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

Question Paper Code: 49316

B.E./B.Tech. DEGREE EXAMINATION, SEP 2020

Elective

Electrical and Electronics Engineering

14UEE916- POWER QUALITY

(Regulation 2014)

Duration: One hour Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Power quality generally used to express. CO1-R

   (a) quality of service (b) computer equipment

   (c) quality of the voltage (d) lightning equipment

2. In voltage sag, breaker will remain open for typically a minimum of CO1-R

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

3. Voltage dips cannot be caused by which of the following CO2-R

   (a) Inductive Loading (b) Switching on of Large Loads

   (c) Capacitive Switching (d) Local and Remote faults

4. Vacuum Breaker Technology uses CO2-R

   (a) Static switches (b) Compensator

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

5. Transient generation depending on system CO3-R

   (a) power factor (b) damping (c) voltage (d) all the above

6. The current carrying capacity of cables in D.C. is more than that in A.C. mainly due to CO3-R

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

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

7. The third harmonic currents are known as _____ CO4-R

(a) Negative sequence harmonics (b) Positive sequence harmonics

(c) Zero sequence harmonics (d) Both –ve sequence and + ve sequence harmonics

8. The crest factor of non-linear loads is between CO4-R

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

9. Continuous and rapid variations in the load current magnitude which causes voltage variations CO5-R

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

10. Flicker can explain in terms of CO5-R

(a) deviating voltage (b) voltage distortion

(c) fluctuating voltage magnitude (d) none of these

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11.	Explain the various types of power quality disturbances and impacts of power quality.	CO1- U	(8)
12.	Explain the different voltage sag mitigation techniques?	CO2- U	(8)
13.	Explain in detail about the protection of lightning.	CO3- U	(8)
14.	What are the various devices for controlling harmonic distortion? Explain briefly about it.	CO4- U	(8)
15.	Explain the applications of expert systems for power quality monitoring.	CO5- U	(8)