Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 40189

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Second Semester

Computer Science and Engineering

BE 8255 – BASIC ELECTRICAL, ELECTRONICS AND MEASUREMENT ENGINEERING

(Common to : Artificial Intelligence and Data Science/

Computer Science and Business System/Information Technology)

(Regulations 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State Thevenin's theorem.
2. Distinguish between series and parallel circuit.
3. Give the applications of ideal transformer.
4. List the, merits and demerits of stepper motor.
5. Write about fluorescent tube. What is the significance of fluorescent tube light?
6. State the applications of Li ion battery.
7. Write about Op-amp.
8. What is PN junction?
9. Classify Transducers.
10. What is the purpose of CRO?

PART B — (5 × 13 = 65 marks)

11. (a) Discuss on pure inductive circuits and capacitive networks.

Or

(b) Simplify the complicated networks using star - delta conversion and then apply Kirchoff's law to solve them.

12. (a) Elaborate on the construction and working principle of an ideal transformer with merits, demerits and applications.

Or

(b) Give a detailed view on the speed control of DC motors.

13. (a) Write a note on renewable energy sources.

Or

(b) What is the need for earthing and give a note on fuses and circuit breakers?

14. (a) Explain the voltage regulator using LM 317.

Or

(b) Report on V-I Characteristics of diode. Mention the applications of zener diode.

15. (a) Describe the working of moving iron and moving coil instruments.

Or

(b) Give a detailed view on construction, working and applications of LVDT along with its advantages and disadvantages.

PART C — (1 × 15 = 15 marks)

16. (a) Elaborate of the static and dynamic characteristics of measurement.

Or

(b) Design and report on the electric circuit of domestic refrigerator and air conditioner.

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