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

Question Paper Code: 52537

M.E. DEGREE EXAMINATION, NOV 2016

Elective

Power Electronics and Drives

15PPE508 – ELECTRIC POWER QUALITY

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. SEMI F47:0200 which event this started is use

   (a) Interruptions (b) Transients
   (c) Voltage sag (d) Voltage sag immunity

2. The advantages of 12 pulse converter is

   (a) lower harmonic impact (b) lower loss
   (c) greater flexibility (d) all the above

3. Closed loop balancing is a

   (a) No zero sequence component (b) No positive sequence component
   (c) No negative sequence component (d) None of these

4. The instantaneous power to the load ,the dc component with a mean value of

   (a) 0.4130 (b) 0.5282 (c) 0.8621 (d) 0.5632

5. The DVR can protect the sensitive load by inserting voltage of controllable

   (a) Amplitude (b) Frequency
   (c) Phase angle (d) All the above

PART B - (5 x 3 = 15 Marks)

6. How can power quality problem be detected?

7. Write a voltage expression for balanced three phase system.

8. Define ideal shunt compensator.

9. What is the drawback of connecting transformer in DSTATCOM structure?

10. Draw the right shunt UPQC configuration?

PART C - (5 x 16 = 80 Marks)

11. (a) Explain the characterization of electrical power quality. (16)

Or

(b) Explain the power quality Phenomena or disturbances. (16)

12. (a) Explain in detail about Non-sinusoidal voltage source supplying Non-linear load current. (16)

Or

(b) Describe three phase three wire system. (16)

13. (a) Explain Load compensation methods. (16)

Or

(b) Derive the expression for extraction of fundamental sequence components from measured quantity. (16)

14. (a) Discuss in detail about generating reference current using instantaneous PQ theory. (16)

Or

(b) Explain DSTATCOM connected to a weak supply point. (16)

15. (a) Explain about DC capacitor supported DVR. (16)

Or

(b) Give the short notes on series and shunt compensation. (16)