B.E/B.Tech DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2011
B.E-Electronics& Communication Engineering (FULL TIME)
EE 9215 Electrical Engineering
III -SEMESTER (REG: 2008)

Time : 3 Hours **Max.Mark : 100**

Answer ALL Questions

Part-A(10*2 =20 Marks)

1. What are the applications of DC Shunt motor?
2. Mention the types of D.C Generator.
3. Write the advantages of delta connection.
4. What will happen if high D.C supply is connected across transformer?
5. Mention the applications of three phase induction motor.
6. Define voltage regulation.
7. Compare Induction Motor and Synchronous motor.
8. What are the effects of armature reaction in alternators?
9. Mention the advantages of HVDC transmission system.
10. What is the need for high power factor?

Part B-(5*16=80 Mark)

11. (i) Derive the EMF equation of DC generator. (8)
    (ii) Explain the various speed control methods of DC motor. (8)

12a. (i) Explain the working principle of Single phase transformer with neat diagram. (8)
    (ii) An ideal 25KVA transformer has 500 turns on the primary winding and 40 turns on the secondary winding. The primary is connected to 3000V,50Hz supply. Calculate primary current and secondary current on full load , secondary emf and the maximum core flux. (8)

Or

12.b. While performing a load test on a three phase induction motor by two watt Meter method, the readings on the two watt meters were 16.2 kW and -8.2 kW. The line voltage was 440 V. Determine

(i)Total active power drawn by the motor
(ii)Total Reactive power
(iii) Power Factor
(iv)The line current. (16)

13.a. Explain the operating principle and characteristics of Three phase induction motor. (16)

Or

13.b Explain double field revolving theory and the operating principles shaded pole motor. (16)

14.a. Explain the constructional details of Synchronous generator and derive it's EMF equation. (16)

Or

14.b. Draw the phasor diagram for synchronous motor under various excitations. Also explain 'V' and inverted 'V' curves. (16)

15.a Draw the necessary diagrams and explain the various components of power system . (16)

Or

15.b. Explain the various types of tariff. (16)