

B.Tech III Year I Semester (R13) Supplementary Examinations June 2016

OPERATING SYSTEMS

(Common to CSE and IT)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Define an Operating system? List its main functions.
 - (b) Explain the term 'System call'.
 - (c) Define a process. How it differs from a program?
 - (d) Compare Pre-emptive and non-preemptive Scheduling.
 - (e) List advantages and disadvantages of contiguous memory allocation.
 - (f) Explain the term 'Thrashing'.
 - (g) Explain in brief sequential access method of file.
 - (h) What are the attributes of the file?
 - (i) What is cryptography?
 - (j) List and explain important parameters regarding disk operations.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Explain in detail Inter-process Communication.

OR

- 3 Explain the term process context. Explain the process of context switching.

UNIT – II

- 4 List and explain various scheduling Criteria. Discuss the performance of RR algorithm based on those criteria.

OR

- 5 Discuss Peterson's algorithm with its Merits and Demerits.

UNIT – III

- 6 Describe Banker's algorithm to avoid a deadlock .What are the problems in its implementation.

OR

- 7 Explain the address translation mechanism in paging. Why is the page size informally some power of two? Also discuss the impact of page size on the overall system performance.

UNIT – IV

- 8 Describe in detail RAID levels in detail and the problems associated with RAID.

OR

- 9 Explain the use of directory organization of files. And Discuss in detail the implementation of 'Tree structured directory.

UNIT – V

- 10 Explain the Shortest Seek Time First algorithm with an example.

OR

- 11 Describe the structure of Device Control block and explain.
