 BCA(IV) — 401

2019

Time : 3 hours

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The questions are of equal value.

*Answer any **five** questions in which Q. No. 1 is compulsory.*

1. Choose the correct answer of the following :

   (a) A stock is a data structure which works on :

   (i) LILO property

   (ii) LIFO property

   (iii) FIFO property

   (iv) FILO property

   (b) Which is used to transfer the data directly to main memory with using CPU ?

   (i) DMA Controller

(ii) Device driver

(iii) Programmed I/O

(iv) MAR

(c) Semaphores are operated by which operation :

(i) Down and up

(ii) Interrupt

(iii) Busy waiting

(iv) Send and receive

(d) Which is used for representation of deadlock ?

(i) Drag

(ii) Mutual exclusion

(iii) Ostrich algorithm

(iv) Banker's algorithm

(e) Address in segmentation is of :

(i) One dimensional

(ii) Two dimensional

(iii) Three dimensional

(iv) Five dimensional

(f) The process of encoding message is called :

(i) Encryption (ii) Decryption

(iii) Plain text (iv) Capability lists

(g) Parallel and Distributed processor are considered as :

(i) MISD Computer (ii) SISD Computer

(iii) SIMD Computer (iv) MIMD Computer

(h) Which command is used to find out the current directory ?

(i) cat (ii) pwd

(iii) cd (iv) ls

2. What do you mean by Operating System ? Explain the various function of an operating system.

3. What is Thread ? Describe the difference between threads and process. Explain the concept of process.

4. What is mutual exclusion ? List the requirements for mutual exclusion.

5. What is contiguous and non-contiguous memory management scheme ? Differentiate paging and segmentation.

6. Discuss the memory management in any Operating System. What is difference between single and virtual memory paging ?

7. What do you mean by processor scheduling ? Describe the types of processor scheduling.

8. Differentiate any **two** of the following :

   (a) Threads and SMP management

   (b) Multiprocessor scheduling and Real-time scheduling

   (c) Strong and weak semaphores

   (d) Preemptive and non-preemptive scheduling

9. Write short notes on any **four** of the following :

   (a) Processor Registers

   (b) Operating System Objectives

   (c) Principles of Deadlock

   (d) Secondary Storage Management

   (e) TCP / IP Protocol Architecture

   (d) Types of Operating System