Total No. of Questions :5]

SEAT No. :

P3913

[Total No. of Pages : 2

[5462]-627

M.E. (Electrical) (Power System)

POWER QUALITY ASSESSMENT MITIGATION

(2017 Course) (Semester - III) (603202)

Time : 3 Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***Attempt Q.No. 1 is compulsory.***
2) ***Answer Q.No. 2 or Q.No. 3, Q.No. 4 or Q.No. 5.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***
6) ***Assume suitable data, if necessary.***

Q1) Attempt any three of the following: **[18]**

a) How power quality events are classified?

b) Explain sources of voltage flicker and mitigation techniques.

c) Discuss voltage sag characteristics.

d) Explain harmonics produced by synchronous and induction machines.

e) Explain impact of harmonics on communication systems and power factor correction equipment.

f) Explain CBEMA and ITI curves. How these are useful.

Q2) a) Explain effect of system response under presence of harmonics. Also explain principles of harmonic control. **[8]**

b) Explain conventional and advanced filter design criteria. **[8]**

OR

P.T.O.

Q3) a) Explain parallel resonance in presence of harmonics. How these can be avoided? **[8]**

b) Discuss different methods of harmonic reduction under different environment. **[8]**

Q4) a) With suitable diagram explain power quality monitors. **[8]**

b) Discuss different indices used for assessment of power quality. **[8]**

OR

Q5) a) Why selection of transducers is important in power quality assessment? **[8]**

b) Explain need of monitoring in power system. Also explain different approaches for power quality monitoring. **[8]**

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