



32521/E210

Reg. No.

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**V Semester B.C.A 3. Degree Examination, March - 2022**

**OPERATING SYSTEM**

**(Repeaters)**

**Time : 3 Hours**

**Maximum Marks : 80**

**Instructions to Candidates:**

*All sections are compulsory . Subject to internal choice.*

**SECTION-A**

**I. Answer any Ten questions of the following.**

**(10×2=20)**

- a) Define operating system. Give examples.
- b) What do you mean by process?
- c) Mention the solutions of critical section problem.
- d) Define throughput and response time.
- e) List the three methods of handling deadlock.
- f) Define swapping.
- g) Define logical and physical address space.
- h) Mention different file operations.
- i) Define Disk Scheduling.
- j) Define Boot Block.
- k) What do you mean by Multiprogramming?
- l) What is one time password?

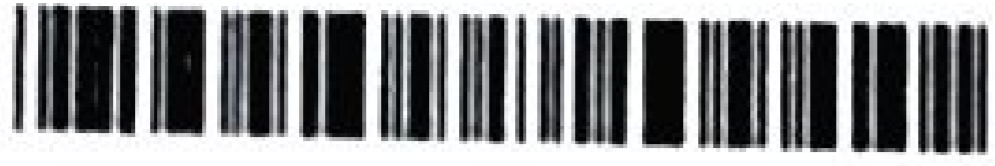
**SECTION-B**

**II. Answer any Four of the following questions. Each carries Five marks.**

**(4×5=20)**

- 2) Explain the Services of operating system.
- 3) Explain the process control Block with neat diagram.
- 4) Explain the critical section problem.

**[P.T.O.]**



- 5) Define Paging. Explain Paging hardware with TLB.
- 6) Discuss the different file attributes.
- 7) Explain the SCAN method of disk scheduling with an example.

### SECTION-C

III. Answer any **Four** of the following questions.

(4×10=40)

- 8) Consider the following set of process with CPU burst time given in milliseconds.

Process	P1	P2	P3	P4
Burst Time	8	4	9	5

- a) Draw a Gantt chart for FCFS and Round Robin scheduling.
  - b) Calculate average waiting time and average turnaround time for FCFS and Round Robin Scheduling. (10)
- 9) a) Explain necessary conditions for deadlock situations.
- b) Write a short note on Dining-Philosopher problem. (5+5=10)
- 10) Discuss in detail about Least Recently Used (LRU) page replacement with example. (10)
- 11) Explain the different file access methods in detail. (10)
- 12) Write short notes on (10)
- a) Access matrix
  - b) Firewalling.
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