# 2003000204020091 / 2011000304020091
# EXAMINATION FEBRUARY-MARCH 2024
# BACHELOR OF SCIENCE (FOURTH SEMESTER)
# ELECTRONICS-III

[**Time: As Per Schedule]** **[Max. Marks: 50]**

**Instructions:**

1. **Fill up strictly the following details on your answer book**
   a. Name of the Examination: **BACHELOR OF SCIENCE (FOURTH SEMESTER)**
   b. Name of the Subject: **ELECTRONICS-III**
   c. Subject Code No: **2003000204020091 / 2011000304020091**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. All symbols and abbreviations have their usual meaning.
6. Assume data if necessary.

Seat No:

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Student's Signature

**Q.1 Answer in short:** **8**

a) What is a cross over distortion?
b) What is the amount of phase shift offered by each stage of RC circuit in Phase shift oscillator?
c) Why is monostable multivibrator called one-shot multivibrator?
d) Define loop gain

**Q.2** a) Explain the negative feedback in amplifiers. Discuss the advantages of negative feedback. **10**

b) What is the difference between positive feedback and negative feedback in amplifiers? **4**

**OR**

a) Explain the working principle of RC phase shift oscillator with the help of proper ckt diagram. Derive necessary expression for frequency. **10**

b) The frequency of oscillation of a three identical RC sections phase shift oscillator with R=5KΩ is 5KHz. Find the value of capacitors to be used in it. **4**

**Q.3** a) Explain the working principle of Astable multivibrator. Derive the relation for frequency oscillation. Draw the diagram of a output waveforms. **10**

b) In Astable multivibrator $R_a=R_b=10K\Omega$ and $C_a=C_b=0.01\mu F$. Determine the time period and frequency of the square wave. **4**

**OR**

a) Show the even harmonics are cancelled in push pull amplifier. Explain the working of a Class AB push pull amplifier. **10**

b) What is difference between voltage amplifier and power amplifier. **4**

**Q.4 Write short note on (Any TWO)** **14**

a) Hartley Oscillator

b) Bistable multivibrator

c) Wein bridge oscillators

d) Single Tuner Amplifier

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