INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

ELECTRICAL AND ELECTRONICS ENGINEERING

QUESTION BANK

Course Name	:	**POWER SYSTEM – I**
Course Code	:	A40214
Class	:	II B.TECH-II SEM
Branch	:	EEE
Year	:	2016-2017
Course Faculty	:	Dr. P. Mallikarjuna Sarma, Professor, EEE

OBJECTIVE:

Electrical power plays significant role in day to day life of entire mankind. this course concerns the generation and distribution of power along with economic aspects.

S. No	QUESTION	BLOOMS TAXONOMY LEVEL	COURSE OUTCOME
	UNIT-I **POWER STATIONS** **(SHORT ANSWER TYPE QUESTIONS)**		
1	Why palv reprised fuel is preferred	Evaluate	1
2	What are advantages and disadvantage, of a thermal power plant	Analyze	1
3	Compare the performance of different types of boilers used in Thermal power plants.	Remember	1
4	What are the functions of Economizer Super Heater	Understand	1
5	What are the different merits and demerits of nuclear power plant?	Evaluate	1
6	Discuss about nuclear fission process?	Evaluate	1
7	What are the applications of gas turbine power plant	Evaluate	1
8	What are the fuels for gas turbine power plant	Remember	1
9	Compare a gas turbine power plant with thermal power plant	Evaluate	1
10	What are advantages and disadvantage, of a gas power plant?	Evaluate	1
	(LONG ANSWER QUESTIONS)		
1	Explain the function of the following in thermal power plant and explain the principle of operation of each: i. Boiler ii. Turbine iii. Condenser iv. Alternator v. Economizer vi. Electrostatic precipitator vii. Super-heater viii. Cooling tower.	Understand	1
2	Draw a general layout of a modern thermal power plant and explain the working of different circuits	Understand	1

3	Discuss and compare the performance of different types of boilers used in thermal power plants	Remember	1
4	A 65,000 kW steam power station uses coal of calorific value 15,000 kcal per kg. If the coal consumption per kWh is 0.5 kg and the load factor of the station is 40%, calculate (i) the overall efficiency (ii) coal consumption per day.	Understand	1
5	What are the different merits and demerits of nuclear power plant?	Analyze	1
6	Discuss various radiations that are emitted from a nuclear fission process?	Remember	1
7	Enumerate & explain essential components of a nuclear reactor		1
8	Give the classification of nuclear reactors and explain about BWR, PWR and FBR with a neat sketch.	Understand	1
9	Give the comparison of steam power plant, nuclear power plant and gas power plant on the basis of different factors.	Analyze	1
10	Explain in detail the constructional aspects of a gas turbine plant.	Analyze	1
(ANALYTICAL QUESTIONS)			
1	Draw the schematic arrangements of a thermal power station and explain the function of each component?	Analyze	1
2	What are the points to be considered while selecting the site for a thermal power station?	Remember	1
3	hat are the types of boilers in a thermal power station explain five tube boilers with a neat diagram?	Analyze	1
4	Explain water tube boiler in a thermal power station with a neat diagram?	Understand	1
5	Draw the schematic arrangements of a Nuclear power station and explain the function of each component?	Analyze	1
6	Explain the radiation hazards in a nuclear power station?	Analyze	1
7	Explain with a neat diagram the working of pressurized water reactor?	Remember	1
8	Draw a diagram of a gas power station and explain its working?	Analyze	1
9	write the applications of gas power station	Analyze	1
10	Compare a gas turbine power plant with thermal power plant and their combined operations	Analyze	1
UNIT-II GENERAL ASPECTS OF D.C & A.C DISTRIBUTION SYSTEMS (SHORT ANSWER TYPE QUESTIONS)			
1	Classify various types of dc distributors	Analyze	2
2	What are the advantages of ring type distributors over distributors fed at one end	Analyze	2
3	Why inter connections are used in dc distributors?	Remember	2
4	Derive the equation for the power loss and voltage drop in a uniformly loaded distributors fed at one end?	Analyze	2
5	What are the advantages of doubly fed distributors over single fed distributors?	Analyze	2
6	Explain 3-wire D.C. system of distribution of electrical power.	Analyze	2
7	How does A.C distribution differ from D.C distribution	Remember	2
8	What is the importance of load power factor in A.C distribution system	Remember	2

9	Describe briefly how will you solve A.C distribution problems	Remember	2
10	What are the undesirable effects of voltage variations	Remember	2
(LONG ANSWER QUESTIONS)			
1	An 800m distributor fed from both ends A and B is loaded uniformly at the rate of 1.2A/m run, the resistance of each conductor being 0.05 ohm per/km. Determine the minimum voltage and the point where it occurs if feeding points A and B are maintained at 255 V and 250 V respectively. Find also the current supplied from feeding point A and B.	Analyze	2
2	a) What are the advantages of 3-wire distribution over 2-wire distribution? (b) Explain differences between AC and DC distribution.	Evaluate	2
3	A two conductor main AB, 500m in length is fed from both ends at 250V. Loads of 50A, 60A, 40A and 30A are tapped at distance of 100m, 250m, 350m and 400m from end A respectively. If the cross section of conductors be 1cm 2 and specific resistance of the material is 1.7μΩ-cm. Determine the minimum consumer voltage	Evaluate	2
4	Explain the following with neat diagrams: i. AC 3-phase, 3 wire distribution system ii. AC 3-phase, 4 wire system	Evaluate	2
5	Explain briefly the various systems of a.c distribution	Evaluate	2
6	(a) Explain the method of voltage drop calculations in A,C distributor. (b) Draw the phasor diagrams of A.C. distributor with concentrated loads for power factors with respect to respective load points	Evaluate	2
7	A three phase ring main PQRS fed at P of 11 kV, supplies balanced loads of 50 A at 0.8 p.f lagging at Q, 120 A at unity p.f at R and 70A at 0.866 lagging at S, the resistances being referred to the various sections are: Section PQ = (1+j0.6) ohm; section QR = (1.2+j0.9) ohm; Section RS = (0.8+j0.5) ohm; Section SP =(3+j2) ohm. Determine the currents in various sections and station bus-bar voltages at Q, R and S	Evaluate	2
8	A single phase AC distributor 1 km long has resistance and reactance per conductor of 0.1 ohm and 0.15 ohm respectively. At the far end, the voltage VB = 200 volts and the current is 100 A at the power factor of 0.8 (lagging). At the midpoint M of the distributor, a current of 100 A is tapped at a power factor 0.6 lagging with reference to the voltage VM at the midpoint. Calculate (a) Voltage at midpoint (b) Sending end voltage VA (c) Phase angle between VA and VB	Evaluate	2
9	A single phase two wire feeder, 1500m long, supplies a load of 60A at 0.8 p.f, 40A at 0.85 p.f and 50A at 0.88 p.f lagging at distances of 600, 1200 and 1500 meters respectively from the feeding point. The resistance and reactance of the feeder per Km length are 0.06 and 0.1 ohms respectively. If the voltage at the far end is to be maintained at 220V. Calculate the voltage at the sending end and its phase angle with respect to the receiving end voltage.	Evaluate	2
10	Explain Ring mains and list its advantages and disadvantages.	Evaluate	2
(ANALYTICAL QUESTIONS)			
1	An 800m distributor fed from both ends A and B is loaded uniformly at the rate of1.2A/m run, the resistance of each conductor being 0.05ohmper/km Determine the minimum voltage and the point where it occurs if feeding points A and B are maintained at 255V and 250V respectively. Find also the current supplied from feeding point A and B.	Evaluate	2

2	A three phase ring main PQRS fed at 11kV, supplies balanced loads of 50A at 0.8 p.flagging at Q, 120A at unity p.fat R and 70A at 0.866 lagging at S, the resistances being referred to the various sections are: SectionPQ= (1+j0.6) ohm; sectionQR= (1.2+j0.9) ohm; SectionRS= (0.8+j0.5) ohm; SectionSP= (3+j2) ohm. Determine the currents in various sections and station bus-bar voltages at Q ,R and S	Evaluate	2
3	In a 3-phase, 4-wire distribution system with 240 volts between lines and neutral there is a balanced motor load of 250kW at 0.8 power factor. Lamp loads connected between respective lines and neutral absorb 25, 75 and100kW. Calculate the current in each i) lineand in the neutral wire of the feeder cable.	Evaluate	2
4	A DC distributor cable is 1000m long and is loaded as under distance from the Feeding point A(mts):250 750 1000 Load(Amps):100 200 300 The resistance of each conductor is 0.025 per km. Find the voltage at each load point if the voltage at the feeding point A is Maintained	Evaluate	2
5	A single phase line (ABC) of length 2.0km having resistance and reactance (go and return) as 0.06 and 0.1ohms/km. A is the feeding point , B is the midpointof the line taking a load of 100A at 0.8 lead and C is the far end taking a load of 100A at upf. The voltage at the'C'is 220V. Find the voltage at the sending and the phase angle difference between the voltages of two ends. (a)Power factors of the loads are with reference to far end voltage (b)Power factors of the loads are with reference to the voltages at the load points.	Evaluate	2
6	A single phase distributor 2km long supplies a load of 120A at 0.8 power factor lagging at its far end and a load of 80A at 0.9 power factor lagging at its mid-point. Both power factors are referred to the voltage at the far end. The resistance and reactance per km (go and return) are 0.05ohms and 0.1ohms respectively. If the voltage at the far end is maintained at 230V, calculate i) Voltageat the sending end. ii. Phase angle between the voltages at the two ends.	Evaluate	2
7	A single phase line (ABC) of length 2Km having resistance and reactance (go and return) as 0.06 and 0.1ohms/Km. A is the feeding point, B is the mid point of the line taking a load of 100A at 0.9p.f. leads and C is the far end taking a load of 120A at UPF. The voltage at the 'C 'is 230V. Find the voltage at the sending end and the phase angle difference between the voltages of two ends. If (a)Power factors of the loads are with reference to far end voltage (b)Powerfactorsoftheloadsarewithreferencetothevoltagesattheloadpoints.	Evaluate	2
8	A 2-wire DC distributor 200m long is uniformly loaded with 2A/m. Resistance of single wire is 0.3/Km. If the distributor is fed at one end, calculate I .the voltage drop up to a distance of 150m from the feeding point. ii. the maximum voltage drop.	Evaluate	2
9	A 2-wire feeder ABC has a load of 120A at C and of 60A at B both at P.F. 0.8 lagging. The impedance AB is (0.04+j0.08) Ω and that of BC is (0.08+j0.12) Ω. If the voltage at the far end C is to be maintained at 400V, determine the voltage a) at A and b) at B	Evaluate	2

10	A three-phase distribution system power is supplied at 11kV (line voltage) and balanced load of 50A/phase at 0.8lagging p.f and 70A at 0.9 lagging p.f are taken at Q and R respectively. The impedance of the feeders are PQ=(5+j9), QR=(6+j10) and RP=(4+j8). Calculate the voltage at Q and R and the current in each branch. Power factors are assumed with respect to voltage at P.	Evaluate	
UNIT- III **AIR INSULATED & GAS INSULATED (GIS) SUBSTATIONS** **(SHORT ANSWER TYPE QUESTIONS)**			
1	Define a substation and what is its need in a power system	Analyze	3
2	Classify substation according to a) service requirements b) constructional features	Understand	3
3	Compare outdoor and indoor substation	Analyze	3
4	What are the advantages of the following equipment in a substation a) bus bars b) Insulators c) circuit breakers d) isolating switches	Analyze	3
5	Discuss about a) Power transformer b) potential transformer c) current transformer	Analyze	3
6	What are the advantages of gas insulated substations over air insulators?	Understand	3
7	Compare air insulated substation and gas insulated substations?		3
8	Explain the maintenance schedule of gas insulated substation	Understand	3
9	Why do we use isolators on both sides of circuit breakers?	Analyze	3
10	Write advantages of gas insulated substation	Analyze	3
(LONG ANSWER QUESTIONS)			
1	(a) What are the various electrical quantities measured and monitored in a sub-station?	Analyze	3
2	Draw the single line diagram, show the location of substation equipment's for the following bus bar arrangements. I) Single bus bar and ii) Main and transfer bus bar	Understand	3
3	How can substations are Classified according to constructional features?	Analyze	3
4	Explain an indoor substation layout by drawing key diagram showing all equipment. (b) Draw single line diagram of gas insulated substation indicating different equipment	Understand	3
5	Draw single line diagram of gas insulated substation indicating different equipment	Analyze	3
6	Write Short notes on Maintenance of gas insulated substation	Understand	3
7	a) Where Gas Insulated Substation is preferred b) What are the Comparisons of Gas Insulated Substation over Air Insulated	Understand	3
8	What are the Merits and Demerits of SF6 Gas Insulated Substation	Analyze	3
9	Where and Why Gas Insulated Substations are Used	Analyze	3
10	Describe following corresponding to gas insulated substation i) Current transformer ii. Earth switch	Analyze	3
(ANALYTICAL QUESTIONS)			

1	What are the Classification Of Air Insulated sub Stations a) According to service requirement b) According to construction	Understand	3
2	Define a substation and what is its need in a power system	Understand	3
3	Compare outdoor and indoor substation	Analyze	3
4	What are the advantages of the following equipment in a substation a) bus bars b) Insulators c) circuit breakers d) isolating switches?	Analyze	3
5	What are the advantages of the following equipment in a substation a) Power transformer b) potential transformer c) current transformer	Understand	3
6	What are the advantages of gas insulated substations over air insulators?	Analyze	3
7	What are the Comparisons of Gas Insulated Substation over Air Insulated	Understand	3
8	Explain the maintenance schedule of gas insulated substation	Analyze	3
9	What are the Merits and Demerits of SF6 Gas Insulated Substation	Analyze	3
10	Write short notes on main parts of gas insulated substation	Analyze	3
UNIT- IV POWER FACTOR & VOLTAGE CONTROL (SHORT ANSWER TYPE QUESTIONS)			
1	What are the causes of low power factor?	Understand	4
2	What are the disadvantages of low power factor?	Analyze	4
3	What are the methods of improving power factor in a power system?	Analyze	4
4	Explain how power factor is improved by using static capacitors	Understand	4
5	Why is three phase difference between voltage and current in an ac circuit? Explain the concept of power factor	Analyze	4
6	Discuss the importance of voltage control in the modern power system.	Analyze	4
7	Describe the synchronous condenser method of voltage control for a transmission line. Illustrate your answer with a vector diagram	Understand	4
8	Why voltage control is necessary in a power system?	Analyze	4
9	What are the various methods of voltage control?	Analyze	4
10	Write short notes on the following: (i) On-load tap-changing transformer (ii) Auto-transformer tap –changing	Understand	4
(LONG ANSWER QUESTIONS)			
1	Why is three phase difference between voltage and current in an ac circuit? Explain the concept of power factor	Analyze	4
2	Discuss the various methods for power factor improvement	Analyze	4
3	Derive the expression for the most economical value of power factor which may be attained by a consumer	Understand	4
4	Show that the economical limit to which the power factor of a load can be raised is independent of the original value of power factor when the tariff consist of a fixed charge per KVA of maximum demand plus a flat rate per Kwh	Understand	4

5	Discuss the causes of low power factor of the supply	Understand	4
6	Discuss the disadvantages and advantages of a low power factor	Understand	4
7	Discuss the importance of voltage control in the modern power system	Understand	4
8	What are the various methods of voltage control in a power system?	Analyze	4
9	Explain with a neat sketch (i)On-load tap-changing transformer (ii)Auto-transformer tap –changing	Analyze	4
10	Describe the synchronous condenser method of voltage control for a transmission line. Illustrate your answer with a vector diagram	Analyze	4
(ANALYTICAL QUESTIONS)			
1	A 3-phase, 5kW induction motor has a p.f. of 0.75 lagging. A bank of capacitors is connected in delta across the supply terminals and p.f. raised to 0.9 Lagging. Determine the kVAR rating of the capacitors connected in each phase.	Evaluate	4
2	A 37.3kW induction motor has power factor 0.9 and efficiency 0.9 at full load, power factor 0.6 and efficiency 0.7 at half-load. At no-load, the current is 25% of the full load current andpowerfactor0.1.Capacitorsaresuppliedto0.8at half-load. With these capacitors in circuit, find the line power factor at (a) full load and (b) no–load	Evaluate	4
3	Asingle-phasemotorconnectedtoa240V, 50Hzsupply takes20Aatap.f. of 0.75lag. A capacitor Is shunted across them terminals to improve the p.f .to 0.9lag, determine the capacitance of the capacitor to be used	Evaluate	4
4	Aconsumertakesasteadyloadof300KWatalaggingp.f.of0.7for3,000hoursayear .ThetariffsRs.1,300per KVA of maximum demand per annum plus Rs.0.8perKWh.Theannualcostofthephaseadvancingis Rs.130perKVAR.Determinetheannualsavingifthep.f.oftheloadisimproved	Evaluate	4
5	Aconsumerhasanaveragedemandof400kWatap.fof0.8laggingandannualloadfactorof50%.ThetariffsRs.50perkVA ofmaximumdemandperannumplus5paiseperkWh.Ifthepowerfactorisimprovedto0.95laggingbyinstallingphaseadvancing equipment, calculate i. the capacity of phase advancing equipment, ii. theannualsavingeffected.ThephaseadvancingequipmentcostsRs.100 perkVARandtheannualinterestanddepreciationtogetheramountto10 %.	Evaluate	4
6	A12KV, 500KVA load is supplied at ap.f. of 0.8lagging by a 3phase transmission line whose voltage is to be maintained at 33KV at both ends. Determine the capacity of the synchronous condenser to be installed for voltage regulation. Given that the line resistance and reactance per phase are 4 and 12 respectively.	Evaluate	4
7	A3phase, 50Hz, 400V motor develops 100H.P.The p.f .being 0.75lag and efficiency 93%. A bank of capacitors is connected in delta across the supply terminals and p.f. is raised to 0.95lag. Each of the capacitance units is built of 4 similar 100Vcapacitors. Determine the capacitance of each capacitor	Evaluate	4
8	A12KV, 500KVA load is supplied at a p.f. of 0.8 lagging by a 3-phase transmission line whose voltage is to be maintained at 33KV at both ends. Determine the capacity of the synchronous condenser to be installed for voltage regulation. Given that the line resistance and reactance per phase are 4and12 respectively.	Evaluate	4

9	A 3-Phase, 50Hz, 3000V motor develops 600HP, the p.f being 0.75lagging and the efficiency 0.93. A bank of capacitors is connected in delta across the supply terminals and the p.f raised to0 .95lagging. Each of the capacitance units is built of five similar 600V capacitors. Determine capacitance of each capacitor.	Evaluate	4
10	A 400V, 50cycles, three phase line delivers 207kW at 0.8 p.f.(lag). It is desired to bring the line p.f. to unity by installing shunt capacitors .Calculate the capacitance if they are i. Star Connected ii. Delta connected	Evaluate	4
UNIT-V **ECONOMIC ASPECTS OF POWER GENERATION& TARIFF** **(SHORT ANSWER TYPE QUESTIONS)**			
1	How the total cost of electrical energy is divided in to .explain fixed, semi fixed and running cost?	Analyze	5
2	Explain what is mean by depreciation	Analyze	5
3	Explain load curve. What information can be obtained from load curve?	Analyze	5
4	Explain load duration curve , and integrated load duration curve	Analyze	5
5	Explain connected load , average load ,maximum load	Analyze	5
6	Define load factor. What it is effect on the cost of generation?	Analyze	5
7	Define diversity factor . What it is effect on the cost of generation?	understand	5
8	Define plant capacity factor and plant utilization factor	understand	5
9	Define tariff	understand	5
10	What are the different types of tariffs used in practice?	understand	5
(LONG ANSWER QUESTIONS)			
1	How utilization factor affect the economy of power system? Explain briefly	Understand	5
2	Discuss the role of load factor on the cost of electrical energy	Understand	5
3	A generating station has a connected load of 43MW and a maximum demand of 20 MW; the units generated being 60 x 106 per annum. Calculate (a) the demand factor and (b) load factor	Evaluate	5
4	From a load duration curve, the following data are available: the maximum demand on the system is 25 MW. The load supplied by two units is 15 MW and 12.5 MW. Unit no.1 acts as a base load unit and No.2 as a peak load unit. The base load unit works for 100% of the time and peak load unit for only 40% of time. The energy generated by unit No.1 is 1×10 8 units and that by No.2 is 1×10 7 units. Determine the load factor, plant capacity factor and plant use factor of each unit and load factor of the total plant.	Evaluate	5
5	What is the objective of tariff? What type of tariff is employed for domestic consumers? Why this tariff is not employed for bulk consumers? Suggest and explain the tariff which encourages the consumers to keep load factor and power factor high	Evaluate	5
6	Give the basis for expressing the cost of electrical energy as (a + b kW + c kWh) and explain the factors on which a, b, and c depend	Evaluate	5

7	A hydro electric plant costs Rs. 3000 Per KW of installed capacity the total annual charges consists of 5% as interest, depreciation at 2%, operation and maintenance at 2% and insurance, rent etc.1.5%. Determine the suitable two parts tariff if the losses in transmission and distribution are 12.5% and diversity of load is 1.25. Assume that maximum demand on the station is 80% of the capacity and annual load factor is 40%. What is the overall cost of generation per KWh.	Evaluate	5
8	A consumer is supplied electricity at the following tariff_: Rs. 70 per kVA of his maximum demand plus 5 paise per unit consumed. The consumer has an aggregate motor load of 250kW at the power factor of 0.8 lag. Calculate the consumer annual bill for a load factor of 100%	Evaluate	5
9	What is the importance of interest on capital investment in calculating the cost of electrical energy?	Evaluate	5
10	A generating station has a maximum demand of 15 MW and the daily load on the station is as follows: Time kW Time kW 10 P.M. to 5 A.M. 2500 kW 1 P.M. to 4 P.M. 10,000 kW 5 A.M. to 7 A.M. 3000 kW 4 P.M. to 6 P.M. 12,000 kW 7 A.M. to 11A.M 9000 kW 6 P.M. to 8 P.M. 15,000 kW 11 A.M. to 1 P.M. 6000 kW 8 P.M. to 10 P.M. 5,000 kW Determine the size and number of generator units, plant load factor, plant capacity factor and use factor of the plant.	Evaluate	5
(ANALYTICAL QUESTIONS)			
1	A consumer has the following connected loads: 15lamps of 40W each and two heaters of 1,000W each. His maximum demand is15000W. On the average he uses10lamps 5hours a day and each heater for 3hours a day. Find his average load, monthly energy Consumption and load factor	Evaluate	5
2	The annual peak load of a primary feeder is 2050kW at which the power loss is 80kW per phase. Assuming annual loss factor of 0.15, determine. i. The average annual power loss ii. The total annual energy loss	Evaluate	5
3	From a load duration curve, the following data are available: the maximum demand on the system is25MW. The load supplied by two unitsis15MW and 12.5MW. Unitno.1 acts as a base load unit and No.2 as a peak load unit. The base load unit works for100% of the time and peak load unit for only 40% of time the energy generated by unit No.1 is1×10^8 units and that by No.2 is1×10^7 units. Determine the load factor, plant capacity factor and plant use factor of each unit and load factor of the total plant.	Evaluate	5
4	An industrial organization takes a steady load of 2MW at a p.f. of 0.75lagging and pays Rs.125per annum per KVA of maximum demand. Determine the capacity of the phase advancing equipment required for minimum overall annual expenditure if the phase advancing equipment costs Rs.200 per KVAR. An interest and depreciation charge on phase advancing equipment is10%. Also, determine the new p.f. of the supply.	Evaluate	5
5	The annual load duration curve of a certain power station can be considered as a straight line from 20MW to 4MW. To meet this load, three turbine-generator units,Tworated at10MWeach and one rated at 5MW are installed. Determine i. Installed capacity ii. Plant factor	Evaluate	5

6	A generating station supplied the following loads: 150MW, 120MW, 85MW, 60MWand5MW.The station has a maximum demand of 220MW. The annual load factor of the station is48%,calculate i. The number of units supplied annually ii. The diversity factor and iii. The demand factor	Evaluate	5
7	A generating station has a maximum demand of 500MW the annual load factor is 50% and capacity factor is 40%, find the reserve capacity of the plant	Evaluate	5
8	A power station has an installed capacity of 50MW and it costs Rs.1000 per KW. The annual fixed costis15% of the capital cost and at 100% load factor, the variable cost per annum is1.3times the fixed cost. Assuming there is no reserve; determine the cost of generation per unit at a load factor of 50%.	Evaluate	5
9	The energy cost of a100MW steam station working at 40% load factor comes out to be 12paise/KWh of energy generated what will be the cost of energy generated if the load factor is improved to 60%? The fuel cost of the power station due to increased generation increase the annual generation cost	Evaluate	5
10	A consumer is charged electricity at the following tariff 60Rs/KVA of maximum demand plus15paise per unit consumed. The consumer has an aggregate motor of load 300KW at a p.f. 0.8lag. Find out the consumer's annual bill for a load factor of 75%.	Evaluate	5

Prepared by: Dr. P Mallikarjuna Sarma

HOD, EEE