

(1109)

**BCA UG (CBCS) RUSA Vth Semester
Examination**

3605.

OPERATING SYSTEM

BCA-0501

Time : 3 Hours]

[Maximum Marks : 70

Note :- Question No. 1 Part A is compulsory. Select *one* question from each Part B, C, D and E.

Part-A

(Compulsory Question)

1. (A) (i) CPU scheduling is the basis of
- (a) Multiprocessor systems
 - (b) Multiprogramming operating systems
 - (c) Larger memory sized systems
 - (d) None of these

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(1)

Turn Over

- (ii) The processes that are residing in main memory and are ready and waiting to execute are kept on a list called :
- Job queue
 - Process queue
 - Execution queue
 - Ready queue
- (iii) Time quantum is defined in :
- Round robin scheduling algorithm
 - Shortest job scheduling algorithm
 - Priority scheduling algorithm
 - Multilevel queue scheduling algorithm
- (iv) By operating system, the resource management can be done via :
- TDM
 - SDM
 - Both TDM and SDM
 - None of these
- (v) Which one of the following is the deadlock avoidance algorithms ?
- Round-robin
 - Karn's
 - Elevator
 - Banker's
- (vi) Swap space exists in Secondary memory.
(True/False)

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(2)

(vi) None of the mentioned

- (vii) In a single level directory all directories must have unique names. (True/False)
- (viii) Name three major methods of allocating disk space.
- (ix) The circular wait condition can be prevented by
- (x) Operating system is a program that acts as an $1 \times 10 = 10$
- (B) Short answer type questions :
- Write short notes on simple monitor.
 - Discuss FCFS scheduling.
 - What are various information contained in PCB ?
 - Write short notes on simplest memory management scheme.
 - Explain contiguous allocation. $4 \times 5 = 20$

Part-B

Unit-I

- What are timesharing systems ? Is it a logical extension to multiprogramming ? What are its advantages and disadvantages ? 10
- One of the drawbacks of early OS's was that user lost the ability to interact with their jobs. In what ways to modern operating system overcome this problem ? 10

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(3)

Turn Over

Part-C

Unit-II

4. Explain the term process states and transitions in details. 10
5. (a) Round Robin scheduling is the most common primitive scheduling algorithms why ?
- (b) What are various deadlock recovery techniques ? 5,5

Part-D

Unit-III

6. What is Paging ? Explain the role of Page Map Table in address translation. 10
7. What is virtual memory ? Which is the most widely used method for implementing it ? Also discuss its advantages. 10

Part-E

Unit-IV

8. What do you understand by file organisation ? Discuss index sequential file access method with its advantages and disadvantages. 5,5
9. (a) What is file protection ? Explain in detail.
- (b) Discuss single level directory structure with its advantages and disadvantages. 10