



**DCCA – 403**

**IV Semester B.C.A. Degree Examination, July/August 2024  
(NEP Scheme)**

**(Freshers and Repeaters)**

**COMPUTER APPLICATIONS**

**DSC 12 : Operating System Concepts**

Time : 2½ Hours

Max. Marks : 60

**Instruction :** Answer **all** Sections.

**SECTION – A**

I. Answer **any 6** questions, **each** question carries **2** marks. **(6×2=12)**

- 1) Mention the different operating system components.
- 2) What is the difference between multi-tasking and multi-user system ?
- 3) What is scheduling ?
- 4) What is mutual exclusion ?
- 5) What are the necessary conditions for deadlock ?
- 6) What is aging ?
- 7) What is virtual memory ?
- 8) What is demand paging ?
- 9) Mention any four file operations.

**SECTION – B**

II. Answer **any 4** questions, **each** question carries **6** marks. **(4×6=24)**

- 10) What is operating system ? Give four function of operating system.
- 11) What is process ? Draw a process state transition diagram and explain.
- 12) Explain the requirement to critical section problems.
- 13) Explain Banker's algorithm.
- 14) Explain FIFO page replacement algorithm with an example.
- 15) What are different file accessing methods ? Explain.

P.T.O.



## SECTION – C

III. Answer **any 3** questions, **each** question carries **8** marks.

(3×8=24)

16) a) Explain Process Control Block.

(4+4)

b) Write a note on system calls.

17) Write a note on :

(4+4)

a) Multiprocessor scheduling.

b) Real-Time CPU Scheduling.

18) Explain deadlock detection and recovery algorithms.

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19) a) Write a short note on Thrashing.

(4+4)

b) What is virtual memory ? Explain.

20) a) Explain file allocation methods.

(4+4)

b) Explain directory structures.

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