This document is a part of Main Course File	Document No.: CFM – 8

SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY
MANAGED

N. G. PATEL POLYTECHNIC

ELECTRICAL ENGINEERING DEPARTMENT

ASSIGNMENTS

Course Name (With Code): Distribution and Utilization of Electrical Power (4340902)

Semester / Year: Fourth/Second

Assignment Number: 1

Assignment CO Number: 4340902.1

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 3 Marks**
1	List the methods of feeding the distribution system. Explain any one.
2	Write difference between feeder, distributor and service main.
3	Write importance of AC distribution system.
4	Write requirements of good distribution system.
5	Explain interconnected grid type distribution system.
Part – B	**Questions carrying 4 Marks**
1	Derive the expression to calculate sending end voltage and power factor for distributor fed from one end loaded, the power factor refers to receiving end voltage.
2	Derive the expression to calculate sending end voltage and power factor for distributor fed from one end loaded, the power factor refers to respective load voltages.
3	Explain consequences of disconnecting neutral in 3 phase 4 wire system.
4	What is Distributed generation? State its advantages.
5	Explain impact of renewable energy on distribution system.
Part – C	**Questions carrying 7 Marks**
1	A 1Ø a.c distributor AB 300 meter long is fed from A loaded as under: 1. 100 A at 0.707 p.f lagging 200 m from point A 2. 200 A at 0.8 p.f .lagging 300m from point A The total resistance and reactance is 0.2 ohm and 0.1 ohm per kilometer respectively . Calculate the total voltage drop in the distributor .The load p.f refers to the far end.
2	A two wire distributor XYZ the load current at Z is 30A at0.707 lagging power factor. Load current at Y is 20A at 0.8 lagging power factor. Both the power factors are referred to their load voltages. If 230V are required at Z, calculate the voltage to be maintained at X. loop impedance of section XY and YZ are 0.1+j0.3Ω and 0.08+j0.24Ω respectively.

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Course Name (With Code): Distribution and Utilization of Electrical Power (4340902)

Semester / Year: Fourth/Second

Assignment Number: 2

Assignment CO Number: 4340902.2

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 3 Marks**
1	Compare outdoor type substation with indoor type substation
2	State the properties of insulating materials used for cable
3	Explain the general construction of cable
4	State the factors to be consider for selection of location for substation
5	Explain importance of battery room in substation.
Part – B	**Questions carrying 4 Marks**
1	Classify the substation
2	Explain SL cable.
3	State & Explain points to be considered for selection of cable as per IS
4	Explain HSL cable
5	Explain single busbar system with sectionalisation.
Part – C	**Questions carrying 7 Marks**
1	Illustrate the Pole mounted substation with diagram
2	Illustrate the 66KV/11KV distribution substation with single line diagram.
3	Draw key diagram of 220kv/66kv receiving substation.
4	State & Explain equipments used in the substation.
5	Explain different methods of cable laying.

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ASSIGNMENTS

Course Name (With Code): Distribution and Utilization of Electrical Power (4340902)

Semester / Year: Fourth/Second

Assignment Number: 3

Assignment CO Number: 4340902.3

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 3 Marks**
1	Define Tariff. Write objectives of tariff/
2	State the types of Tariffs.
3	Write advantages of the power factor improvement.
4	Explain factors affecting the forming of tariff.
5	A load of 200kW has a p.f. of 0.8 lagging and a synchronous motor is connected in parallel with it which takes 100kW power. If the total power factor is improved to 0.9 lagging, find the power factor at whch the synchronous motor works.
Part – B	**Questions carrying 4 Marks**
1	Write effect of low power factor on various equipment's.
2	Explain the causes of low power factor.
3	Explain power factor tariff.
4	Compare static capacitor and synchronous motor for the power factor improvement.
5	A consumer has a motor of 100kW at 0.8 p.f. lagging. The tariff is given below; Fixed charge: Rs.60 per KVA of maximum demand Energy charge: 10 paisa per Unit If the load factor is 0.8 then calculate the consumer's annual electricity bill.
Part – C	**Questions carrying 7 Marks**
1	Explain different methods to improve the power factor.
2	Define tariff. Explain different types of tariff.
3	Derive the condition for most economical power factor

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ASSIGNMENTS

Course Name (With Code): Distribution and Utilization of Electrical Power (4340902)

Semester / Year: Fourth/Second

Assignment Number: 4

Assignment CO Number: 4340902.4

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 3 Marks**
1	Define:1) Lumen 2) Lux 3)Luminous Intensity
2	State the advantages of halogen lamp
3	Define : 1]Illumination 2]Luminous Flux 3]Candle power
4	Define : 1]Space Height ratio 2]Waste light factor 3]Reflection factor
5	Write requirements of good lighting system.
Part – B	**Questions carrying 4 Marks**
1	Explain Cosine law of illumination.
2	Explain inverse square law of illumination.
3	Explain LED lamp with its advantages.
4	Write short note on Fluorescent tubelight.
5	Explain high pressure mercury vapour lamp.
Part – C	**Questions carrying 7 Marks**
1	Explain different types of lighting scheme
2	Explain LED lamps and write its advantages.
3	Illustrate the sodium vapour lamp with diagram.

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Course Name (With Code): Distribution and Utilization of Electrical Power (4340902)

Semester / Year: Fourth/Second

Assignment Number: 5

Assignment CO Number: 4340902.5

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 3 Marks**
1	State the advantages of electric drive
2	State the advantages of individual drive.
3	Explain the advantages of AC drive
4	Explain the construction & working of mixer grinder.
5	Write disadvantages of group drive.
Part – B	**Questions carrying 4 Marks**
1	Explain the working of Ceiling fan.
2	Explain factors to be considered while selecting electric motors for different electric drive.
3	Compare Group drive with Individual drive
4	Draw and explain block diagram of microwave oven.
5	Explain the construction & working of vacuum Cleaner.
Part – C	**Questions carrying 7 Marks**
1	Prepare the list of faults and their causes in Washing machine..
2	Illustrate the electric drive with block diagram.
3	Explain the construction & working of automatic electric iron.

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