every speed and no power is saved.In electronic regulator triac is employed for speed control.by varying the firing angle speed is controlled but in rheostatic control resistance is decreased by steps to achieve speed control.

(Tips to bloggers:keyword density is more important in search engine ranking)

Question) s Part 2

Question) :How tube light circuit is connected and how it works?

Answer:A choke is connected in one end of the tube light and a starter is in series with the circuit. When supply is provided ,the starter will interrupt the supply cycle of AC. Due to the sudden change of supply the chock will generate around 1000volts . This volt will capable of to break the electrons inside the tube to make electron flow. once the current passes through the tube the starter circuit will be out of part. now there is no change of supply causes choke voltage normalized and act as minimize the current.

Question) :whats is MARX CIRCUIT?

Answer:It is used with generators for charging a number of capacitor in parallel and discharging them in series.It is used when voltage required for testing is higher than the available.

Question) :What is encoder, how it function?

Answer:An encoder is a device used to change a signal (such as a bitstream) or data into a code. The code may serve any of a number of purposes such as compressing information for transmission or storage, encrypting or adding redundancies to the input code, or translating from one code to another. This is usually done by means of a programmed algorithm,especially if any part is digital, while most analog encoding is done with analog circuitry.

Question) :What are the advantages of speed control using thyristor?

Answer:Advantages :1. Fast Switching Characteristics than Mosfet, BJT, IGBT 2. Low cost 3. Higher Accurate.

Question) :Why Human body feel Electric shock ?? n in an Electric train during running , We did nt feel any Shock ? why?

Answer:Unfortunately our body is a pretty good conductor of electricity, The golden rule is Current takes the lowest resistant path if you have insulation to our feet as the circuit is not complete (wearing rubber footwear which doing some repairs is advisable as our footwear is a high resistance path not much current flows through our body).The electric train is well insulated from its electrical system.

Question) :what is the principle of motor?

Answer:Whenever a current carrying conductor is placed in an magnetic field it produce turning or twisting movemnt is called as torque.

Question) s Part 3

Question) :why, when birds sit on transmission lines or current wires doesn't get shock?

Answer:Its true that if birds touch the single one line (phase or neutral) they don't get electrical shock... if birds touch 2 lines than the circuit is closed and they get electrical shock.. so if a human touch single one line(phase) then he doesn't get shock if he is in the air (not touching - standing on the ground if he is standing on the ground then touching the line (phase) he will get a shock because the ground on what we standing is like line (ground bed - like neutral)I and in the most of electric lines the neutral is grounded..so that means that human who touch the line closes the circuit between phase and neutral.

Question) :what is meant by armature reaction?

Answer:The effect of armature flu to main flux is called armature reaction. The armature flux may support main flux or opposes main flux.

Question) :what happen if we give 220 volts dc supply to d bulb r tube light?

Answer:Bulbs [devices] for AC are designed to operate such that it offers high impedance to AC supply. Normally they have low resistance. When DC supply is applied, due to low resistance, the current through lamp would be so high that it may damage the bulb element.

Question) :Which motor has high Starting Torque and Starting current DC motor, Induction motor or Synchronous motor?

Answer:DC Series motor has high starting torque. We can not start the Induction motor and Synchronous motors on load, but can not start the DC series motor without load.

Question) :what is ACSR cable and where we use it?

Answer:ACSR means Aluminium conductor steel reinforced, this conductor is used in transmission & distribution.

Question) :What is vacuum circuit breaker.define with cause and where we use it Device?

Answer:A breaker is normally used to break a circuit. while breaking the circuit, the contact terminals will be separated. At the time of separation an air gap is formed in between the terminals. Due to existing current flow the air in the gap is ionised and results in the arc. various mediums are used to quench this arc in respective CB's. but in VCB the medium is vacuum gas. since the air in the CB is having vacuum pressure the arc formation is interrupted. VCB's can be used upto 11kv

Question) s Part 4

Question) :What will happen when power factor is leading in distribution of power?

Answer:If there is high power factor, i.e if the power factor is close to one:

- 1.losses in form of heat will be reduced,
- 2.cable becomes less bulky and easy to carry, and very cheap to afford, &
3. it also reduces over heating of transformers.

Question) :what's the one main difference between UPS & inverter ? And electrical engineering & electronics engineering ?

Answer:uninterrupt power supply is mainly used for short time . means according to ups VA it gives backup. ups is also two types : on line and offline . online ups having high volt and amp for long time backup with high dc voltage.but ups start with 12v dc with 7 amp. but inverter is start with 12v,24,dc to 36v dc and 120amp to 180amp battery with long time backup.

Question) :What is 2 phase motor?

Answer:A two phase motor is a motor with the the starting winding and the running winding have a phase split. e.g;ac servo motor.where the auxiliary winding and the control winding have a phase split of 90 degree.

Question) :Advantages of vvvf drives over non vvvf drives for EOT cranes?

Answer:1.smooth start and stop.

2.no jerking of load.

3.exact posiitoning

4.better protection for motor.

5.high/low speed selection.

6.reliability of break shoe.

7.programmable break control.

8.easy circuitry

9.reduction in controls

10.increases motor life

Question) :What is the significance of vector grouping in Power Transformers?

Answer:Every power transformer has a vector group listed by its manufacturer. Fundamentally it tells you the information about how the windings are connected (delta or wye) and the phace difference between the current and voltage. EG. DYN11 means Delta primary, Wye Secondry and the current is at 11 o clock reffered to the voltage.

Question) :Which type of A.C motor is used in the fan (ceiling fan, exhaust fan, padestal fan, bracket fan etc) which are find in the houses ?

Answer:Its Single Phase induction motor which mostly squirrel cage rotor and are capacitor start capacitor run.

Question) s Part 5

Question) :Give two basic speed control scheme of DC shunt motor?

Question) s Part 8

Question) :What happens if I connect a capacitor to a generator load?

Answer:Connecting a capacitor across a generator always improves powerfactor,but it will help depends up on the engine capacity of the alternator,other wise the alternator will be over loaded due to the extra watts consumed due to the improvement on pf. Secondly, don't connect a capacitor across an alternator while it is picking up or without any other load.

Question) :Why the capacitors works on ac only?

Answer:Generally capacitor gives infinite resistance to dc components(Le.. block the dc components). it allows the ac components to pass through.

Question) :Explain the working principal of the circuit breaker?

Answer:Circuit Breaker is one which makes or breaks the circuit.It has two contacts,namely fixed contact & moving contact,under normal condition the moving contact comes in contact with fixed contact thereby forming the closed contact for the flow of current. During abnormal & faulty conditions(when current exceeds the rated value) an arc is produced between the fixed & moving contacts & thereby it forms the open circuit,Arc is extinguished by the Arc Quenching media like air, oil, vacuum etc.

Question) :How many types of cooling system it transformers?

Answer:1. ONAN (oil natural,air natural)

2. ONAF (oil natural,air forced)

3. OFAF (oil forced,air forced)

4. ODWF (oil direct,water forced)

5. OFAN (oil forced,air forced)

Question) :What is the function of anti-pumping in circuit breaker?

Answer:when breaker is close at one time by close push button,the anti pumping contactor prevent re close the breaker by close push button after it already close.

Question) :what is stepper motor.what is its uses?

Answer: Its ratio between insulation resistance (IR) i.e. meggar value for 10 min to insulation resistance for 1 min. It ranges from 5-7 for new motors & normally for motor to be in good condition it should be Greater than 2.5 .

Question) s Part 6

Question) : Why syn. generators r used for the production of electricity?

Answer: synchronous machines have capability to work on different power factor (or say different imaginary power varying the field emf. Hence syn. generators r used for the production of electricity.

Question) : What is the difference between synchronous generator & asynchronous generator?

Answer: In simple, synchronous generator supply's both active and reactive power but asynchronous generator (induction generator) supply's only active power and observe reactive power for magnetizing. This type of generators are used in windmills.

Question) : 1 ton is equal to how many watts?

Answer: 1 ton = 12000 BTU/hr and to convert BTU/hr to horsepower,
 $12,000 \times 0.0003929 = 4.715$ hp therefore 1 ton = $4.715 \times 746 = 3.5$ KW.

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Question) : Enlist types of dc generator?

Answer: D.C. Generators are classified into two types 1) separately excited d.c. generator 2) self excited d.c. generator, which is further classified into; 1) series 2) shunt and 3) compound (which is further classified into cumulative and differential).

Question) s Part 7

Question) :What is Automatic Voltage regulator(AVR)?

Answer:AVR is an abbreviation for Automatic Voltage Regulator.It is important part in Synchronous Generators, it controls the output voltage of the generator by controlling its excitation current. Thus it can control the output Reactive Power of the Generator.

Question) :What is an exciter and how does it work?

Answer:There are two types of exciters, static exciter and rotory exciter.purpose of excitor is to supply the excitation dc voltage to the fixed poles of generator.Rotory excitor is an additional small generator mounted on the shaft of main generator. if it is dc generator, it will supply dc to the rotory poles through slip ring and brushes(conventional alternator). if it is an ac excitor, out put of ac excitor is rectified by rotating diodes and supply dc to main fixed poles.ac excitor is the ac generator whose field winding are stationary and armature rotates. initial voltage is built up by residual magnetism.It gives the starting torque to the generator.

Question) :Difference between a four point starter and three point starter?

Answer:The shunt connection in four point stater is provided separately form the line where as in three point stater it is connected with line which is the drawback in three point stater

Question) :Why use the VCB at High Transmission System ? Why can't use ACB?

Answer:Actually the thing is vacuum has high arc queching property compare to air because in VCB ,the die electric strengths equal to 8 times of air . That y always vaccum used as inHT breaker and air used as in LT .

Question) :What is the difference between surge arrestor and lightning arrestor?

Answer:LA is installed outside and the effect of lightning is grounded,where as surge arrestor installed inside panels comprising of resistors which consumes the energy and nullify the effect of surge.

Question) s Part 8

Question) :What happens if i connect a capacitor to a generator load?

Answer:Connecting a capacitor across a generator always improves powerfactor, but it will help depends up on the engine capacity of the alternator, other wise the alternator will be over loaded due to the extra watts consumed due to the improvement on pf. Secondly, don't connect a capacitor across an alternator while it is picking up or without any other load.

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Question) :How many types of cooling system in transformers?

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Answer:When breaker is close at one time by close push button, the anti pumping contactor prevents re-close the breaker by close push button after it already close.

Question) :What is a stepper motor. What are its uses?

Answer:Stepper motor is the electrical machine which act upon input pulse applied to it. it is one type of synchronous motor which runs in steps in either direction instead of running in complete cycle.so, in automation parts it is used.

Question) s Part 9

Question) :how to calculate capacitor bank value to maintain unity power factor with some suitable example?

Answer: $KVAR = KW(TAN(COS^{-1} \#e) - TAN(COS^{-1} \#d))$

#e= EXISTING P.F.

#d= DESIRED P.F.

Question) :Tell me in detail about c.t. and p.t. ?(Company:reliance)

Answer:The term C.T means current transformer,and the term P.T means potential transformer.In circuit where measurements of high voltage and high current is involved they are used there.Particularly when a measuring device like voltmeter or ammeter is not able to measure such high value of quantity because of large value of torque due to such high value it can damage the measuring device.so, CT and PT are introduced in the circuits. They work on the same principle of transformer, which is based on linkage of electromagnetic flux produced by primary with secondary.They work on the ratio to they are designed.E.g if CT is of ratio 5000\5A and it has to measure secondary current of

8000A.then $ANS = 8000 \times 5 / 5000 = 8A$ and this result will be given to ammeter .and after measuring 8A we can calculate the primary current.same is the operation of PT but measuring voltage.

Question) :There are a Transformer and an induction machine. Those two have the same supply. For which device the load current will be maximum? And why?

Answer:The motor has max load current compare to that of transformer because the motor consumes real power.. and the transformer is only producing the working flux and its not consuming.. hence the load current in the transformer is because of core loss so it is minimum.

Question) :what is power factor? whether it should be high or low? why?

Answer:Power factor should be high in order to get smooth operation of the system.Low power factor means losses will be more.it is the ratio of true power to apperent power. it has to be ideally 1. if it is too low then cable over heating & equipment overloading will occur. if it is greater than 1 then load will act as capacitor and starts feeding the source and will cause tripping.(if pf is poor ex: 0.17 to meet actual power load has to draw more current(V constant),result in more lossesif pf is good ex: 0.95 to meet actual power load has to draw less current(V constant),result in less losses).

Question) s Part 10

Question) :What is the difference between Isolator and Circuit Breaker?

Answer:Isolator is a off load device which is used for isolating the downstream circuits from upstream circuits for the reason of any maintenance on downstream circuits. it is manually operated and does not contain any solenoid unlike circuit breaker. it should not be operated while it is having load. first the load on it must be made zero and then it can safely operated. its specification only rated current is given.But circuit breaker is onload automatic device used for breaking the circuit in case of abnormal conditions like short circuit, overload etc., it is having three specification 1 is rated current and 2 is short circuit breaking capacity and 3 is instantaneous tripping current.

Question) :what is boucholz relay and the significance of it in to the transformer?

Answer:Boucholz relay is a device which is used for the protection of transformer from its internal faults, it is a gas based relay. whenever any internal fault occurs in a transformer, the boucholz relay at once gives a horn for some time, if the transformer is isolated from the circuit then it stop its sound itself other wise it trips the circuit by its own tripping mechanism.

Question) :What is SF6 Circuit Breaker?

Answer: SF₆ is Sulphur hexa Fluoride gas.. if this gas is used as arc quenching medium in a Circuitbreaker means SF₆ CB.

Question) : what is ferranti effect?

Answer: Output voltage is greater than the input voltage or receiving end voltage is greater than the sending end voltage.

Question) : what is meant by insulation voltage in cables? explain it?

Answer: It is the property of a cable by virtue of it can withstand the applied voltage without rupturing it is known as insulation level of the cable.

Question) s Part 11

Question) : Why we do 2 types of earthing on transformer (ie:) body earthing & neutral earthing , what is function. i am going to install a 500 kva transformer & 380 kva DG set what should the earthing value?

Answer: The two types of earthing are Familiar as Equipment earthing and system earthing. In Equipment earthing: body (non conducting part) of the equipment should be earthed to safeguard the human beings. system Earthing : In this neutral of the supply source (Transformer or Generator) should be grounded. With this, in case of unbalanced loading neutral will not be shifted so that unbalanced voltages will not arise. We can protect the equipment also. With size of the equipment (transformer or alternator) and selection of relying system earthing will be further classified into directly earthed, Impedance earthing, resistive (NGRs) earthing.

Question) : What is the difference between MCB & MCCB, Where it can be used?

Answer: MCB is miniature circuit breaker which is thermal operated and use for short circuit protection in small current rating circuit. MCCB moulded case circuit breaker and is thermal operated for over load current and magnetic operation for instant trip in short circuit condition. under voltage and under frequency may be inbuilt. Normally it is used where normal current is more than 100A.

Question) :Where should the lightning arrestor be placed in distribution lines?

Answer:Near distribution transformers and out going feeders of 11kv and incoming feeder of 33kv and near power transformers in sub-stations.

Question) :Define IDMT relay?

Answer:It is an inverse definite minimum time relay.In IDMT relay its operating is inversely proportional and also a characteristic of minimum time after which this relay operates.It is inverse in the sense ,the tripping time will decrease as the magnitude of fault current increase.

Question) :What are the transformer losses?

Answer:TRANSFORMER LOSSES - Transformer losses have two sources-copper loss and magnetic loss. Copper losses are caused by the resistance of the wire (I^2R). Magnetic losses are caused by eddy currents and hysteresis in the core. Copper loss is a constant after the coil has been wound and therefore a measurable loss. Hysteresis loss is constant for a particular voltage and current. Eddy-current loss, however, is different for each frequency passed through the transformer.

Electrical Interview questions Part 12

Question) :What is meant by regenerative braking?

Answer:When the supply is cut off for a running motor, it still continue running due to inertia. In order to stop it quickly we place a load(resistor) across the armature winding and the motor should have maintained continuous field supply. so that back e.m.f voltage is made to apply across the resistor and due to load the motor stops quickly.This type of breaking is called as "Regenerative Breaking".

Question) :Why is the starting current high in a DC motor?

Answer:In DC motors, Voltage equation is $V = E_b + I_a R_a$ (V = Terminal voltage, E_b = Back emf in Motor, I_a = Armature current, R_a = Armature resistance).At starting, E_b is zero.

Therefore, $V = I_a R_a$, $I_a = V / R_a$, where R_a is very less like 0.01ohm.i.e, I_a will become enormously increased.

Question) :What are the advantages of star-delta starter with induction motor?

Answer:(1). The main advantage of using the star delta starter is reduction of current during the starting of the motor.Starting current is reduced to 3-4 times Of current of Direct online starting.(2). Hence the starting current is reduced , the voltage drops during the starting of motor in systems are reduced.

Question) :Why Delta Star Transformers are used for Lighting Loads?

Answer:For lighting loads, neutral conductor is must and hence the secondary must be star winding. and this lighting load is always unbalanced in all three phases. To minimize the current unbalance in the primary we use delta winding in the primary. So delta / star transformer is used for lighting loads.

Question) :Why in a three pin plug the earth pin is thicker and longer than the other pins?

Answer:It depends upon $R = \rho l / a$ where area(a) is inversely proportional to resistance (R), so if (a) increases, R decreases & if R is less the leakage current will take low resistance path so the earth pin should be thicker. It is longer because the The First to make the connection and Last to disconnect should be earth Pin. This assures Safety for the person who uses the electrical instrument.

Question) :Why series motor cannot be started on no-load?

Answer:Series motor cannot be started without load because of high starting torque. Series motor are used in Trains, Crane etc.

Question) :Why ELCB can't work if N input of ELCB do not connect to ground?

Answer:ELCB is used to detect earth leakage fault. Once the phase and neutral are connected in an ELCB, the current will flow through phase and that much current will have to return neutral so resultant current is zero. Once there is a ground fault in the load side, current from phase will directly pass through earth and it will not return through neutral through ELCB. That means once side current is going and not returning

and hence because of this difference in current ELCB will trip and it will safeguard the other circuits from faulty loads. If the neutral is not grounded, fault current will definitely be high and that full fault current will come back through ELCB, and there will be no difference in current

Question) s Part 13

Question) :How electrical power is generated by an A.C Generator?

Answer:For the generation of elect power we need a prime mover which supplies mechanical power input to the alternator, can be steam turbines, or hydro turbines. When poles of the rotor moves under the armature conductors which are placed on the stator, field flux cut the armature conductor, therefore voltage is generated and is of sinusoidal in nature...due to polarity change of rotor poles(i.e) N-S-N-S.

Question) :Why an ac solenoid valve attract the plunger even though we interchange the terminal? Will the poles changes?

Answer:Yes because the poles changes for every half-cycle of ac voltage so the polarity of AC voltage is continuously changing for every half cycle. so, interchanging of terminals in ac system does not show any difference. That's why the ac solenoid attract the plunger even though it's terminals are interchanged.

Question) :What is derating?, why it is necessary, it is same for all means for drives, motors, and cables.

Answer:The current carrying of cables will change depending upon the site temperature (location of site), type of run (it will run through duct, trench, buried etc.), number of tray, depth of trench, distance between cables. Considering this condition actual current carrying capacity of cable reduce than current carrying capacity (which given to cable Catalogue) this is called derating.

Question) :Why temperature rise is conducted in bus bars and isolators?

Answer:Bus bars and isolators are rated for continuous power flow, that means they carry heavy currents which rises their temperature. so it is necessary to test this devices for temperature rise.

Question) :When voltage increases then current also increases then what is the need of over voltage relay and over current relay? Can we measure over voltage and over current by measuring current only?

Answer:No.We can't sense the over voltage by just measuring the current only because the current increases not only for over voltages but also for under voltage(As most of the loads are non-linear in nature).So,the over voltage protection & over current protection are completely different. Over voltage relay meant for sensing over voltages & protect the system from insulation break down and firing. Over current relay meant for sensing any internal short circuit, over load condition ,earth fault thereby reducing the system failure & risk of fire.So, for a better protection of the system.It should have both over voltage & over current relay.

Question) :If one lamp connects between two phases it will glow or not?

Answer:If the voltage between the two phase is equal to the lamp voltage then the lamp will glow. When the voltage difference is big it will damage the lamp and when the difference is smaller the lamp will glow depending on the type of **lamp**.

Question) s Part 14

Question) :How do you select a cable size (Cu & Al) for a particular load?

Answer:At first calculate the electrical current of the load, after that derate the electrical current considering derating factor(depending on site condition and laying of cable) after choose the cable size from cable catalog considering derating electrical current.After that measure the length of cable required from supply point of load to load poin. Calculate the voltage drop which will max 3% (resistance and reactance of cable found from cable catalog of selecting cable) if voltage drop>3%

then choose next higher size of cable.

Question) :What are HRC fuses and where it is used?

Answer:HRC stand for "high rupturing capacity" fuse and it is used in distribution system for electrical transformers.

Question) :Which power plant has high load factor?

Answer:All base load power plants have a high load factor. If we use high efficiency power plants to supply the base load,we can reduce the cost of generation.Hydel power plants have a higher efficiency than thermal & nuclear power plants.

Question) :Mention the methods for starting an induction motor?

Answer:The different methods of starting an induction motor

DOL:direct online starter		
Star	delta	starter
Auto	transformer	starter
Resistance		starter
Series	reactor	starter

Question) :What is the difference between earth resistance and earth electrode resistance?

Answer:Only one of the terminals is evident in the earth resistance. In order to find the second terminal we should recourse to its definition: Earth Resistance is the resistance existing between the electrically accessible part of a buried electrode and another point of the earth, which is far away.

The resistance of the electrode has the following components:

(A) the resistance of the metal and that of the connection to it.

(B) the contact resistance of the surrounding earth to the electrode.

Question) :What is use of lockout relay in ht voltage?

Answer:A lock-out relay is generally placed in line before or after the e-stop switch so the power can be shut off at one central location. This relay is powered by the same electrical source as the control power and is operated by a key lock switch. The relay

itself may have up to 24 contact points within the unit itself. This allows the control power for multiple machines to be locked out by the turn of a single key switch.

Question) :What is the power factor of an alternator at no load?

Answer:At no load Synchronous Impedance of the alternator is responsible for creating angle difference. So it should be zero lagging like inductor.

Question) s Part 15

Question) :Why most of analog o/p devices having o/p range 4 to 20 mA and not 0 to 20 mA ?

Answer:4-20 mA is a standard range used to indicate measured values for any process. The reason that 4ma is chosen instead of 0 mA is for fail safe operation .For example- a pressure instrument gives output 4mA to indicate 0 psi, up to 20 mA to indicate 100 psi, or full scale. Due to any problem in instrument (i.e) broken wire, its output reduces to 0 mA. So if range is 0-20 mA then we can differentiate whether it is due to broken wire or due to 0 psi.

Question) :Two bulbs of 100w and 40w respectively connected in series across a 230v supply which bulb will glow bright and why?

Answer:Since two bulbs are in series they will get equal amount of electrical current but as the supply voltage is constant across the bulb($P=V^2/R$).So the resistance of 40W bulb is greater and voltage across 40W is more ($V=IR$) so 40W bulb will glow brighter.

Question) :What is meant by knee point voltage?

Answer:Knee point voltage is calculated for electrical Current transformers and is very important factor to choose a CT. It is the voltage at which a CT gets saturated.(CT-current transformer).

Question) :What is reverse power relay?

Answer:Reverse Power flow relay are used in generating stations's protection. A generating stations is supposed to fed power to the grid and in case generating units are off,there is no generation in the plant then plant may take power from grid. To stop the flow of power from grid to generator we use reverse power relay.

Question) :What will happen if DC supply is given on the primary of a transformer?

Answer:Mainly transformer has high inductance and low resistance.In case of DC supply there is no inductance ,only resistance will act in the electrical circuit. So high electrical current will flow through primary side of the transformer.So for this reason coil and insulation will burn out.

Question) :What is the difference between isolators and electrical circuit breakers? What is bus-bar?

Answer:Isolators are mainly for switching purpose under normal conditions but they cannot operate in fault conditions .Actually they used for isolating the CBs for maintenance. Whereas CB gets activated under fault conditions according to the fault detected.Bus bar is nothing but a junction where the power is getting distributed for independent loads.

Question) : What are the advantage of free wheeling diode in a Full Wave rectifier?

Answer: It reduces the harmonics and it also reduces sparking and arching across the mechanical switch so that it reduces the voltage spike seen in a inductive load

Question) s Part 16

Question) :What are Motor Generator Sets and explain the different ways the motor generator set can be used ?

Answer:Motor Generator Sets are a combination of an electrical generator and an engine mounted together to form a single piece of equipment. Motor generator set is also referred to as a genset, or more commonly, a generatorThe motor generator set can used in the following different ways:

- | | | | | | | |
|---------------|---------|------|----|--------|---------|------|
| 1.Alternating | current | (AC) | to | direct | current | (DC) |
| | 2.DC | | | to | | AC |

- 3.DC at one voltage to DC at another voltage
4.AC at one frequency to AC at another harmonically-related frequency

Question) :What is power quality meter ?

Answer:Power Quality meters are common in many industrial environment. Small units are now available for home use as well. They give operators the ability to monitor the both perturbations on the power supply, as well as power used within a building, or by a single machine or appliance. In some situations, equipment function and operation is monitored and controlled from a remote location where communication is via modem, or high-speed communication lines. So we can understand the importance of power measurement through power quality meters.

Question) :What is the different between digital phase converter and ordinary phase converter?

Answer:Digital phase converter are a recent development in phase converter technology that utilizes proprietary software in a powerful microprocessor to control solid state power switching components. This microprocessor, called a digital signal processor (DSP), monitors the phase conversion process, continually adjusting the input and output modules of the converter to maintain perfectly balanced three-phase power under all load conditions.

Question) :Explain the operation of variable frequency transformer?

Answer:A variable frequency transformer is used to transmit electricity between two asynchronous alternating current domains. A variable frequency transformer is a doubly-fed electric machine resembling a vertical shaft hydroelectric generator with a three-phase wound rotor, connected by slip rings to one external ac power circuit. A direct-current torque motor is mounted on the same shaft. Changing the direction of torque applied to the shaft changes the direction of power flow; with no applied torque, the shaft rotates due to the difference in frequency between the networks connected to the rotor and stator. The variable frequency transformer behaves as a continuously adjustable phase-shifting transformer. It allows control of the power flow between two networks .

Question) :What is the main use of rotary phase converter ?

Answer:Rotary phase converter will be converting single phase power into true balanced 3 phase power, so it is often called as single phase to three phase converter . Often the advantages of 3 phase motors, and other 3 phase equipment, make it worthwhile to convert single phase to 3 phase so that

small and large consumers need not want to pay for the extra cost of a 3 phase service but may still wish to use 3 phase equipment.