

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 dining philosophers problem in brief.
- d) What is deadlock? When does it occur? How can it be recover?

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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.
