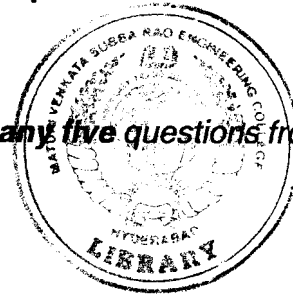


FACULTY OF ENGINEERING
B.E. 3/4 (E & EE) I Semester (Main) Examination, December 2011
POWER SYSTEMS – I

Time : 3 Hours]

[Max. Marks : 75

Note : Answer all questions from Part A. Answer any five questions from Part B.

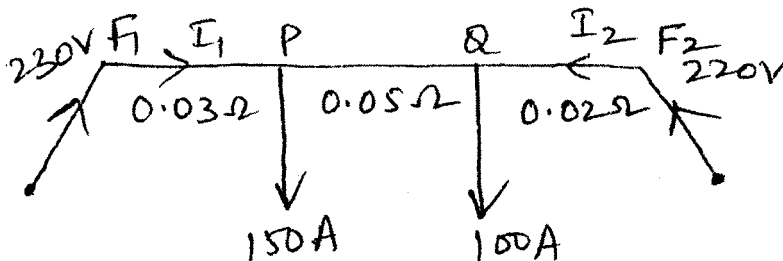
**PART – A****(25 Marks)**

1. Why is coal pulverized ? 2
2. What are types of Hydroelectric plants ? 3
3. Why are moderators used in Nuclear Power Plants ? 3
4. Write the methods of equalizing the potential across a string of insulators. 3
5. What are advantages of cables over overhead lines ? 3
6. What are bundled conductors ? 2
7. Write the equation for capacitance with effect of earth on it. 2
8. Define demand and diversity factor. 3
9. What is Tariff ? 2
10. What are fissile materials ? 2

PART – B**(50 Marks)**

11. a) Explain the function of economizers and air pre-heaters in thermal power station. 5
b) Classify the hydro plants according to the type of turbine used and explain. 5
12. a) Explain flat-plate collector solar power plant. 5
b) Explain the characteristics of wind power and turbines used for wind power. 5

13. a) Explain why the distribution of potential over a string of insulators is unequal. 5
 b) Explain with neat diagram capacitance of 3-core cables. 5
14. a) Explain what you understand by GMR and GMD of a transmission line. 5
 b) Calculate the inductance of a single-phase two wire system, if the distance between conductors is 2 m and radius of each conductor is 1.2 cm. 5
15. A two-wire distributor is fed at F_1 at F_2 at 230 V and 220 V respectively loads of 150A and 100A are taken at points P & Q. Resistance of both the conductors between F_1 P is 0.03Ω , between PQ is 0.05Ω and between QF_2 is 0.02Ω . Determine the current in each section of the distributor and voltage at each load point. 10



16. Explain with neat diagram the working principle of nuclear power plant. 10
17. Write short notes on the following :
- a) Transposition of conductors. 3
 b) Tidal power. 3
 c) AC and DC transmission. 4