Goa Vidyaprasarak Mandal's

GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS Farmagudi, Ponda Goa.

B.C.A. CBCS (SEMESTER II) END EXAMINATION, APRIL/MAY 2023 CORE COURSE

CAC-106 OPERATING SYSTEMS CONCEPTS

Duration: 2 hours Total Marks: 60 Instructions: i) All questions are compulsory. ii) Figures to the right indicate full marks. O1) A. Fill in the blanks (5 x 1 mark) i) Execute user programs and make solving user problems easier is ______ ii) Two or more processes are waiting indefinitely for an event to occur is _____ iii) Swapping variant used for priority-based scheduling algorithms is _ iv) Device with which the driver communicates by sending and receiving single characters is v) Pretending to be an authorized user to escalate privileges is ______ (5 x 1 mark) B. Answer the following i) What is a Processor? ii) What is Base and Limit register? iii) What is a Page fault? iv) What is a Remote file system? v) What is Cryptography? Q2) A) Explain Two level directory. (2 marks) B) Explain the Schematic view of swapping. (3 marks) C) Define Round Robin scheduling algorithm. Consider the following three processes, with the length of the CPU burst given in milliseconds.

Process Queue	Burst time
P1	4
P2	3
P3	5

Find out the average waiting time for this Round Robin Schedule with the Quantum number 2ms by giving Gantt chart ,illustrate the execution of these jobs. (5 marks)

Q3) A) Explain Mutual exclusion.
B) Explain Resource allocation graph.

(2 marks) (3 marks)

C) Explain Four layered model of security.

(5 marks)

Q4) A) Explain the Instruction cycles.	(2 marks)	
B) Explain the Scheduling criteria.	(3 marks)	
C) Explain three types of Buffering Techniques.	(5 marks	
Q5) A) What is Memory mapped I/O.	(2 marks)	
B) Explain System bus design with diagram.	(3 marks)	
C) Explain Segmentation with diagram.	(5 marks)	
Q6) A) Explain Symmetric encryption.	(2 marks)	
B) Explain different operations on directory.	(3 marks)	
C) Explain C-SCAN algorithm with diagram.	(5 marks)	