

B.TECH. SEM-VIII (ELECTRICAL) (CBCS-2014 COURSE): Winter-2022
SUBJECT : ELECTRICAL POWER QUALITY

Day : Thursday

Date : 24-11-2022

W-13347-2022

Time : 2:30 P.M. TO 5:30 P.M.
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data, if necessary.

Q.1 What do you mean by 'Power Quality'? Explain the terms related to Power Quality. (10)

OR

- Q.1 a) Write a short note on CBEMA curve. (05)
b) Which are the standards to be followed for maintaining the power quality? (05)

Q.2 Define and explain 'Voltage Sag'. State the various sources and impact of voltage sag. (10)

OR

Q.2 State and explain the impact of voltage sag on the electric system. Explain the various voltage sag mitigation techniques. (10)

- Q.3 a) Explain the impact of capacitor switching on over voltages. (05)
b) Define the term shielding related to over voltage and explain the same. (05)

OR

Q.3 Explain the importance of computer analysis tools for power quality analysis. Also state some of the software tools with its features. (10)

- Q.4 a) State and explain triplen harmonics and its impacts. (05)
b) Differentiate between Active and Passive filters. (05)

OR

Q.4 Define Harmonics, its various mitigation techniques and explain factors considered to design harmonic filter. (10)

- Q.5 a) State and explain the importance of power quality monitoring. (05)
b) Describe the factors to be considered for modeling of a wind power plant. (05)

OR

Q.5 State and explain various equipment's used for power quality monitoring. Also state its applications. Explain any two in detail. (10)

- Q.6 a) Define and explain Resurgence of DG. (05)
b) State and explain the features of good power quality analyzer. (05)

OR

Q.6 Explain with neat sketch power quality analyzer and two applications of it in detail. (10)

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