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Total Pages: 3 Roll No.

BCA-10

Operating System

Bachelor of Computer Application (BCA/DIT)

3rd Semester Examination, 2023 (June)

Time: 2 Hours] [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 answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION-A (Long Answer Type Questions)

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.

 $(2 \times 19 = 38)$

1. What is a Distributed Operating system? Explain in detail.

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- **2.** Explain the concept of virtual memory system.
- **3.** What are different types of multiprocessor operating system? Explain any two multiprocessor OS in brief.
- **4.** What are the essential conditions for deadlock to occur? Explain with an example.
- **5.** Explain the following terms :
 - (a) Process and Thread.
 - (b) Semaphores.

SECTION-B

(Short Answer Type Questions)

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. (4×8=32)

- **1.** Write a note on Batch Processing.
- **2.** Differentiate between various types of security models of an operating system.
- **3.** What is the difference between sequential and random access files?

- **4.** What is Mutual Exclusion?
- **5.** What are real time operating systems? How they are developed and implemented?
- **6.** What do you understand by race-condition? Give few examples of arising of race-condition in concurrent processing.
- **7.** Define the difference between preemptive and non-preemptive scheduling.
- **8.** Define the following terms :
 - (a) Remote Procedure Call.
 - (a) DMA.