

**Three/Four Year B.C.A. II Semester
Examination – July 2024**

(Faculty of Science)

Paper – BCA – 52T – 107

OPERATING SYSTEM

Time Allowed: Three Hours

Maximum Marks – 80

QUESTION PAPER CONSISTS OF TWO PARTS A AND B.

Part A : 20 Marks

Part A is compulsory having 10 very short answer-type questions (with a limit of 20 words) of two marks each. The first question is based on knowledge, understanding and applications of the topics/text covered in the syllabus.

(भाग अ में दो अंक के 10 अति लघुउत्तरीय प्रश्न (20 शब्दों की सीमा के साथ) अनिवार्य हैं। पहला प्रश्न पाठ्यक्रम में शामिल विषयों / पाठ के ज्ञान, समझ और अनुप्रयोगों पर आधारित हैं।)

Part B : 60 Marks

Part B of the question paper is divided into four units comprising question numbers 2 – 5. There is one descriptive question from each unit with internal choice. Each question will carry 15 marks.

(भाग ब के प्रश्न पत्र को प्रश्न संख्या 2–5 सहित चार इकाइयों में विभाजित है। प्रत्येक इकाई से आंतरिक विकल्प के साथ एक वर्णनात्मक प्रश्न है। प्रत्येक प्रश्न 15 अंक का है।)

PART – A

1. Short answer type questions –

- (a) What is process?
- (b) What do you mean by ready queue?
- (c) Define threads.
- (d) Define the term deadlock.
- (e) What are Semaphores?
- (f) Define swapping.

- (g) Define virtual memory.
- (h) What do you mean by file?
- (i) What is demand paging?
- (j) Define shell scripts.

PART – B

2. Explain different types of operating system using suitable example.

OR

Write short notes on the following:

- (a) Operating System Structure.
- (b) Process Control Block (PCB)

3. What is CPU scheduling? Differentiate between First Come First Serve (FCFS) and Shortest Job First (SJF) CPU scheduling process with suitable example.

OR

Explain various necessary conditions for a deadlock to occur. Explain in brief about deadlock prevention.

4. Write short notes on the following:

- (a) Logical and Physical Address Space.
- (b) Page – Replacement Algorithm.

OR

Write short notes on the following:

- (a) File Operation and Attributes.
- (b) Allocation Methods.

5. What is shell programming? Explain different types of commands in Linux operating system.

OR

Write short notes on the following:

- (a) Network structure.
- (b) Process and memory management.

