

Total No. of Questions : 4]

SEAT No. :

**PE26**

**[6579]-327**

[Total No. of Pages : 1

**T.E. (Computer Engg./Computer Science) (Insem)**  
**SYSTEMS PROGRAMMING AND OPERATING SYSTEM**  
**(2019 Pattern) (Semester - I) (310243)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) Answer Q.1 or Q.2, Q.3 or Q.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) Explain Different assembly language statements with examples? [7]  
b) Explain Pass I and Pass II of two pass Assemblers with suitable examples and flowcharts? [8]

OR

- Q2)** a) Explain different data structures associated with PASS 1 & PASS 2 Assembler with example and structure? [8]  
b) What is System Programming? Explain Foundation of System Programming? [7]

- Q3)** a) Explain in detail the various phases of a compiler, describes the output for the following Expression after each phase.  $A = b * c + c * d$  [7]  
b) What are macro processors? Explain Two Pass Macro with a suitable example and algorithm? [8]

OR

- Q4)** a) Explain different argument passing mechanism in Macros with an example? [7]  
b) Write Short note on: [8]  
i) Compiler and interpreter  
ii) Macro and Assembler

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