Total No. of Questions : 4]

SEAT No. :

P-5027

[Total No. of Pages : 2

[6187]-427

T.E. (Computer Engineering/(A.I.D.S)) (Insem.)

SYSTEMS PROGRAMMING AND OPERATING SYSTEM

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

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

Instructions to the candidates :

1) ***Attempt Q.No. 1 or Q.No. 2, and Q.No. 3 or Q.No. 4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) What is purpose of Assembler pass 1? Draw and explain overview of Assembler pass 1 flow chart **[8]**

b) Compare system softwares with Application softwares? Explain benefits of Assembly Language. **[7]**

OR

Q2) a) Discuss need of intermediate code of assembly program. Generate intermediate code for an assembly language program given in Question 2b using any one variant of intermediate code. **[8]**

b) Explain the output of pass-I of two pass Assembler with respect to the given program: **[7]**

```
          START   600
          READ A
          READ B
LOOP      MOVER   AREG, A
          MOVER   CREG, B
          SUB AREG,='1'
          BC  GT,LOOP
          STOP
A         DS  1
B         DS  2
          END
```


P.T.O.

Q3) a) What is Macro? Explain Macro definition, Macro Call and Macro Expansion with an example. **[8]**

b) Differentiate **[7]**

i) Macro and subroutine

ii) Compiler and Interpreter

OR

Q4) a) Explain various phases of the Compiler for the expression x = I + R * 60 where the data type of R is float. **[8]**

b) Explain briefly the algorithm of pass l of two pass macro processor? **[7]**

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