

13 APR 2019

B. Sc. (Physics) Semester – VI

Paper – 606 : Electronics and Communication (New CBCS)

MARKS: 70

Code:21841

TIME:2:30 HOURS

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

- Q.1** What is multivibrator? Write about transistorized astable multivibrator and explain its operation with different waveforms. [14]
- OR**
- Q.1 (a)** Write in brief about monostable operation of IC- 555. [10]
(b) Determine the frequency of oscillation in the astable multivibrator using IC-555 circuit if $R_1 = R_2 = 10K\Omega$, $C_2 = C_1 = 0.001 \mu F$. [04]
- Q.2** Write in detail about Liquid Crystal Display (LCD). [14]
- OR**
- Q.2** Write in brief about Tunnel diode and Schottky Barrier diode. [14]
Q.3 Write in detail about any two applications of Light Dependent Resistor(LDR). [14]
- OR**
- Q.3** Write any one application of (i) Varactor diode (ii) Photodiode and (iii) Thermistor. [14]
- Q.4(a)** Derive equation for frequency band width of a wide band frequency modulation. [07]
(b) Derive expression for Frequency Modulated Wave. [07]
- OR**
- Q.4(a)** Explain phase modulation in detail and derive equation for phase modulated wave. [09]
(b) Derive equation for frequency band width of narrow band frequency modulation. [05]
- Q.5** Draw the basic circuit diagram of linear diode detector and explain. What is diagonal clipping? Also derive an expression to design the load circuit of the detector. [14]
- OR**
- Q.5** Explain slope detection and balanced slope detection using their circuits and characteristics. [14]