Roll No. | | | | | | | | | | |

B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2014

CIVIL

Semester : 2

EE191/EE9161 BASIC ELECTRICAL AND ELECTRONICS ENGG.

(Regulation 2004 / 2008)

Time: 3 Hours Answer ALL Questions Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are the major electrical equipments used in the power system?
2. Draw the connection diagram of stair case wiring.
3. What are the applications of step-up & step-down transformer?
4. What will happen if a series motor runs at no-load and why?
5. A silicon diode dissipates 3watt for a forward DC current of 2A. Calculate the forward voltage drop across the diode and its bulk resistance.
6. What is the difference between *p* type and *n* type semi conductors?
7. Draw diagrams to show forward and reverse bias of *p-n* junction.
8. Draw the equivalent circuit UJT.
9. What is TUNING with respect to microwave oscillators.
10. What is difference between RTD, thermo couple and thermistor in general?

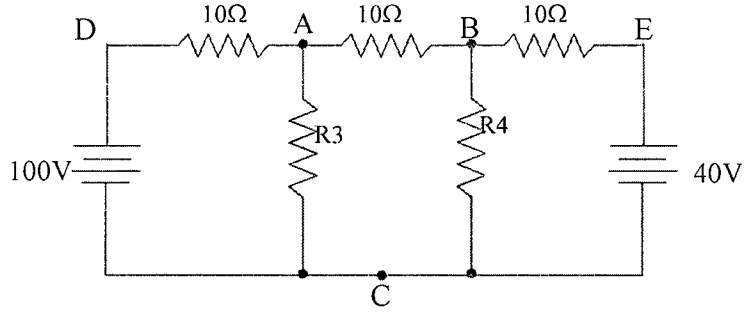
Part – B (5 x 16 = 80 marks)

11. i Draw a neat diagram of FM radio transmitter and explain its working

    ii What is piezoelectric phenomenon? Explain the working of any one piezoelectric transducer?

12. a) i What are the advantages of a three phase system? Explain the concept of balanced load.

    ii Find the currents through R3 and R4 using loop current analysis. Consider R3=R4=20 Ω



(OR)

b) i With help of connection diagram and phasor diagram, show that two wattmeters are sufficient to measure active power in a three phase three wire system with balanced delta connected load.

13. a) i Draw and explain magnetization characteristics of generators.

ii Draw the equivalent circuit of a single phase transformer and name the components.

(OR)

b) i Explain double field revolving theory applied to single phase Induction motor

ii List the differences between squirrel cage and slip ring induction motor.

14. a) i What do you mean by rectification? How diode can act as rectifier.

ii A PN junction diode has at a temperature of 125°C, a reverse saturation current of 30μA. Find the dynamic resistance for 0.2V bias in forward and reverse direction.

(OR)

b) i Discuss the working of Zener diode and Draw the V-I characteristics of zener diode

ii A 24V ,600mW zener diode is to be used for providing a 24 volt stabilized supply to a variable load. If input voltage is 32V calculate I) series resistance required II) diode current when load resistance is 1200Ω.

15. a) i With neat diagram, explain the operation , input and output characteristics of CE configuration. Compare CB, CE and CC configuration.

(OR)

b) i Write the working principle of MOSFET and draw its output characteristics.

ii What is TRAIC? Draw the V-I characteristics of TRAIC.