

**NOTE: SECTION A IS COMPULSORY. ATTEMPT ANY FOUR QUESTIONS FROM SECTION B AND TWO FROM SECTION C**

**SECTION A MARKS 2 EACH**

- a) What is buffering?
- b) What is logical address space?
- c) What is a thrashing?
- d) What is meant by critical section?
- e) What for are Resource Allocation Graphs used.
- f) What is real time processing?
- g) What are Semaphores?
- h) What is Spooling?
- i) What is garbage collection?
- j) What are program threats?

**SECTION B MARKS 5 EACH**

- Q2) Explain virtual memory and associative memory.
- Q3) Discuss in details the data encryption Standard(DES) algorithm. What are its limitations?
- Q4) Write short notes on the following:
- a) Two phase locking
  - b) Wait-die and Wound-wait.
- Q5) What do you mean by page-faults? When do page fault occurs? Describe the action taken by the O.S. when page-fault occurs?
- Q6) Explain the difference between internal fragmentation and external fragmentation. Which one occurs in paging system?

**SECTION C MARKS 10 EACH**

- Q7) a) How can you prevent circular waiting condition in a deadlock?
- b) Which is the main limitation of resource allocation graph?
- Q8) Compare and contrast Public-key cryptography technique with Conventional cryptography technique.
- Q9) What do you mean by file management? Explain the various access and allocation methods of files in details.