

Code No: R17A0405**MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****II B.Tech II Semester Supplementary Examinations, April 2023****Electronic Circuit Analysis****(ECE)**

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Time: 3 hours**Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

- 1 a) Discuss about effect of C_b on frequency response of RC coupled amplifier. [7M]
 b) Draw the circuit diagram of Direct Coupled Amplifier and explain its operation in detail. [7M]

OR

- 2 Analyse Cascaded RC Coupled BJT amplifier in terms of gains and Impedances [14M]
 (Individually and overall).

SECTION-II

- 3 a) Derive an expression for Voltage gain, input resistance, output resistance of a source follower at high frequencies. [7M]
 b) Draw the circuit diagram of Common Emitter Transistor II Model and explain its operation. [7M]

OR

- 4 a) Draw the circuit diagram of Common source amplifier with Resistive load and explain its operation. [7M]
 b) Derive the expression for f_T of a transistor in detail. [7M]

SECTION-III

- 5 Find the input and output resistances of a voltage serried feedback amplifier. [14M]
 OR
 6 Derive the expression for frequency of oscillation and condition for sustained oscillation of a Hartley oscillator. [14M]

SECTION-IV

- 7 a) Explain the operation of a class B push-pull power amplifier and list out its Advantages and disadvantages. [7M]
 b) Explain the operation of a complementary and symmetry class B push pull amplifier with necessary diagram. [7M]

OR

- 8 a) Derive the expression for maximum value of conversion efficiency of class A power amplifier. [7M]
 b) Draw a neat circuit diagram of Class A amplifier. Explain its working. [7M]

SECTION-V

- 9** Draw the circuit diagram of double tuned amplifier and explain its working and derive the equation for bandwidth. **[14M]**
- OR
- 10** a) Why is double tuning employed in tuned amplifier? What are the advantages of it? **[7M]**
b) What are applications of stagger tuned amplifier? **[7M]**
