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Question Paper Code: 59318

B.E. / B.Tech. DEGREE EXAMINATION, SEP 2020

Elective

Electrical and Electronics Engineering

15UEE918 - POWER QUALITY

(Regulation 2015)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any Six of the following Questions)

- Which of the following contribute to the low voltage and poor power factor CO1- R
(a) Reactive Power (b) Harmonics (c) Load Imbalance (d) All of the above
- Which one is called Power acceptability curve? CO1- R
(a) Slip Torque curve (b) V-I curve
(c) CBEMA curve (d) P-V curve
- Equipment sensitivity to voltage sags is very much dependent on CO2- U
(a) Specific load type (b) Control settings (c) Applications (d) All of the above
- What is the cause for voltage sag? CO2- R
(a) Faults (b) Speed variation (c) Lightning (d) None of the above
- Isolation transformer is used for CO3- R
(a) Thermal protection (b) over voltage protection
(c) Fault analysis (d) None of the above
- Low frequency transients are caused by CO3- R
(a) Network switching (b) Inductive loads turning
(c) Lightning (d) Both (b) and (c)
- The lightning arrester acts as CO3- R
(a) Surge reflector (b) Surge absorber (c) Surge coil (d) Surge diverter

8. The power quality standards are CO4- R
 (a) Motors (b) Faults cause the voltage sag
 (c) Switching operation (d) All of the above
9. Harmonics cause which of the following CO4- R
 (a) Heating in windings (b) Nuisance Tripping
 (c) Capacitor Failure (d) All the above
10. The solution techniques of harmonic problems are CO4- R
 (a) Preventive measures (b) Remedial measures
 (c) Either (a) or (b) (d) Both (a) and (b)

PART – B (3 x 8 = 24 Marks)

(Answer any Three of the following Questions)

11. What is harmonics? Explain harmonic distortion with relevant waveforms. CO1- U (8)
12. Explain how the transfer switches are helpful in avoiding power interruption and voltage sag. CO2- App (8)
13. Apply PSCAD in analyzing the Power quality issue. CO3- App (8)
14. Distinguish active and passive filters in harmonic control. CO4-Ana (8)
15. Discuss the various devices for controlling harmonic distortion. CO4-U (8)