Total No. of Questions : 8] **SEAT No. :**

P807 **[Total No. of Pages : 2**

[5870]-1127

T.E. (Computer Engineering)

SYSTEMS PROGRAMMING AND OPERATING SYSTEM

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

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
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 Differences between static link library and dynamic link library. **[8]**

b) What are the different types of Loaders? Explain compile and Go loader in detail. **[9]**

OR

Q2) a) List and explain different loader schemes in detail. **[9]**

b) Explain Design of Direct linking loaders and explain required data structures. **[8]**

Q3) a) Compare Compilers and Interpreters. **[8]**

b) What is LEX? Explain working of LEX with suitable diagram. **[9]**

OR

Q4) a) Define token, pattern, lexemes & lexical error. **[8]**

b) What is a compiler? Explain any two phases of compiler with suitable diagram. **[9]**

Q5) a) What is the need of Process synchronization? Explain Semaphore in detail. **[9]**

b) What is Operating System? Explain various operating system services in detail. **[9]**

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OR

Q6) a) Explain preemptive and Non preemptive scheduling in detail. **[9]**

b) Explain any two scheduling algorithm with suitable example. **[9]**

Q7) a) What is virtual memory management? Explain address translation in paging system. **[9]**

b) Write proper examples and explain memory allocation strategies first fit, best fit and worst fit. Also explain their advantages and disadvantages. **[9]**

OR

Q8) a) Explain any two page replacement strategies in detail. **[9]**

b) What is TLB? Explain the paging system with the use of TLB? What are the advantages of TLB? **[9]**

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