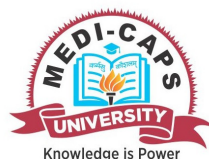


Enrollment No.....



Faculty of Engineering
End Sem (Even) Examination May-2019
EE3EW03 Electrical Distribution System

Programme: B.Tech.

Branch/Specialisation: EE

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. A _____ distribution system is more reliable than the _____ 1
distribution system.
(a) Parallel, radial (b) Parallel, ring
(c) Radial, parallel (d) Ring, parallel
- ii. Distributors fed at both ends has an advantage of: 1
(a) Continuous supply (b) Fault isolation
(c) Being economical (d) All of these
- iii. While designing the distribution to locality of one lac population 1
with medium dense load requirement, we can employ:
(a) Radial system (b) Parallel system
(c) Ring main system (d) Any of these
- iv. What is the main type of distribution system in India? 1
(a) Radial (b) Parallel
(c) Network (d) Both (b) and (c)
- v. Material generally used for bus bar is 1
(a) Copper (b) Aluminium
(c) Steel (d) Tungsten.
- vi. Isolators are used to disconnect a circuit when 1
(a) Line is on full load
(b) Line is energized
(c) Circuit breaker is not open
(d) There is no current in the line.
- vii. For voltage boosting in distribution networks the capacitors used is: 1
(a) Series capacitors (b) Shunt capacitors
(c) Both (a) and (b) (d) None of these

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- viii. To reduce the power consumption, the capacitors should be located: 1
(a) As close as possible to the load
(b) As far as possible to the load
(c) Not too close not too far from the load
(d) All of these
- ix. Electricity meter records amount of 1
(a) Used power (b) Used electricity
(c) Used resistance (d) Units
- x. What is the reason for excess reading of the energy meter? 1
(a) Defective wiring (b) Meter defects
(c) Over voltage (d) Both (a) and (b)
- Q.2 i. Explain power quality. 2
ii. Define distribution system. Explain different classification of load 8
along with their characteristics.
- OR iii. Define load forecasting. Explain long term load forecasting and short 8
term load forecasting.
- Q.3 i. Explain types of distribution feeders. 3
ii. Explain basic design practice of the secondary distribution system. 7
- OR iii. Write short note on distributed generation. 7
- Q.4 i. Mention different benefits derived through optimal location of 3
substations.
ii. Explain capacity wise load monitoring of HT and LT feeder. 7
- OR iii. Write short note on distribution system economics. 7
- Q.5 Attempt any two: 5
i. Explain different types of power capacitors. 5
ii. What is power factor correction? Explain different techniques. 5
iii. Discuss how analysis of power loss is done. Explain appropriate 5
actions for reduction of technical & commercial losses.
- Q.6 Attempt any two: 5
i. Explain advanced meter infrastructure system in detail 5
ii. Define metering. Explain reactive power metering in detail. 5
iii. Write short note on distribution automation. 5

Marking Scheme
EE3EW03 Electrical Distribution System

Q.1	i.	A _____ distribution system is more reliable than the _____ distribution system.		1
		(a) Parallel, radial		
	ii.	Distributors fed at both ends has an advantage of:		
		(a) Continuous supply		
	iii.	While designing the distribution to locality of one lac population with medium dense load requirement, we can employ:		
		(b) Parallel system		
	iv.	What is the main type of distribution system in India?		
		(a) Radial		
	v.	Material generally used for bus bar is		
		(b) Aluminium		
Q.2	i.	Power quality definition		2
	ii.	Distribution system definition	4 marks	
		Classification of load	2 marks	
		Characteristics.	2 marks	
	OR	iii.		
		Definition of load forecasting	3 marks	
		Explanation of long term load forecasting	3 marks	
		Explanation of short term load forecasting.	2 marks	
	Q.3	i.		
		Types of distribution feeders.		
OR	ii.	Basic design practice	4 marks	7
		Explanation of the secondary distribution system.	3 marks	
	iii.	Distributed generation.		
		Introduction	3 marks	
		Various type	4 marks	

Q.4	i.	Benefits derived through optimal location of substations.		3
		At least three benefits 1 mark for each	(1 mark * 3)	
	ii.	HT load monitoring	2 marks	
		LT load monitoring	5 marks	
	OR	iii.		
		Distribution system economics.		
		Introduction	2 marks	
		Detailed method (5 points)	5 marks	
	Q.5	Attempt any two:		
	i.	Types of power capacitors.		
		At least five types 1 mark for each	(1 mark * 5)	5
	ii.	Power factor correction	3 marks	
		Techniques	2 marks	
	iii.	Analysis of power loss	2 marks	
		Actions for reduction of technical & commercial losses.		
		At least 3 actions 1 mark for each (1 mark * 3)	3 marks	
	Q.6	Attempt any two:		
	i.	Advanced meter infrastructure system		
		Definition	2 marks	
		Detailed explanation	3 marks	
	ii.	Definition of metering	2 marks	5
		Explanation of reactive power metering	3 marks	
	iii.	Distribution automation.		
		Introduction	2 marks	
		Benefits/advantages	3 marks	
