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**BCA-10**  
**Operating System**  
**Bachelor of Computer Application (BCA-11/16/17)**

3<sup>rd</sup> Semester Examination June 2022

Time : 2 Hours

Max. Marks : 80

Note : This Paper is of Eighty (80) marks divided into two (02) Section A and B. Attempt the questions contained in these sections according to the detailed instructions given there in.

Section-A

(Long Answer-type questions)

Note: Section 'A' contains Five (05) Long-answer type questions of Twenty (20) marks each. Learners are required to answer any two (02) questions only.

(2 x 20 = 40)

Q.1. Write in detail the role of operating system with its block Diagram.

P.T.O.

- Q.2 Explain CPU scheduling. Discuss FCFS and Round Robin scheduling algorithm with example.
- Q.3 What are Semaphores? What is the usage of Semaphores? Explain it by giving an example.
- Q.4 Explain File system in Operating System. State and discuss various file allocation methods.
- Q.5 Define any two of the following terms :
- a. Process Control Block
  - b. Paging
  - c. Device Drivers
  - d. Time-sharing System

### Section-B

(Short Answer-type questions)

Note: Section 'B' contains Eight (08) Short-answer type questions of ten (10) marks each. Learners are required to answer any four (04) questions.

(4 x 10 = 40)

P.T.O.

- Q.1 Define operating system and list down various utility programs run on Personal Computers.
- Q.2 What is a process in an operating system and list its states?
- Q.3 Define deadlock and what the necessary conditions for the occurrence of deadlock are.
- Q.4 Explain briefly Sequential and direct File Access mechanism.
- Q.5 What is Interprocess communication in Operating System?
- Q.6 Explain the term Waiting Time and turnaround time in reference to CPU scheduling.
- Q.7 What is threading? What are the advantage of multithreading?
- Q.8 List out different schemes for protection and security.

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