

**SUBJECT CODE:- 8131**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**M.E.(Electrical Power Systems) Examination Nov/Dec 2015**  
**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

- i) Solve any two questions from each section.
- ii) Assume suitable data, if necessary.
- iii) mathematical treatment is required wherever necessary
- iv) Figures to the right indicate full marks.

## Section A

- |     |   |    |
|-----|---|----|
| Q.1 | a) Explain various factors defining power quality of power system                                 | 10 |
|     | b) Explain parallel resonance related to power system   | 10 |
| Q.2 | a) Explain techniques used to mitigate harmonics in power system.                                 | 10 |
|     | b) Explain series resonance related to power system   | 10 |
| Q.3 | a) Explain various power quality problems in distribution system.                                 | 10 |
|     | b) What is power electronics conditioner? Explain its use in mitigation of power quality problems | 10 |

## Section-B

- |     |  |    |
|-----|--|----|
| Q.4 | a) Explain continuous time markov chain [CTMC].                            | 10 |
|     | b) Explain discrete time markov chain [DTMC].                              | 10 |
| Q.5 | a) Explain recursive techniques used to state reliability of power system. | 10 |
|     | b) Explain in detail generation system reliability                         | 10 |
| Q.6 | a) Explain functions of SCADA in power system                              | 10 |
|     | b) Explain various SCADA configurations                                    | 10 |