Reg. No. : | | | | | | | | | | |

Question Paper Code: 39314

B.E./B.Tech. DEGREE EXAMINATION, SEP 2019

Elective

Electrical and Electronics Engineering

01UEE914- POWER QUALITY

(Regulation 2013)

Duration: One hour Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following Questions)

1. Which one is called Power acceptability curve?

   (a) Slip Torque curve (b)V-I curve (c) CBEMA curve (d) P-V curve

2. In voltage sag, breaker will remain open for typically a minimum of

   (a) 10 cycles (b) 15 cycles (c) 12 cycles (d) 5 cycles

3. Transmission faults cause voltage sags that last about

   (a) 40 sec (b) 10 sec (c) 20 millisec (d) 60 millisec

4. Vacuum Breaker Technology uses

   (a) Static switches (b) Compensator

   (c) Automatic transfer switches (d) Fast transfer switches

5. The surge impedance of under-ground cables is of the order of

   (a) 20 to 60 ohms (b) 200 to 600 ohms

   (c) 2 k ohm to 5 k ohm (d) 20 k ohm to 60 k ohm

6. The current carrying capacity of cables in D.C. is more than that in A.C. mainly due to

   (a) Absence of harmonics (b) Non-existence of any stability limit

   (c) Smaller dielectric loss (d) Absence of ripples

7. The sources of harmonics are

(a) Converters (b) Large rectifier loads

(c) Computer power supply (d) All the above

8. The crest factor of non-linear loads is between

(a) 1 and 1.414 (b) 1 and 2.5 (c) 2.5 and 1.414 (d) Below 1

9. Power quality measuring equipments

(a) Oscilloscopes (b) Harmonic analyzers (c) Energy monitors (d) All the above

10. Continuous and rapid variations in the load current magnitude which causes voltage variations

(a) Harmonics (b) Flicker (c) Voltage sag (d) Voltage distortion

PART – B (3 x 8= 24 Marks)

(Answer any three of the following Questions)

11. Explain the following power quality issues in detail with examples. (8)

12. Estimate the sag severity in induction motor starting. (8)

13. Explain the various methods to mitigate voltage swells. (8)

14. Summarize IEEE and IEC standards on harmonics. (8)

15. Describe power quality conditioning equipments. (8)