SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
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QUESTION BANK (DESCRIPTIVE)

Subject with Code : PQ (19EE0224) **Course & Branch**: B.Tech - EEE
Year & Sem: IV-B.Tech & I-Sem **Regulation:** R19

UNIT –I
INTRODUCTION

1.	What is power quality? Why we are concern about power quality?	[L1] [CO1]	12M
2.	Explain about the power quality evaluation procedure.	[L1] [CO1]	12M
3.	Classify the different types of power quality issues.	[L2] [CO1]	12M
4.	a) What are the types of wave form distortion?	[L1] [CO1]	6M
	b) Write a short note on voltage imbalance	[L2] [CO1]	6M
5.	What are the power quality standards?	[L1] [CO2]	12M
6.	What are the responsibilities of end users and suppliers of electric power supply?	[L1] [CO1]	12M
7.	Draw and explain the CBEMA curve	[L1] [CO1]	12M
8.	Draw and explain ITI curve	[[L2] [CO1]	12M
9.	Explain the power quality terminology	[L1] [CO2]	12M
10.	a) Define notching	[L2] [CO1]	3M
	b) What is meant by dc offset	[L1] [CO1]	3M
	c) Define coupling	[L2] [CO1]	2M
	d) What is meant by surge	[L1] [CO1]	2M
	e) Define flicker	[L2] [CO1]	2M

UNIT –II
POWER QUALITY DISTURBANCES

1.	Draw and explain the impulsive and oscillatory transients	[L1] [CO2]	12M
2.	Mention the categories and characteristics of electromagnetic phenomena in power systems?	[L3] [CO2]	12M
3.	What are the sources of transient over voltages? Explain clearly.	[L2] [CO2]	12M
4.	a) Explain the long duration voltage variations.	[L2] [CO2]	6M
	b) Explain the short duration voltage variation.	[L1] [CO2]	6M
5.	What are the principles of over voltage protection? Explain with diagram.	[L1] [CO2]	12M
6.	Classify the principles of regulating the voltage	[L2] [CO2]	12M
7.	Explain in detail the role of capacitors for the voltage regulation.	[L1] [CO2]	12M
8.	Explain the effect of line drop compensation on the voltage profile.	[L1] [CO2]	12M
9.	What are the conventional devices available for the voltage regulation?	[L1] [CO2]	12M
10.	a) Define oscillatory transient?	[L1] [CO2]	3M
	b) What is the main cause for impulsive transient?	[L1] [CO2]	3M
	c) Define Sag?	[L1] [CO2]	2M
	d) What is the frequency range and duration in medium frequency transient?	[L2] [CO2]	2M
	e) When an interruption occurs.	[L2] [CO2]	2M

UNIT –III
FUNDAMENTALS OF HARMONICS AND APPLIED HARMONICS

1.	What is harmonic distortion? Discuss about the voltage versus current distortion.	[L2] [CO3]	12M
2.	a) Write the impact of voltage distortion and current distortion.	[L3] [CO3]	6M
	b) Explain the commonly used indices for measuring of harmonic content in the waveform.	[L1] [CO3]	6M
3.	Explain the power system quantities under non sinusoidal condition.	[L1] [CO3]	12M
4.	What are the harmonics sources from commercial loads?	[L2] [CO3]	12M
5.	What are the harmonics sources from industrial loads?	[L2] [CO3]	12M
6.	Explain the brief description about the harmonic distortion evaluation.	[L1] [CO4]	12M
7.	Explain the principles of controlling harmonics.	[L1] [CO4]	12M
8.	Explain the various devices for the controlling of harmonics distortion.	[L1] [CO4]	12M
9.	What are effects of harmonics? Explain harmonic distortion evaluation procedure?	[L2] [CO4]	12M
10.	a) What is ment by harmonics?	[L2] [CO4]	3M
	b) What is percentage of fluorescent lighting in commercial loads?	[L2] [CO4]	3M
	c) Define THD	[L2] [CO4]	2M
	d) What is the purpose of line reactor?	[L2] [CO4]	2M
	e) What is ment by TDD?	[L2] [CO4]	2M

UNIT –IV
POWER QUALITY MONITORING

1.	a) Write a short note on power quality monitoring standards.	[L2] [CO5]	6M
	b) Write about any one power quality measurement equipment.	[L2] [CO5]	6M
2.	Explain the various power quality monitoring considerations.	[L1] [CO5]	12M
3.	Explain about various power quality measuring equipment.	[L1] [CO5]	12M
4.	Explain the categories of instruments to consider for harmonic analysis.	[L1] [CO5]	12M
5.	Explain about smart power quality monitors.	[L2] [CO5]	12M
6.	Explain about the flicker meters.	[L2] [CO5]	12M
7.	Explain the applications for system maintenance, operation and reliability.	[L1] [CO5]	12M
8.	Explain about the permanent power quality monitoring equipment.	[L1] [CO5]	12M
9.	Explain about the power quality bench marking.	[L1] [CO5]	12M
10.	a) What is ment by true RMS?	[L3] [CO5]	3M
	b) Define multimeter	[L2] [CO5]	3M
	c) Why the flicker meter is need?	[L2] [CO5]	2M
	d) What is revenue meters?	[L3] [CO5]	2M
	e) What is purpose of digital fault recorders?	[L2] [CO5]	2M

UNIT –V

POWER QUALITY ENHANCEMENT USING CUSTOM POWER DEVICES

1.	What is the need for current limiter? Discuss the operation of a Solid state current limiter.	[L2] [CO6]	12M
2.	What are the advantages of solid state current limiters compared to conventional current limiters? Discuss.	[L2] [CO6]	12M
3.	What are the advantages of static var compensators? Discuss the operation of Static Series Compensators?	[CO4] [L6]	12M
4.	Draw and explain the schematic diagram of a right shunt UPQC?	[L3] [CO6]	12M
5.	How UPQC protects the load from harmonic voltages? Discuss.	[L2] [CO6]	12M
6.	Explain the solid transfer switch transfer with the transfer operation?	[L1] [CO6]	12M
7.	Explain the Solid State Breaker principle of operation?	[L1] [CO6]	12M
8	Draw and explain the schematic diagram Dynamic Voltage Restorer?	[L3] [CO6]	12M
9.	Explain the principle of DVR operation used for sag mitigation?	[L1] [CO6]	12M
10.	a)Give the list of two groups custom power devices?	[L1] [CO6]	3M
	b)Give the complete classification of custom power devices?	[L1] [CO6]	3M
	c)What is Static Current Limiter?	[L2] [CO6]	2M
	d)What is Static Transfer Switch?	[L2] [CO6]	2M
	e)What is Solid State Breaker?	[L2] [CO6]	2M

Prepared by: **B RAMESH**