

(Please write your Exam Roll No.)

Exam Roll No.

END TERM EXAMINATION

SECOND SEMESTER [MCA] MAY 2017

Paper Code: MCA-106

Subject: Operating Systems

Time: 3 Hours

Maximum Marks: 75

Note: Attempt all questions as directed. Internal choice is indicted.

- Q1 Answer the following: (10x2.5=25)
- (a) What is distributed O.S?
 - (b) What is multi processor scheduling.
 - (c) Mention the main features of Linux Operating System.
 - (d) Mention any two differences between shared devices and virtual devices.
 - (e) Name various file allocation methods.
 - (f) Compare program threats and system threats.
 - (g) How does many-to-one thread model differ from one-to-one model? Explain.
 - (h) What is Multilevel Feedback Queue Scheduling.
 - (i) What is segmentation and paging.
 - (j) What is the benefit of cryptography in O.S.?



Unit-I

- Q2
- (a) Define job queue, ready queue and device queue that are used in the process scheduling. (5)
 - (b) Explain various criteria considered in CPU scheduling algorithms. Explain the following methods: (7.5)
 - (i) Shortest Job First Scheduling
 - (ii) Round Robin Scheduling

Unit-II

- Q3
- (a) Define semaphores. Explain the role of wait() and signal() function used in semaphores. (6)
 - (b) Mention the characteristics of a deadlocked system. Explain various deadlock recovery techniques. (6.5)

OR

- Q4
- (a) Explain any two page replacement algorithms. Give an illustration. (7.5)
 - (b) Explain the process of logical to physical address translation in segmentation with paging system. Give the respective block diagram. (5)

Unit-III

- Q5
- (a) Explain the following disk scheduling algorithms: (6.5)
 - (i) SSTF
 - (ii) C-SCAN
 - (b) Explain the following features of devices management: (6)
 - (i) Device allocation methods
 - (ii) Buffering and block multiplexing

Unit-IV

- Q7
- Explain any two of the following: (6.25x2=12.5)
- (a) Two-Level Directory structure
 - (b) Intrusion Detection
 - (c) Free space management in Linux
