

25900043

Reg.No :

Name :

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-BCA(Honours) REGULAR EXAMINATION, MARCH 2025
SECOND SEMESTER
Core Course (CC) - MG2CCRBCA102 - OPERATING SYSTEMS
(2024 ADMISSION ONWARDS)

Duration: 2 Hours

Maximum Marks: 70

*Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I)
and Appreciation(Ap)*

Students should attempt at least one question from each course outcome to enhance their overall
outcome attainability.

Part A

Very Short Answer Questions

Answer all questions

Each question carries **2** marks

1. Identify one key function of the Timer in an operating system. [K] / [CO1]
 2. What is the purpose of the Process Control Block (PCB)? [U] / [CO2]
 3. Explain the necessary conditions required for deadlock to occur. [U] / [CO3]
 4. How can a process execute its critical section? [U] / [CO3]
 5. What is internal fragmentation? [U] / [CO4]
- [2x5 = 10]**

Part B

Short Answer Questions

Answer any **5** questions

Each question carries **6** marks

6. Differentiate Microkernels and Module based operating system structures. [U] / [CO1]
7. Explain the functions of communications system call. [U] / [CO1]
8. Explain the different states of a process with a diagram. [U] / [CO2]

9. Define Round Robin (RR) scheduling and explain how it works with time quantum. [K] / [CO2]
10. Describe the three types of buffering in interprocess communication [U] / [CO3]
11. What are Monitors? Explain in detail with its appropriate syntax. [U] / [CO3]
12. What are the different types of frame allocation strategies? Explain briefly [U] / [CO4]
- [6x5 = 30]**

Part C

Essay Questions

Answer any **2** questions

Each question carries **15** marks

13. Explain process scheduling and scheduling criteria in detail and describe different types of schedulers. [U] / [CO2]
14. Discuss in detail how the Banker's Algorithm helps in avoiding deadlock [U] / [CO3]
15. Compare and contrast paging and segmentation in detail . [An] / [CO4]
- [15x2 = 30]**