

**A-805**

Total Pages : 3

Roll No. ....

**BCA-10**

**Bachelor of Computer Application (BCA)**

**(Operating System)**

3rd Semester Examination, 2024 (June)

Time : 2:00 Hrs.

Max. Marks : 70

*Note :-* This paper is of Seventy (70) marks divided into Two (02) Sections ‘A’ and ‘B’. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section–A**

**(Long Answer Type Questions) 2×19=38**

*Note :-* Section ‘A’ contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. What is an Operating System ? Briefly explain functions of an Operating System and also explain the different types of O.S.
2. What is a distributed operating system ? Also discuss how it is different from network operating system.
3. What are the security threats in operating system ? Explain briefly.
4. Explain the concept of virtual memory. How does it work, and what are its advantages in modern operating systems ?
5. What do you understand by a Process ? Explain the various types and states of Processes.

### **Section–B**

**(Short Answer Type Questions)**      4×8=32

**Note** :- Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. What is time sharing and real time operating system ? Explain.
2. Explain the difference between a process and a thread in an Operating System.

3. What are the differences between preemptive and non-preemptive scheduling ?
4. What is deadlock ? Mention the necessary four conditions which ensures occurrence of deadlock.
5. What are the difference between Not Recently Used and Least Recently Used page replacement Algorithms ?
- 6 Define a File. Compare and contrast directory, regular and device files.
7. What is DMA ? Explain the Working Principle of DMA.
8. Write short notes on the following :
  - (i) Integrity, Confidentiality, Availability, Non-repudiation and Authentication
  - (ii) Public-key Cryptography

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