Total No. of Questions : 4] **SEAT No. :**

PC-27 **[Total No. of Pages : 2**

[6360]-27

T.E. (Computer Engineering) (Insem)

SYSTEMS PROGRAMMING AND OPERATING SYSTEM

(2019 Pattern) (Semester - I) (310243)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates :

1) ***Answer Q1 or Q2, Q3 or Q4.***
2) ***Neat Diagrams must be drawn wherever necessary.***
3) ***Figure to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) Draw and explain flowchart of pass I of two pass assembler with example. **[8]**

b) Differentiate : **[7]**

i) Literal and Immediate operand.

ii) Assembler and Compiler

OR

Q2) a) Consider following Assembly code and show output of pass-I of two pass Assembler with entries in Mnemonic Opcode Table, Pseudo Opcode Table, Symbol Table, Literal Table and Pool Table. **[8]**

```
PROG START 50
USING PROG+2, 15
L1, FIVE
Al, = F '2'
LTORG
ST 1, RES
FIVE DC F '4'
RES DS F '4'
RES DS IF
END
```

b) Enlist and explain necessity of different data structures used in Pass-I of two pass Assembler? **[7]**

P.T.O.

Q3) a) Explain the Phases of Compiler and their output with an example. **[8]**

b) Define macro. What are the advantages of macro facility? How they are different from function. **[7]**

OR

Q4) a) What is the use of AIF and AGO pseudo-op in macro? Explain macro expansion with positional parameter with the help of suitable example. **[8]**

b) Explain the concept of single pass Macro processor with example. Give example for macro calls within the macro. **[7]**

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