**PVP 17**

Code: **17EEPC1T5A**

**I M.Tech-I Semester-Regular Examinations-February 2018**

# POWER QUALITY
## (POWER SYSTEM & CONTROL)

Duration: 3 hours Max. Marks: 60

Answer the following questions.

1.a) Define the following terms
(i)Voltage imbalance (ii) Transients.
(iii) Power Frequency variations. 7 M

b) Define power quality. Explain the characteristics of power quality in long and short voltage variations. 8 M

(OR)

2.a) Discuss general classes of power quality problems and steps involved in power quality evaluation. 9 M

b) Define the following terms
(i)Voltage Flicker (ii) Waveform distortion. 6 M

3.a) Explain the sources of sag and interruptions. Discuss the fundamental principles of protection from sag. 8 M

b) Explain the motor starting methods to minimize the effect of power quality problems. 7 M

(OR)

4.a) Discuss the solutions at the end-user level to overcome the problem of voltage sag. 8 M

b) What is the need for estimating sag performance? Explain different methods of estimating voltage sag performance. 7 M

5.a) Explain briefly how the phenomenon of current distortion affects the voltage distortion under the presence of harmonics? 8 M

b) Explain the power system response characteristics under the presence of harmonics. 7 M

(OR)

6.a) Discuss the characteristics of harmonics generated by different types of industrial loads. 8 M

b) Write short notes on 7 M

i) Locating the sources of harmonics.

ii) Effects of harmonic distortion.

7.a) Explain the application of expert systems in power quality monitoring. 8 M

b) Write short notes on 7 M

i) Power quality monitoring.

ii) Standards of power quality monitoring

(OR)

8.a) Illustrate the importance of power quality monitoring and assessment. 8 M

b) Explain about different equipment used in power quality monitoring. 7 M