B. Sc. (Physics) Semester – VI

Paper – 605 : Plasma physics and Electronics   Subject Code : 4617

Time: 2 Hours]   *April - 2016*   [Total Marks 70

2-30

Instructions: 1. Symbols have their usual meaning.

2. Figures on right hand side show marks of that question.

1.   Describe the construction, working and applications of solar pond.   [14]

OR

1. (a)   Describe composition and characteristics of Plasma.   [07]

   (b)   Explain the role of collisions in the elementary process of Plasma.   [07]

2.   Write short on (Any two):   [14]

      (1) Applications of Plasma.

      (2) Pyranometer.

      (3) Light Dependent Resistor (LDR).

OR

2.   Write in detail about properties of plasma.   [14]

3. (a)   Write in detail about Light Emitting Diode.   [08]

   (b)   Explain the terms: Illumination and Irradiance.   [06]

OR

3.   Write in brief the principle , working and applications of Light activated SCR   [14]
(LASCR).

4.   What is multivibrator ? Write about transistorized Astable multivibrator and explain   [14]
its operation with different waveforms

OR

4. (a)   Write note on IC- 555.   [10]

   (b)   Estimate the frequency of oscillation in the astable multivibrator using IC-555   [04]
circuit if $R_1 = R_2 = 1M\Omega$, $C_2 = C_1 = 0.001 \mu F$.

5. (a)   What do you mean by edge-triggered S-R flip-flop , explain in short.   [07]

   (b)   Write short note on Logic Gates.   [07]

OR

5.   Draw the circuit diagram of the edge triggered JK flip-flop and explain its   [14]
operation with the help of truth table.

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