



**AB-3180**  
**Third Year B. Sc. (Sem. - V) Examination**  
**March/April - 2015**  
**Computer Science : Paper-506**  
**(Operating System-1)**

Time : 2 Hours]

[Total Marks : 50

**Instruction :**

<p>नीचे दर्शायेले निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : THIRD YEAR B. SC. (SEM. - 5)</p> <p>Name of the Subject : COMPUTER SCIENCE : PAPER-506</p> <p>Subject Code No. : 3 1 8 0 Section No. (1, 2,.....): Nil</p>	<p>Seat No. : [ ][ ][ ][ ][ ][ ][ ]</p> <p>Student's Signature</p>
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**1 Answer the question in short : 14**

- (1) What is starvation ? What is difference between starvation and deadlock ?
- (2) Define Demand paging.
- (3) Which information needs to be saved when context switching takes place ?
- (4) Differentiate single user and multiuser operating system. Give example of each.
- (5) Define non-primitive scheduling.
- (6) What are the five major activities of an operating system in regards to process management ?
- (7) Difference between single user and multiuser operating system. Give example of each.

**2 Write detail note for the followings : 6+6**

- (1) Write detail note on evolution of operating system.
- (2) Discuss operating system as Resource manager.

**OR**

- (1) Differentiate contiguous versus non-contiguous memory management scheme.
- (2) Which function operating system does as a process manager ?

**3** Write detail note for the following : **6+6**

- (1) Explain banker's algorithm and its advantages.
- (2) Describe multilevel paging techniques.

**OR**

- (1) What do you understand by critical section problem ? Discuss Paterson's policy to solve the critical section problem.
- (2) Explain the multilevel feedback queue algorithm for process scheduling. How it differs from the multilevel queue scheduling ?

**4** Write answers for the followings : **6+6**

- (1) Explain demand paging in detail. Also write its advantages and disadvantages.
- (2) List four necessary conditions to occur deadlock. Explain how can you prevent deadlock by breaking any one ? (Exclude mutual exclusion.)

**OR**

- (1) What is deadlock ? What are necessary conditions for deadlocks to occur ?
- (2) Discuss producer/consumer problem using semaphores. Also write necessary code for implementing the solution.

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