Roll No. .....

67142

M.C.A. 3rd Sem. (with new notes) (Current Scheme)

Examination–December, 2014

Operating Systems

Paper-MCA-302

Time : 3 hours *Max. Marks : 80*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Question no. **1** is **compulsory**. Attempt any **four** questions from the remaining four units selecting at least **one** question from each unit. All questions carry equal marks.

Unit-I

1. (a) What do you mean by distributed system ?

(b) Explain various operating system services ?

(c) What is thrashing ? Explain.

(d) What is page replacement ? Explain.

(e) What are different types of partitions and mounting ?

(f) Explain various functions of operating system.

(g) What are Kernel modules ?

(h) What is disk scheduling ? Explain.

Unit-I

2. (a) What is an operating System ? Explain the role of an operating system as a resource manager of a computer system.

(b) What do you mean by multiprogramming system ? How does it differ from a multitasking system ? Explain.

3. (a) What is a process in a computer system ? What is the main objective of the process management module of an operating system ?

(b) What do you mean by CPU scheduling ? Also explain the concept of multiple-processor scheduling and real-time scheduling in detail.

Unit-II

4. (a) What is mapping ? How does it help in memory management ? Explain.

(b) What is paging ? What are the advantages and disadvantages of paging ? Also explain the concept of segmentation with paging in detail.

5. Explain the following in detail :

(a) Logical and physical address

(b) Virtual memory

(c) Demand paging

Unit-III

6. (a) What is a file system ? Explain the different access methods of information from a file in detail.

   (b) What do you mean by directory structure ? Explain.

7. What do you mean be critical section ? A solution to the critical section problem must satisfy three requirements. Discuss through algorithms.

Unit-IV

8. What is deadlock ? What are the various strategies to deal with deadlock ? Explain.

9. (a) What do you mean by shell programming ? Explain different types of shell in detail. Also describe the concept of vi editor.

   (b) What do you mean by linux operating system ? Diffe[illegible]te between the linux and window NT.
