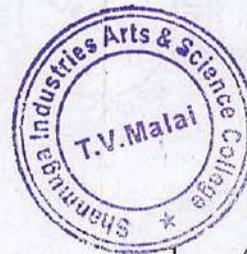


NOVEMBER/DECEMBER 2019

MPH14A — ELECTRONIC DEVICES AND APPLICATIONS

Time : Three hours

Maximum : 75 marks



SECTION A — (5 × 6 = 30 marks)

Answer ALL the questions.

All the questions carry equal marks

1. (a) Explain the principle of a integrated circuit multiplier.

Or

- (b) Discuss the principle of Schottky TTL.

2. (a) Derive expression for Lock range of PLL IC 565.

Or

- (b) Explain the working of a voltage controlled oscillator with circuit diagram.

3. (a) Discuss the operation of PIN photodiode.

Or

- (b) Write a short note on UV detector.

4. (a) With a circuit diagram analyze the wide band reject filter.

Or

- (b) Analyze the Log amplifier circuit using Op-Amp and hence derive the equation for its output voltage.

5. (a) What is pulse position modulation? Explain the generation of PPM.

Or

- (b) Discuss the generation of Pulse Code Modulation.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

All the questions carry equal marks

6. (a) With a circuit diagram discuss the operation of CMOS logic circuit.
(b) Explain the principle of voltage regulator action.
7. Discuss the construction and working of
(a) surface LED and
(b) edge LED

8. With a diagram discuss the working of IC 555 as an astable multivibrator and hence derive the expression for the frequency of the output.

9. (a) Draw the circuit of an astable multivibrator using Op-Amp and derive an expression for its frequency of oscillation.

- (b) With a circuit diagram discuss the voltage to current converter using Op-Amp.

10. Explain

- (a) Modes of Modem operation
(b) Modem inter connection and
(c) Modem interfacing

