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Question Paper Code: 55029

Ph.D COURSE WORK EXAMINATION, MAY 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) Explain with the help of necessary waveforms the operation of single phase full bridge inverter. CO1-U (20)

Or

(b) Discuss about various electrical disturbances which affects the power quality. CO1-U (20)
2. (a) Compare the performance of Right and Left shunt control of UPQC with suitable system. CO2- Ana (20)

Or

(b) Discuss in detail about the DVR used for analyzing non sinusoidal voltage and currents. CO2- Ana (20)
3. (a) Explain how the detection algorithms are used to find the sag and swell in the power system. CO3-U (20)

Or

(b) Explain the construction and operating principle of Solid State Current Limiter with neat diagram. CO3-U (20)

4. (a) Design a passive filter to filter out the higher order harmonics in the electronics system. CO4-Ana (10)

Or

(b) Demonstrate the optimal filter design using ANN. CO4-Ana (20)

5. (a) Design a Fuzzy logic controller by using adaptive critic method for control the STATCOM. CO5- Ana (20)

Or

(b) Develop a simulation model for STATCOM operated in voltage control mode and VAR control mode and discuss the performance of each mode. CO5- Ana (20)