Roll No. ..... Total Pages : 3

BT-1/D-17 **31022**

BASICS OF ELECTRONIC ENGG.

Paper : ECE-101(N)

Opt. (ii)

Time : Three Hours] [Maximum Marks : 75

Note : Attempt *five* questions in all, selecting at least *one* question from each unit.

UNIT–I

1. (a) How zener diode is different from normal p-n diode ? What are its applications? 7

(b) Explain how zener diode can be used as a voltage regulator. 8

OR

2. (a) What is the use of Rectifiers? What are the various types of rectifiers ? 7

(b) Explain the working of the full-wave bridge rectifier with necessary diagrams and waveforms. 8

UNIT–II

3. (a) Differentiate between Negative and Positive feedback. 7

(b) What are the advantages of using negative feedback in amplifiers ? 8

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OR

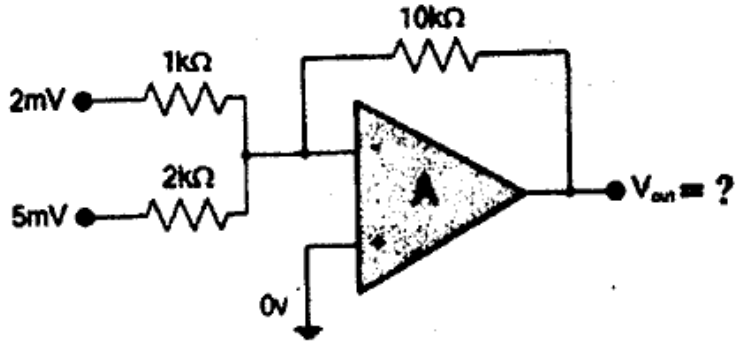
4. (a) Why Common Emitter (CE) is mostly used for making amplifiers ? 7

(b) Explain the input and output VI characteristics of BJT CE configuration showing various regions of operation. 8

UNIT–III

5. (a) Prove that the output of the inverting Adder using Op-amp is $V_0 = - R_f (V_1/R_1 + V_2/R_2)$. 8

(b) Find the output of the adder circuit given in the following circuit : 7



OR

6. (a) Derive the output equations of the Inverting and non-inverting op-amp circuits. 8

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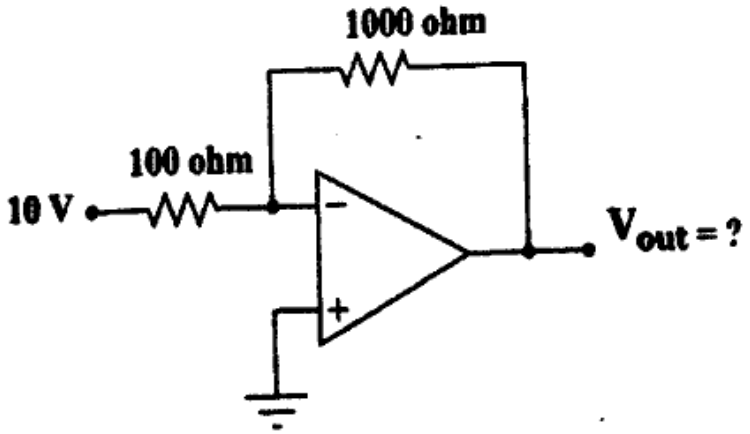
(b) Calculate the output of the following inverting op-amp circuit : 7



UNIT–IV

7. (a) Explain how UJT is different from BJT in operation and structure. 7

(b) Describe the operation of UJT with its VI characteristics. What are its applications ? 8

OR

8. (a) What is TRIAC? How is it different from SCR? 7

(b) Describe the operation and characteristics of TRIAC. What are its applications ? 8