Total No. of Questions : 5] *[Total No. of Printed Pages :2*

Roll No .....

EI - 502

B.E. V Semester

Examination, December 2014

Operating Systems

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Define operating system.
   b) What is multiprogramming?
   c) Draw the pyramid of storage structure.
   d) Explain need of CPU scheduling and use of Gantt chart in scheduling algorithm evolution.

OR

How I/O devices are organized in case of multiprocessor system.

Unit - II

2. a) Define thread and its importance in operating system.
   b) What is precedence graph?
   c) Explain diving philosophers problem in brief.
   d) What is deadlock? When does it occur? How can it be recover?

OR

What is critical section? Explain what is the problem it may cause.

Unit - III

3. a) Explain logical address space.
   b) What is segmentation?
   c) Draw and explain memory hierarchy.
   d) What is swapping? Write its significance in memory management? How does it get implemented in operating system.

OR

How protection is achieved in paging? Also mention the H/W support required for implementation of paging?

Unit - IV

4. a) Write a note on intruders.
   b) What is page replacement algorithm.
   c) What is the area in physical memory where page get copied? How does it get allocated?
   d) Explain paging, demand paging with diagram.

OR

Discuss the security threats in operating system.

Unit - V

5. a) What is the directory system?
   b) How file can be protected?
   c) What is parallel processing system?
   d) Explain SCAN disk scheduling algorithm with example and diagram.

OR

Compare and contrast distributed systems with parallel processing system.

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