Total No. of Questions : 10]

SEAT No. :

P3783

[Total No. of Pages : 2

[5561]-184
B.E. (Electrical)
POWER QUALITY
(2012 Course) (Semester -I) (Elective-I) (403143B)

Time : 2½ Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q9 or Q10.***
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) Explain the symptoms of poor power quality? **[5]**

b) Explain voltage sag characteristics - **[5]**

i) Magnitude

ii) Phase angle jump

OR

Q2) a) What are the causes of Voltage Flicker? **[5]**

b) What is the effect of voltage sag on Motors? **[5]**

Q3) a) Explain in detail one method followed for mitigating voltage sag. **[5]**

b) Write various sources of transient over voltages and explain any one in detail. **[5]**

OR

Q4) a) What are the problems associated with grounding affecting power quality? **[5]**

b) Define long duration rms voltage variations. **[5]**

P.T.O.

Q5) a) What indices are used for harmonic measurement? Explain. **[8]**

b) Define Power and power factor in power system under non sinusoidal conditions. **[8]**

OR

Q6) a) Explain the harmonic effects on Transformers and motors briefly. **[8]**

b) What is harmonics? What are the causes of harmonics? **[8]**

Q7) a) Discuss shunt passive filters used for harmonic reduction. **[8]**

b) How harmonics are mitigated? Explain. **[8]**

OR

Q8) a) Explain various principles of controlling harmonic distortion. **[8]**

b) Explain the concept of point of common coupling and its use in harmonic study. **[8]**

Q9) Write short notes on the following. **[18]**

a) Harmonic analysers

b) True RMS meters

c) Transient disturbance analysers

OR

Q10)a) What are the objectives of the power quality monitoring? **[10]**

b) Write note on test location in PQ monitoring. **[8]**

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