

(i) Printed Pages: 4]

Roll No. ....

(ii) Questions : 9]

Sub. Code : 

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Exam. Code : 

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**B.A./B.Sc. (General) 6th Semester  
Examination**

**1047**

**COMPUTER APPLICATIONS  
(Operating System)  
Paper : B**

**Time : 3 Hours]**

**[Max. Marks : 65**

**Note :-** Attempt *five* questions in all including Question No. **9** (Unit-V) which is compulsory and selecting one question from each Unit I-IV.

**Unit-I**

1. Compare the following memory management concepts :
  - (a) Protection vs. Sharing.
  - (b) Non-contiguous real vs. Non-contagious virtual memory management.

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( 1 )

Turn Over

- (c) Internal vs. External fragmentation.
  - (d) Dirty page vs. Dirty bit.
  - (e) Demand paging vs. Demand Segmentation.
  - (f) Locality of reference vs. page fault. 2,2,2,2,2,3
2. (a) Explain at least 10 functions of an operating system.
- (b) Compare Multitasking, Multiprocessing, Real-time, Parallel and Distributed operating system in a tabular form. 5,8

## Unit-II

3. What is a deadlock ? What are the prerequisites for a deadlock ? What are the strategies to detect a deadlock and prevent a deadlock ? 13
4. (a) What is process scheduling ? Explain the following process scheduling objectives :
- (i) Fairness
  - (ii) Good throughput
  - (iii) Good CPU utilization.
  - (iv) Low turnaround time
  - (v) Low waiting time
  - (vi) Good response time



- (b) Explain the advantages and disadvantages of the following process scheduling algorithms :
- (i) FCFS
  - (ii) SJF
  - (iii) Priority based
  - (iv) Round robin
  - (v) Multilevel Queue
  - (vi) Multilevel Feedback Queue
- 7,6

## Unit-I

5. (a) What are the various allocation methods in file system structure ?  
(b) How free space can be managed in file system structure ? 6,7
6. (a) Explain the following disk scheduling algorithms :  
(i) FCFS (ii) SSTF  
(iii) SCAN (iv) S-SCAN  
(v) LOOK  
(b) Compare interrupt driven and poll driven data transfers. 10,3

## Unit-IV

7. Explain chmod, chown, cp, mv, cat, mkdir, rm, rmdir, find, cmp and ls commands with options ?
8. What is System Administration and what are the major responsibilities of a System Administrator ? 5.8

## Unit-V

9. Answer the following questions in brief :

- (a) The time elapsed between the job submission and its completion is known as .....
- (b) What is the full form of NTFS ?
- (c) What is the purpose of jobs command ?
- (d) Which command is used to change the system date in Linux ?
- (e) What the following command will do *chmod +x File 1* ?
- (f) Write down the names of the commands to create, modify and delete a user account in Linux ?
- (g) What are device drivers?
- (h) What is the use of Limit Register ?
- (i) What is Single Fixed Partition for memory management ?
- (j) What is register ?
- (k) What are threads ?
- (l) Write any two tasks that a root user cannot do?
- (m) Which command is used to schedule a process for the whole year ?

1×13=13