F 3388 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Electrical and Electronics Engineering

EE 010 706 L03 – POWER QUALITY (Elective II) [EE]

(New Scheme – 2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 3 *marks.*

1. Explain why are we concerned about Power Quality.
2. Explain area of vulnerability for sag.
3. Explain harmonic resonance.
4. Explain distortion volt-Ampere.
5. What are smart PQ meters?

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*

Each question carries 5 *marks.*

6. Explain impulsive and oscillatory transients.
7. Explain approaches for voltage sag ride through.
8. Explain transient voltage surge suppressors.
9. Explain triplen harmonics and its effect on power systems.
10. Explain various types of PQ measurement equipments.

(5 × 5 = 25 marks)

Part C

Answer section (a) **or** *section (b).*

Each question carries 12 *marks.*

11. (a) Explain CBEMA and ITI curves for susceptibility of computer equipment.

Or

(b) Explain the terms : (i) Under voltage ; (ii) Sag ; (iii) Inter harmonics ; (iv) Notching.

Turn over

12. (a) Explain ferroresonant transformers.

Or

(b) Explain Static UPS systems.

13. (a) Explain the devices for overvoltage protection.

Or

(b) Explain the transient model of power system.

14. (a) Explain the harmonic sources from Industrial loads.

Or

(b) Explain with an example : (i) THD ; (ii) DIN ; (iii) TIF.

15. (a) Explain be monitoring considerations for PQ.

Or

(b) Explain various transducer requirements for PQ monitoring.

(5 × 12 = 60 marks)