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)
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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.

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