

Total No. of Questions : 6]

SEAT No. :

P5831

[Total No. of Pages : 1

**BE/Insem./Oct.-562**

**B.E. (Electrical)**

**POWER QUALITY**

**(2015 Pattern) (Semester - I) (Elective - I)**

*Time :1 Hour]*

*[Max. Marks :30*

*Instructions to the candidates:*

- 1) *Solve Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicates full marks.*
- 4) *Use of Calculator is allowed.*
- 5) *Assume suitable data if necessary.*

**Q1)** a) Write symptoms/ indicators of poor power quality and the associated cause of problems. [5]

b) Describe the grounding practices for sensitive equipment as per IEEE 1100. [5]

OR

**Q2)** a) Discuss classification of various power quality issues as per IEEE 1159. [5]

b) Discuss the sources and effects of long duration RMS voltage variations. [5]

**Q3)** a) What are the factors governing severity of voltage sag? [5]

b) Draw and explain ITIC curve. [5]

OR

**Q4)** a) What are causes of voltage sag? [5]

b) Explain the Voltage sag mitigation techniques at equipment level. [5]

**Q5)** a) What are the causes of Impulsive and oscillatory transients? Explain. [5]

b) Discuss the factors which affects severity of flicker. [5]

OR

**Q6)** a) What is Ferro-resonance? What is its effect? [5]

b) Explain the terms  $P_{st}$  and  $P_{lt}$  with reference to Flicker measurement. [5]

