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B – 5233

Reg. No. : .....

Name : .....

Combined First and Second Semester B.Tech. Degree Examination, February 2017
(2008 Scheme)
08.108 : BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
(CMNPHETARUFBS)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions.

1. State and explain Faradays Laws of Electromagnetic induction.

2. Define RMS value, Average value and form factor in an AC quantity.

3. A circuit consists of 10 Ω resistance 15 mH inductance and 281 μF capacitance in series. The supply voltage is 110V. Calculate the current when the supply frequency is 150Hz.

4. Explain Star and Delta connections.

5. What are the different losses in a transformer ? How can they be minimized ?

6. What is the need for High Voltage transmission ?

7. Explain the working of incandescent lamps.

8. Explain the terms dynamic resistance and static resistance of a PN diode.

9. Explain the working of SMPS.

10. Explain the working of protective fuses and ELCB. **(10×4=40 Marks)**

P.T.O.

PART – B

Answer **any one** question from **each** Module.

Module – I

11. a) State and explain Kirchoff's voltage law and current law. **10**

    b) Explain the terms statically induced emf and dynamically induced emf. **10**

12. With a neat diagram, explain the power measurement in a three phase circuit using two watt meters. Show that the sum of two wattmeter readings gives the total power in the circuit. **20**

Module – II

13. a) Explain the working principle of single phase transformer and derive its emf equation. **10**

    b) With the help of circuit diagram explain the working of fluorescent lamp. **10**

14. a) With a neat block diagram, explain the Hydro electric power plant. **10**

    b) Name different methods of wiring for LT installations. Draw the schematic of a typical LT switch board. **10**

Module – III

15. a) Explain the working of Zener diode with the help of VI characteristics. **10**

    b) Write short notes on photo diode and LED. **10**

16. a) Draw the circuit diagram and explain the working of a centre tapped full wave rectifier. **10**

    b) Explain the VI characteristics of SCR. **10**
