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Question Paper Code: 55029

Ph.D COURSE WORK EXAMINATION, NOV 2018

Elective

Course Work

15PPE529- APPLICATION OF INTELLIGENT CONTROLLERS FOR POWER QUALITY

IMPROVEMENT

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Describe briefly and compare the various methods employed for   CO1- U   (20)
         the control of output voltage of inverters.

                                        Or

    (b) Explain the principle of operation of a single phase multilevel   CO1- U   (20)
         cascaded H-bridge inverter with neat diagrams and waveforms.
         Also list its features, advantages and disadvantages.

2. (a) Explain the operation of distributed static compensator   CO2- U   (20)
         (DSTATCOM)used for sag mitigation. And also explain the solid
         state transfer switch with the transfer operation.

                                        Or

    (b) Draw the block diagram of DVR and state the feedback control   CO2- U   (20)
         system with necessary equations.

3. (a) Discuss the various issues in solid state breaker with suitable   CO3-U   (20)
         example.

                                        Or

    (b) Discuss the performance of the Solid state transfer switch with real CO3-U   (20)
         time example.

4. (a) Explain in detail about the general procedure for harmonic CO4- U (20)
distortion evaluation technique.

Or

(b) Explain the concept of wave let transform and discuss the CO4- U (20)
importance of discrete wavelet transform with suitable example.

5. (a) Define bench marking and discuss the bench marking in power CO5- U (20)
system with suitable real time example.

Or

(b) Discuss the various controller training methods used in Fuzzy CO5- U (20)
logic and compare the simulation results.

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