

Roll No.

BCA–10

Operating System

Bachelor of Computer Application
(BCA–16/BCA–11)

Third Semester, Examination, 2017

Time : 3 Hours

Max. Marks : 60

Note : This paper is of **sixty (60)** marks containing **three (03)** sections A, B and C. Learners are required to attempt the questions contained in these sections according to the detailed instructions given therein.

Section–A

(Long Answer Type Questions)

Note : Section ‘A’ contains four (04) long answer type questions of fifteen (15) marks each. Learners are required to answer *two* (02) questions only.

1. What is an Operating System ? Explain the difference between multi-programming and time sharing OS.
2. What are the various scheduling criteria for comparing CPU-scheduling algorithms ? Explain shortest-job first (SJF) algo.
3. Describe deadlocks in terms of resource allocation graph. How can we prevent the occurrence of a deadlock ?
4. What do you understand by Schedulers ? Explain various type of schedulers.

Section-B**(Short Answer Type Questions)**

Note : Section 'B' contains eight (08) short answer type questions of five (05) marks each. Learners are required to answer *four* (04) questions only.

1. What is the difference between a program and a process ?
2. With the help of a state transition diagram, explain various states of process.
3. Compare preemptive and non-preemptive scheduling methods. Explain with Gantt chart.
4. Distinguish between demand paging and pure demand paging.
5. Differentiate between external fragmentation and internal fragmentation.
6. Define the following for disk space allocation of files :
 - (a) Contiguous allocation
 - (b) Linked allocation
7. Define Spooling. What is caching ?
8. Explain FIFO (first in first out) page replacement algorithm. What is Belady's anomaly.

Section-C**(Objective Type Questions)**

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

1. Which of the following is an example of an Operating System ?
 - (a) MS DOS

- (b) MS Access
 - (c) Spreadsheets
 - (d) Photoshop
2. UNIX supports multiple processes simultaneously.
- (a) Operating System
 - (b) Application System
 - (c) File System
 - (d) None of the above
3. An operating system is a large set of which is also an interface between users and computer system.
- (a) Software
 - (b) Programs
 - (c) Application
 - (d) None of the above
4. allows the user to perform more than job at the same time on a computer.
- (a) Single user operating system
 - (b) Multitasking operating system
 - (c) Multi user operating system
 - (d) None of the above
5. Multiprogramming system :
- (a) Are easier to develop than single programming system
 - (b) Execute each job faster
 - (c) Execute more jobs in the same time period
 - (d) None of the above

6. Virtual Memory is :
 - (a) An extremely large main memory
 - (b) An extremely large secondary memory
 - (c) An illusion of an extremely large memory
 - (d) None of the above
7. Page fault occurs when :
 - (a) the page is corrupted by application software
 - (b) the page is in main memory
 - (c) the page is not in main memory
 - (d) None of the above
8. In time sharing operating system, when the time slot given to a process is completed, the process goes from the RUNNING state to the :
 - (a) BLOCKED state
 - (b) READY state
 - (c) SUSPENDED state
 - (d) None of the above
9. Which of the following is a service not supported by the operating system ?
 - (a) Protection
 - (b) Accounting
 - (c) Compilation
 - (d) I/O Operation
10. In Round Robin CUP scheduling, as the time quantum is increased, the average turn around time :
 - (a) Increases
 - (b) Decreases
 - (c) Remains constant
 - (d) Varies irregularly