

B.Sc. (CBCS Pattern) Semester-VI
USELT13 - Compulsory Paper-I - Electronics : Photonic Devices and Power Electronics

P. Pages : 2

Time : Three Hours



GUG/W/24/13349

Max. Marks : 50

- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw neat and labeled diagram wherever necessary.

Either:

1. a) What is LED? Explain construction and working of LED? State the advantages and disadvantages of LED? **10**

OR

- b) What is LASER diode? Explain the principle, construction and working of LASER diode? State the application of LASER diode. **10**

Either:

2. a) What is liquid crystal display? Explain the principle and operation of LCD display? Differentiate between LED and LCD. **10**

OR

- b) Explain the construction and working of Photo-multiplier tube? What is photo diode? Explain its working? **10**

Either:

3. a) With schematic diagram explain the construction of SCR? Draw the V-I characteristics of SCR and explain it? **10**

OR

- b) Explain the construction and working of TRIAC? Distinguish between SCR and TRIAC? **10**

Either:

4. a) Explain the Principle used in a phase-controlled rectifier? Draw the circuit diagram of Single-phase half wave rectifier and explain the working with voltage and current wave form? **10**

OR

- b) Explain the construction and working of parallel capacitor commutated inverter. **10**

5. Attempt **any ten** out of the following.

10

- a) What are the materials used in the construction of LED?
- b) State the application of LED.
- c) What is the difference between LED and LASER diode?
- d) What is Photoconductor?
- e) What is Phototransistor?
- f) State application of LCD display.
- g) State two application of TRIAC.
- h) What is holding current of SCR?
- i) Draw the circuit symbol of DIAC.
- j) What is commutator?
- k) What is DC link inverter?
- l) State the advantage of phase controlled rectifier.
