

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**

B.Tech IV Year I Semester Supplementary Examinations June-2024

POWER QUALITY

(Electrical & Electronics Engineering)

Time: 3 Hours

Max. Marks: 60

PART-A

(Answer all the Questions 5 x 2 = 10 Marks)

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|---|--------------------------------|-----|----|----|
| 1 | a Define notching | CO1 | L2 | 2M |
| | b Define Sag? | CO2 | L1 | 2M |
| | c What is ment by harmonics? | CO2 | L2 | 2M |
| | d What is revenue meters? | CO3 | L1 | 2M |
| | e What is Solid State Breaker? | CO4 | L2 | 2M |

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

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|---|--|-----|----|-----|
| 2 | What is power quality? Why we are concern about power quality? | CO1 | L1 | 10M |
| | OR | | | |
| 3 | Draw and explain ITI curve. | CO1 | L2 | 10M |

UNIT-II

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|---|---|-----|----|-----|
| 4 | What are the sources of transient over voltages? Explain clearly. | CO2 | L2 | 10M |
| | OR | | | |
| 5 | Draw and explain the impulsive and oscillatory transients. | CO2 | L1 | 10M |

UNIT-III

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|---|---|-----|----|-----|
| 6 | What is harmonic distortion? Discuss about the voltage versus current distortion. | CO2 | L2 | 10M |
| | OR | | | |
| 7 | Explain the various devices for the controlling of harmonics distortion. | CO2 | L1 | 10M |

UNIT-IV

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|---|--|-----|----|-----|
| 8 | Explain the various power quality monitoring considerations. | CO3 | L1 | 10M |
| | OR | | | |
| 9 | Explain about the power quality bench marking. | CO3 | L1 | 10M |

UNIT-V

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|----|---|-----|----|-----|
| 10 | Draw and explain the schematic diagram of a right shunt UPQC. | CO4 | L3 | 10M |
| | OR | | | |
| 11 | Explain the principle of DVR operation used for sag mitigation. | CO4 | L1 | 10M |

*** END ***

