

Roll No.

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BCA (Sem. – 4th)
OPERATING SYSTEM
SUBJECT CODE : BC – 404
Paper ID : [B0218]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.

Section - A

Q1)

(10 × 2 = 20)

- a) What are operating system services? Explain.
- b) What is process state diagram? Explain.
- c) What is process? How it is different from thread.
- d) Define multiprogramming and multitasking operating system.
- e) Explain the difference between logical and physical address space.
- f) What is internal and external fragmentation?
- g) What is virtual memory? Explain its advantages.
- h) What are semaphores? Explain their role.
- i) Define critical section?
- j) What are various CPU scheduling criterion?

Section – B

(4 × 10 = 40)

- Q2)** What is operating system? Discuss the evolution of operating system. Explain the characteristics features of batch operating system and real time operating system.
- Q3)** What is process and process scheduling? Explain various CPU scheduling algorithms with their merits and demerits.
- Q4)** What is paging? How it is different from demand paging? Explain hardware support for paging.
- Q5)** What is deadlock? Explain the combined approach used to handle the deadlock.
- Q6)** Write note on the following :
 - (a) Directory structure.
 - (b) System threats.
- Q7)** What is file? What are different types of file? Explain various file access methods?

