

J. C. Bose University of Science and Technology, YMCA, Faridabad

Second Sessional Examination (November 2024)

Eng. Name: B.Tech. Mechanical Engg: 3rd Sem

Subject: Basic Electronics Engineering (ESC-201)

Attempt any 5 questions.

Max Time: 90 Minutes

Max Marks: 15

1. What are the ideal characteristics of an Op-Amp? Explain the application of Op-Amp as Unity Gain Buffer, which merit it adds to certain circuits. (3.0 Marks)[CO2][IOCQ]
2. Explain the working of 555 timer and its uses as Astable Multi-vibrator. (3.0 Marks)[CO3][IOCQ]
3. What are the essential conditions for Oscillator to provide sustained oscillations? Why R-C Phase Shift oscillator has at-least 3 sets of Resistance and Capacitance combination. (3.0 Marks)[CO3][IOCQ]
4. Why Modulation is so important in Communication System? Explain Frequency modulation technique. (3.0 Marks)[CO2][HOCQ]
5. Explain the significance of modulation factor in case Amplitude modulation. Draw Suitable diagrams in support of it. (3.0 Marks)[CO5][HOCQ]
6. Define the following concepts. (3.0 Marks)[CO5][LOCQ]
 - (a) Impact of trigger pulse in Monostable Vibrator.
 - (b) Expression of Frequency in Wein Bridge oscillator.
 - (c) What are the advantages of wired transmission media over wireless transmission media?