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SUBJECT CODE NO:- H-1718
FACULTY OF SCIENCE AND TECHNOLOGY
M.E. (Electrical Power Systems)
Elective-II: Special Topics in Power System
(REVISED)

[Time: Three Hours]

[Max.Marks: 80]

Please check whether you have got the right question paper.

- N.B
1. Solve any two from each section.
 2. Assume suitable data if necessary.

Section A

- Q.1 a) What are the most common power quality problems? Why has power quality only become an issue in recent years? 10
- b) What are harmonics? How do harmonics affect the electrical system and load? Give example. 10
- Q.2 a) Explain various types of power quality disturbances and impacts of power quality. 10
- b) What are the classification of power electronic conditioner? What is the type of shunt active filters? 10
- Q.3 a) Which is the basic general reliability function? What is Poisson expansion? Derive the expression. 10
- b) How recursive technique is useful to solve reliability problem? Explain. 10

Section B

- Q.4 a) How generation system reliability is calculated? Explain with example. 10
- b) What is electronic and mechanical component failure rate as a function of age? How probability of a failure defined by reliability function? 10
- Q.5 a) Define and draw SCADA system for operation and control of interconnected power system. 10
- b) What are the main tasks of SCADA system in power system operation? How they planned? 10
- Q.6 a) How automatic generation control is achieved by SCADA system? Explain. 10
- b) What are alarm function? How they useful in power system operation? 10