

Roll No.

Total Pages : 03

BT-4/M-20

34017

ANALOG ELECTRONICS

EEcT-210-E

Time : Three Hours]

[Maximum Marks : 100

Note Attempt Five questions in all, selecting at least one question from each Unit.

Unit I

1. (a) What is a transistor ? Show the transistor working for the N-P-N and P-N-P transistors. **10**
(b) What do you understand by transistor biasing? Give its importance. **10**
2. Draw the h-parameter model of transistor amplifier in CE configuration. Determine the input impedance, current gain, voltage gain, output impedance in terms of h-parameter. **20**

Unit II

3. (a) Draw the characteristics and symbol of UJT and explain its working in detail. **10**
(b) Explain the construction and working of MOSFET. **10**

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4. Explain the different biasing schemes used in JFET amplifier. State their advantages. **20**

Unit III

5. (a) Draw the circuit diagram of RC coupled amplifier. Discuss the frequency response curve of RC coupled amplifier. **10**
(b) Classify power amplifier according to their operation. **10**
6. (a) What do you mean by push-pull amplifier ? Draw its circuit diagram and explain its operation. **10**
(b) What is feedback in amplifier ? Explain the type of feedback topologies with the help of schematic diagram. **10**

Unit IV

7. Write short notes on the following :
(i) Crystal Oscillator
(ii) Wien Bridge Oscillator
(iii) RC Phase Shift Oscillator
(iv) Hartley Oscillator. **4×5=20**

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8. (a) What is the difference between the output from a clipping circuit and a clamping circuit? Explain with neat sketches. **10**
- (b) What is meant by filter? Give the classification of various types of the filters. Explain in detail with their frequency characteristics. **10**