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Code No. : 7136

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
M.E. (EEE: CBCS) I-Semester Main Examinations, Jan./Feb.-2017

(Power Systems & Power Electronics)

Power Quality Engineering

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

1. Define Harmonics.
2. What are PQ monitoring standards?
3. What are voltage dip problems?
4. Explain how the transformer impedance can change the sag magnitude in a radial system.
5. List out different types of Sags.
6. Define phase angle jump.
7. What are the sources of Harmonics?
8. Define Interharmonics.
9. Define grounding.
10. Define Transients.

Part-B (5 × 10 = 50 Marks)

11. a) Explain about different PQ problems [4]
b) What are the different PQ monitoring equipments? Also mention the PQ monitoring standards. [6]
12. a) What are the Fast assessment methods for voltage sags in distribution system? [4]
b) Distinguish between the different types of sag that occurs in power system. [6]
13. a) Explain the effects of momentary voltage dips on the operation of induction motor. [5]
b) Explain the Power system harmonics and mention the mitigation of harmonics. [5]
14. a) Explain in detail the harmonic sources from commercial loads. [5]
b) What are the different devices for controlling harmonic distortions? [5]
15. a) What are the grounding and wiring problems and mention the solutions for it? [6]
b) What is the purpose of grounding? [4]
16. a) What are the applications of Intelligent systems in PQE? [5]
b) Explain the different methods to measure the sag duration. [5]
17. Answer any *two* of the following:
 - a) Explain with neat circuit diagram of AC ASD system. [5]
 - b) What are the harmonic sources from the Industrial Loads? [5]
 - c) What are the sources of transients? [5]
