

SYSTEMS PROGRAMMING: Class Test III

Instructions: 1. **Total Marks: 20** **Duration 1 Hour (2.00 PM – 3.10 PM)**

2. Date: **21-11-2020**

3. **Write your Roll Number, Name and upload pdf file in Microsoft Team**

1. In case of Direct – Linking Loader, what information must be provided by the assembler? How Direct – Linking Loader processes the information received from assembler? Explain with suitable example.

2. State Databases of Pass1 of an assembler.

Consider the following code segment:

...

...

JMP L1

...

...

L1 : MOV AL , ABC[SI] ; ABC is an array

...

...

How pass1 and pass2 of an assembler will process the above code segment?

Clearly show the steps.

3. Describe the overall design of a two-pass macro processor with description of the data structures used in it.
4. Discuss the design of relocating loader. What is the advantage of relocating loader over absolute loader? Explain with suitable example.
5.
 - a) Differentiate between subroutine and macro with suitable example.
 - b) Assume that AL contains hex value C5. Provide **a value of BL in hexadecimal** which will cause the overflow flag to be set when processor executes the instruction **ADD AL , BL** . Justify your answer.

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