# END TERM EXAMINATION

SECOND SEMESTER |MCA| MAY- JUNE 2016
Paper Code: MCA-106

# Subject: Operating System

**Note**: Attempt one question from each unit. Question 1 which is compulsory.

**Q1**:      (2.5 × 10 = 25)
(a) Define real time system.
(b) Explain multi-programming
(c) What are synchronization basic concepts?
(d) Describe process scheduling.
(e) What is security criteria for scheduling?
(f) Describe about contiguous allocation.
(g) Discuss device management technique.
(h) What is disk reliability?
(i) What are shared devices?
(j) Explain system interfaces.

## UNIT I

**Q2**:
(a) What is the concept of process scheduling? Differentiate it with multiple process scheduling. (6.5)

(b) Describe the following:   (6)
 i  Real Time Scheduling.
 ii  Algorithm Evaluation
 iii Threads

**Q3**:
(a) Differentiate between time sharing systems and real time systems. (4)
(b) View about segmentation and paging.   (3.5)
(c) Explain operating system concepts.   (5)

## UNIT II

**Q4**:
(a) Describe the role and importance of critical regions. (5)
(b) What is deadlock avoidance? Explain the recovery process from deadlock.  (7.5)

**Q5**: Write short notes on the following:  (5 × 2.5 = 12.5)
(a) Message passing

(b) Critical Section Problem
(c) Performance on demand paging
(d) Allocation of frames
(e) Monitors

**Q6**:
(a) What are the techniques for device management? How is device sharing done? (5)

(b) What is deadlock characterization? Suggest two methods for deadlock handling. (6.5)

**Q7**: Explain in brief the following:   (5 × 2.5 = 12.5)
 (a) Multiple path
 (b) Block multiplexing
 (c) Semaphore
 (d) Virtual Devices
 (e) Disk Scheduling

**Q8**:
(a) Explain the access control verification? Define the access methods.  (6.5)
(b) Differntiate the logical file system with physical file system?   (6)

**Q9**: Write in brief about the following:    (5 × 2.5 = 12.5)
 (a) Free space management
 (b) Access matrix
 (c) Goals of protection
 (d) Cryptography
 (e) System Threats