

Roll No. ....

**E-3797**

**B. Sc. (Part III) EXAMINATION, 2021**

INFORMATION TECHNOLOGY

Paper First

**(Amplifiers and Oscillators)**

*Time : Three Hours ]*

*[ Maximum Marks : 50*

**Note :** Attempt any *two* Parts from each question. All questions carry equal marks.

**Unit—I**

1. (a) What is power amplifier ? Write down the various types of power amplifier, in brief.
- (b) Draw and explain transformer coupled power amplifier circuit and explain its operation.
- (c) Write down the various advantages of Push-Pull power amplifier.

**Unit—II**

2. (a) What do you understand by negative feedback amplifier ? Write down its advantages.

**P. T. O.**

- (b) Draw and explain Hartley oscillator circuit.
- (c) What do you mean by monostable multivibrator ?  
Explain it with suitable schematic diagram.

### Unit—III

- 3. (a) What is Op-Amp ? Write down the various characteristics of operational amplifier.
- (b) Draw and explain voltage follower circuit by using Op-Amp.
- (c) What is UJT ? Explain its characteristics in brief.

### Unit—IV

- 4. (a) Draw and explain the pin-diagram of 8085  $\mu$ p.
- (b) What do you understand by addressing modes ?  
Describe any *four* addressing modes.
- (c) Write down any *four* data transfer instructions of 8085  $\mu$ p with proper syntax and examples.

### Unit—V

- 5. (a) Distinguish between machine language and assembly language.
- (b) Write an assembly language program to add 10 values stored in memory location D000H to D009H. Store result in memory location starting from E000H.
- (c) Distinguish between PUSH-PULL and CALL-RET instructions.