

FACULTY OF INFORMATICS
MCA II – Year I - Semester (Main) Examination, Jan. / Feb. 2015

Subject: Operating System

Time: 3 Hours

Max. Marks: 80

Not e: Answer one question from each unit. All questions carry equal marks

Unit-I

- 1 (a) Write about Interprocess communication in shared memory environment. (8)
 (b) Explain in detail about scheduling criteria. (8)
- OR**
- 2 (a) What is starvation? Explain about round robin scheduling algorithm by taking one example. (8)
 (b) Distinguish between multiprocessor scheduling and Real-time scheduling. (8)

Unit-II

- 3 (a) What is meant by swapping? Differentiate between internal and external fragmentation. (8)
 (b) Describe the most common schemes for defining the logical structure of a directory. (8)
- OR**
- 4 Explain the following:
 (i) Free – space management. (8)
 (ii) Acyclic–graph directory structure. (8)

Unit-III

- 5 (a) Define deadlocks? What are necessary conditions for deadlock occurrence? (8)
 (b) What is the use of access matrix in providing protection to object? What are the different ways of implementing it? Explain. (8)
- OR**
- 6 Write in detail about safety and resource request algorithms (Bankers algorithm) with suitable example. (16)

Unit-IV

- 7 (a) Explain about swap space management and its importance. (8)
 (b) Enlist briefly about RAID levels. (8)
- OR**
- 8 Discuss about disk scheduling algorithm by taking example. (16)

Unit-V

- 9 (a) Write about file systems in Linux System. (8)
 (b) Explain about the I/O manager and cache manager in windows XP. (8)
- OR**
- 10 (a) Describe the general architecture of Windows XP. (8)
 (b) Explain about interprocess communication in Linux. (8)