ED-323

M.Sc. 1st Semester
Examination, March-April 2021

COMPUTER SCIENCE

Paper - II

Advanced Operating System

Time : Three Hours]　　　[*Maximum Marks* : 100
　　　　　　　　　　　　　　　[*Minimum Pass Marks* : 40

Note : Answer any **two** parts from each question. All questions carry equal marks.

Unit-I

1. (*a*) Why operating system is called resource manager ? Explain the functions of all resources of computer.

 (*b*) What is operating system services ? Explain any two types of operating system.

 (*c*) Write short notes on the following :
 (*i*) Job control language
 (*ii*) Supervisor service control

Unit-II

2. (*a*) Discuss client server architecture with suitable example.

   (*b*) Explain preemptive and non-preemptive scheduling with example.

   (*c*) Write short notes on the following :
   (*i*) JVM and 8086 mode
   (*ii*) Inter process communication

Unit-III

3. (*a*) What is virtual memory ? Explain implementation of virtual memory.

   (*b*) Discuss the implementation of file mapping.

   (*c*) Write short notes on the following :
   (*i*) TLB
   (*ii*) Swap space

Unit-IV

4. (*a*) What is Deadlock ? Write the characterization of deadlock.

   (*b*) Describe deadlock avoidance and deadlock recovery.

   (*c*) What is safe state ? Explain Banker's algorithm using an example.

Unit-V

5. (*a*) Explain virtual file system.

   (*b*) Describe network file system with example.

   (*c*) Write short notes on the following :

   (*i*) RPC

   (*ii*) V-node architecture

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