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**E—57—2019**

**FACULTY OF SCIENCE & TECHNOLOGY**

**B.Sc. (CS) (Second Year) (Fourth Semester) EXAMINATION**

**MARCH/APRIL, 2019**

**(Revised Course)**

**COMPUTER SCIENCE**

**(S4.1)**

**(System Programming and Operating System-II )**

**(Saturday, 27-4-2019)**

**Time : 2.00 p.m. to 5.00 p.m.**

*Time—Three Hours*

*Maximum Marks—80*

*N.B. :— (i) All questions are compulsory*

*(ii) Figures to the right indicate full marks.*

*(iii) From question Nos. 2 to 4 solve either 'a' and 'b' or 'c' and 'd'*

1. Attempt the following : 20

(a) Explain process management.

(b) Explain operating system user interface.

(c) What are the benefits of virtual machines ?

(d) What is thread scheduling ? Explain.

2. (a) Explain in detail computer system organisation. 8

(b) What is special purpose system ? Explain real time embedded system. 7

*Or*

(c) Explain the concept of operating System services. 8

(d) Explain in detail concept of process, process states and process control block. 7

P.T.O.

- 3 (a) Explain process creation with program using fork(). 8  
(b) Explain the concept of Thread Libraries. 7
- Or*
- (c) What is process scheduling ? Explain scheduling criteria. 8  
(d) Explain concept of critical section problem in process synchronization. 7
4. (a) What is deadlock ? Explain Deadlock prevention. 8  
(b) Explain the concept of contiguous memory allocation. 7
- Or*
- (c) What is Demand Paging ? Explain performance of demand paging. 8  
(d) What are the Access methods in file system ? Explain. 7
5. Write short notes on (any *three*) : 15  
(a) Distributed System  
(b) System calls  
(c) Multiple queue scheduling  
(d) Semaphore  
(e) Segmentation.