

**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)

\* \* \* \* \*