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**Question Paper Code : 11249**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Seventh Semester

Electrical and Electronics Engineering

080280064 – POWER QUALITY ENGINEERING

(Common to B.E. (Part-Time), Sixth Semester, Electrical and Electronics Engineering)

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

(Codes/Tables/Charts to be permitted, if any, may be indicated)

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the power quality issues?
2. Define voltage fluctuation.
3. What is single phase tripping?
4. Define interruption.
5. What are the causes of voltage sag?
6. What do you mean by transients?
7. What are inter harmonics?
8. What are controlling harmonics?
9. What is power quality monitoring?
10. List out few quality measurement equipments.

PART B — (5 × 16 = 80 marks)

11. (a) Discuss about various voltage quality issues. (16)

Or

- (b) Explain the sources and effects of power quality problems. (16)



12. (a) Explain the influence of short interruptions on adjustable speed drives and electronic equipments. (16)

Or

(b) Discuss the principles of regulating the voltage using voltage regulating devices and its applications. (16)

13. (a) Discuss the influence on voltage sags on adjustable speed drives and about stochastic assessment of voltage sags. (16)

Or

(b) Discuss the various devices for over voltage protection and explain about capacitor switching and lighting transients. (16)

14. (a) Explain about sources and effects of harmonic distortion. And briefly explain about system response characteristics. (16)

Or

(b) Explain the principles of controlling harmonics and its standards and limitations. (16)

15. (a) Discuss about power quality measuring equipments and power conditioning equipments. (16)

Or

(b) Discuss about planning, conducting and analyzing power quality survey. Explain the mitigation and control techniques for power quality solutions. (16)