

BCA(Sem. - 4th)**OPERATING SYSTEM****Subject Code : BSBC403****PAPER ID : [B0242]****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 x 2 = 20)**

- a) Differentiate between application and system program.
- b) List two main functions of operating system.
- c) Differentiate between single threaded and multithreaded system.
- d) List various process synchronization issues.
- e) Differentiate between compile time and load time address binding.
- f) Explain device drivers.
- g) Define virtual memory.
- h) Differentiate between security and protection
- i) Discuss various file operations.
- j) Differentiate between virus and worm.

SECTION – B**(4 x 10 = 40)**

- Q2) What do you mean by operating system? Explain classification of operating system in detail.
- Q3) What are the different states a process can be in at a particular time? What factors can lead to the transition of process states?
- Q4) What do you mean by inter process communication(IPC)? Discuss the design parameters of message passing method of IPC.
- Q5) What is demand paging? Explain any three page replacement algorithms with relevant examples.
- Q6) Discuss the various directory structures with their relative advantages and disadvantages.
- Q7) Explain the following:
 - a) I/O controller
 - b) Device driver