Code: 13A02708 **R13**

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2018

POWER QUALITY

(Electrical & Electronics Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Define critical load.
(b) Define Total Harmonic Distortion (THD).
(c) What are sources for under voltages in power system?
(d) Define outage.
(e) What is the difference between harmonics and transients?
(f) What is harmonic indices?
(g) What is spectrum analyzer?
(h) What are the monitoring objectives?
(i) What is a DVR?
(j) What is Sold State Breaker (SSB)?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Explain the power quality problem evaluation procedure in detail.

OR

3 Explain about the solutions to power quality issues in detail.

UNIT – II

4 Explain the causes of long interruptions in detail.

OR

5 Explain the sources of impulse and oscillatory transients in power system.

UNIT – III

6 Explain the principle of various devices used to control harmonic distortion in power systems.

OR

7 Write about various industrial loads causes harmonics in power system.

UNIT – IV

8 Write about various power quality monitoring equipment.

OR

9 Write short notes on power quality measurement system. What are the characteristics of power quality measurement equipment?

UNIT – V

10 Explain about unified power quality conditioner (UPQC) operation with neat schematic diagram.

OR

11 Explain the operation of solid state transfer switch (SSTS) with neat diagram.

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