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Question Paper Code : 91470

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Seventh Semester

Electrical and Electronics Engineering

EE 6005 – POWER QUALITY

(Regulations 2013)

(Common to PTEE6005 – Power Quality – For B.E. (Part-Time) – Sixth Semester –
Electrical and Electronics Engineering – Regulations 2014)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. What is meant by overloading ?
2. Define voltage sag.
3. What are the sources of short interruption ?
4. What is the use of static transfer switch ?
5. Define ferro resonance.
6. What are surge arresters ?
7. What are the sources of harmonic distortion ?
8. What are inter harmonics ?
9. What is the need for power quality monitoring ?
10. List out few power conditioning equipments.

PART – B

(5×13=65 Marks)

11. a) Discuss about various power quality issues.

(OR)

- b) Discuss about the Computer Business Equipment Manufacturers Associations (CBEMA) curve. Explain about the events described in the curve.



12. a) Explain how voltage sag caused due to induction motor starting.
(OR)
b) What are the different voltage sag mitigation techniques? Explain in details.
13. a) Discuss any two voltage swell mitigation with necessary circuit diagram and wave forms.
(OR)
b) Explain the principle of transformer and cable protection.
14. a) Explain briefly about the phenomenon of how current distortion affect the voltage distortion under pressure of harmonics.
(OR)
b) Discuss the principles of harmonic distortion evaluation.
15. a) Explain the following with neat diagram:
i) Harmonic analyzer
ii) Flicker meter.
(OR)
b) With the help of block diagram explain how the expert subsystem is useful for power quality monitoring.

PART – C

(1×15=15 Marks)

16. a) Discuss the IEEE 519 standard and IEC 61000-3-2 standard with respect to harmonics.
(OR)
b) Describe computer analyzing tool PSCAD and EMTP for transient analysis.