Roll No……..….. **Total No. of Printed Pages: 1**

Total No. of Questions: [09]

BCA-MCA Dual Degree (Semester 2nd)
OPERATING SYSTEM
Subject Code: BCMC210
Paper ID: 18340110

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(2 marks each)**

Q1. Attempt the following:

a) Why is disk scheduling important?
b) Write two advantages of LINUX operating system.
c) Explain the term deadlock in brief.
d) What is a scheduler?
e) What do you mean by process synchronization?
f) Differentiate between paging and segmentation.
g) List the various File Attributes.
h) Define critical section.
i) Differentiate between External and Internal Fragmentation.

Section – B **(5 marks each)**

Q2. Explain with the help of examples FIFO and LRU, optical page replacement algorithms with example reference string. Mention the merits and demerits of each of the above.

Q3. Discuss the Simple Operating System Structure. Describe the layered approach.

Q4. What are the various threats to security of a system? Elaborate in detail the different mechanisms of protection and security.

Q5. Define Deadlock and how a deadlock can be prevented.

Q6. What do you mean by a file system? Discuss the various file access methods in detail.

Section – C **(10 marks each)**

Q7. Explain any three Page Replacement algorithms with an example.

Q8. Explain in detail the various Algorithms of Disk Scheduling with an example.

Q9. Write short notes on

a. Process State Diagram
b. Inter process Communication