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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**B.Tech IV Year I Semester Regular Examinations November/December-2022****POWER QUALITY**

(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

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|---|-------------------------------|----|-----|
| 1 | a Draw and explain ITI curve. | L2 | 10M |
| | b Define notching. | L2 | 2M |

OR

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|---|--|----|-----|
| 2 | a Explain the power quality terminology. | L1 | 10M |
| | b What is meant by surge. | L1 | 2M |

UNIT-II

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|---|---|----|----|
| 3 | a Explain the long duration voltage variations. | L2 | 5M |
| | b Explain the short duration voltage variation. | L1 | 5M |
| | c What is the main cause for impulsive transient? | L1 | 2M |

OR

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|---|--|----|-----|
| 4 | a Explain in detail the role of capacitors for the voltage regulation. | L1 | 10M |
| | b When an interruption occurs. | L2 | 2M |

UNIT-III

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|---|---|----|-----|
| 5 | a What is harmonic distortion? Discuss about the voltage versus current distortion. | L2 | 10M |
| | b What is meant by harmonics? | L2 | 2M |

OR

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|---|--|----|----|
| 6 | a Write the impact of voltage distortion and current distortion. | L3 | 5M |
| | b Explain the commonly used indices for measuring of harmonic content in the waveform. | L1 | 5M |
| | c What is meant by TDD? | L2 | 2M |

UNIT-IV

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|---|---|----|-----|
| 7 | a Write a short note on power quality monitoring standards. | L2 | 10M |
| | b What is meant by true RMS? | L3 | 2M |

OR

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|---|--|----|-----|
| 8 | a Explain about various power quality measuring equipment. | L1 | 10M |
| | b Why the flicker meter is needed? | L2 | 2M |

UNIT-V

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|---|--|----|-----|
| 9 | a What are the advantages of static VAR compensators? Discuss the operation of Static Series Compensators. | L2 | 10M |
| | b What is Static Current Limiter? | L2 | 2M |

OR

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|----|---|----|-----|
| 10 | a How UPQC protects the load from harmonic voltages? Discuss. | L2 | 10M |
| | b Give the list of two groups custom power devices? | L1 | 2M |

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UNIT 1: THE HISTORY OF THE UNITED STATES

1. What is the significance of the American Revolution?

- a. It established a new form of government.
- b. It led to the independence of the colonies.
- c. It was a turning point in American history.
- d. It resulted in the signing of the Declaration of Independence.

2. How did the American Revolution affect the world?

- a. It inspired other nations to seek independence.
- b. It led to the formation of the United Nations.
- c. It established the principle of self-determination.
- d. It resulted in the signing of the Treaty of Paris.

3. What were the major causes of the American Revolution?

- a. British taxation without representation.
- b. The Boston Tea Party.
- c. The Intolerable Acts.
- d. The Declaration of Independence.

4. How did the American Revolution change the role of women?

- a. It led to the formation of the Seneca Falls Convention.
- b. It inspired the women's rights movement.
- c. It resulted in the signing of the Declaration of Sentiments.
- d. It led to the passage of the Equal Rights Amendment.

5. What were the major battles of the American Revolution?

- a. The Battle of the Clouds.
- b. The Battle of the Clouds.
- c. The Battle of the Clouds.
- d. The Battle of the Clouds.

6. How did the American Revolution affect the economy?

- a. It led to the formation of the Bank of America.
- b. It inspired the economic growth of the United States.
- c. It resulted in the signing of the Treaty of Paris.
- d. It led to the passage of the Equal Rights Amendment.