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

Total No. of Questions: [09]

BCA-MCA Dual Degree (Semester – 2nd)
OPERATING SYSTEM
Subject Code: BMCAS1-205
Paper ID: [19340110]

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 What is the difference between distributed and real time systems?
b What are semaphores?
c Write a short note on threads.
d What is a batch processing system?
e What is swapping?
f Write a short note on thrashing.
g What is disk reliability?
h How are deadlocks detected?
i What is the process? How is it different from a program?
j What are the disadvantages of multiprocessor systems

Section – B **(5 marks each)**

Q2. Explain a) Race condition b) Critical section

Q3. What is virtual memory? How is it implemented?

Q4. Describe the term page fault. Calculate page faults for LRU and FIFO for following sequences where page frame is three.
0,1,2,1,4,2,3,7,2,1,3,5,1,2,5.

Q5. Write a short note on various disk structures.

Q6. Explain critical section problems?

Section – C **(10 marks each)**

Q7. Define operating system and list the basic services provided by operating system

Q8. What is paging discuss basic paging technique in detail

Q9. What is a deadlock? Explain its model with examples. Explain any three methods of dealing with deadlock.