

Code : 4617

B. Sc. (Physics) Semester – VI

Paper – 605 : Plasma Physics and Electronics

MARKS: 70

OCT - 2015

TIME: 2:30 HOURS

Instructions: (1) Symbols have their usual meaning.
(2) Figures on right hand side show marks of that question.

1. (a) What is Plasma? Write in brief. [07]

(b) How Plasma is formed? Explain in brief. [07]

OR

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

2. Write in brief the principle, working and applications of Light activated SCR. [14]

OR

2. Write short notes on : [14]

(1) PN Photodiode

(2) Light Dependent Resistor (LDR)

3. Describe the operation, characteristics, fill factor and efficiency of Solar cell. [14]

OR

3.(a) Write in detail about Light Emitting Diode. [10]

(b) Explain in brief the spectral response of human eye. [04]

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

OR

4. (a) Draw the logic diagram of S-R flip-flop using NOR gates and explain its operation with the help of a truth table. [10]

(b) Write in short about gated D-flip flop. [04]

5. (a) Write in brief about monostable operation of IC- 555. [10]
[04]

(b) Determine the frequency of oscillation in the astable multivibrator using IC-555 circuit if $R_1 = R_2 = 10K\Omega$, $C_2 = C_1 = 0.01 \mu F$.

OR

5. Write in short on : [14]

(1) LASER diode.

(2) Photo Transistor.