BCA(I) / 06 / 15

2015

Time : 3 hours

Full Marks : 80

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

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Objective-type Questions)

Answer all questions.

1. Choose the correct answer from the following : 2×10 = 20

   (a) Which is the fastest of the following :

       (i) Cache Memory

       (ii) RAM

       (iii) CD-ROM

       (iv) Registers

What are the Physical addresses for the following logical addresses ?

   (i)   0,430

   (ii) 1,10

   (iii) 2500

   (iv) 3400

   (v)   4,112

8. (a) What do you mean by seek time ?

   (b) Write short notes on any **four** of the following :

       (i)   RISC and CISC

       (ii) RAID

       (iii) Buffers

       (iv) Virtual memory

       (v)   LRU-algorithm

       (vi) Page fault

       (vii) Buse-Register

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(b) What is the name of operating system, which was originally designed by the scientists and engineers for use ?

(i) XENIX

(ii) UNIX

(iii) OS/2

(iv) MS DOS

(c) .... provides an interface to the operating system for the user.

(i) Kernal

(ii) Micro Kernal

(iii) Shell

(iv) None of these

(d) The operating system manages :

(i) Memory

(ii) Processor

(iii) Disk and I/O devices

(iv) All of these

(e) Find the odd man out :

(i) Executive

(ii) Task Manager

(iii) Kernel

(iv) Spooler

(f) Which of the following is not application s/w ?

(i) Word-processing

(ii) Spreed-sheet

(iii) Unix

(iv) Desktop publishing

(g) .... Scheduler selects the jobs from the pool of Jobs and loading to the ready queue ?

(i) Long term

(ii) Short term

(iii) Medium term

(iv) None of these

(h) Round robin is a :

(i) Kind of a magnetic drum

(ii) Process scheduling policy

(iii) Process synchronisation policy

(iv) Memory allocation policy

(i) Dijkstra's banker's algorithm is an operating system solves the problem of :

(i) Dead Lock aroidance

(ii) Dead Lock recovery

(iii) Mutual Exclusion

(iv) Context Switching

(j) Sharing is possible in which technique :

(i) Paging

(ii) Segmentation

(iii) Both (i) and (ii)

(iv) None of these

Group – B
(Long-answer Type Questions)

Answer any four questions of the following :

15×4 = 60

2. (a) What is cache memory ? Explain the cache read operations.

(b) Explain DMA with neat diagram.

3. (a) What are the 3-main purposes of a operating system ?

(b) Explain the following :

(i) Spooling

(ii) Time-sharing system

(iii) Distributed system

(iv) Read time system

4. (a) What do you mean by short term scheduler ?

(b) Prove that among non-preemptive scheduling algorithm, SPN provides the minimum average waiting time.

5. (a) What is a dedlock ? What are the 4-necessary condition to deadlock occur ?

(b) Explain about the deadlock prevention methods.

6. (a) What is advantages and disadvantages of paging ?

(b) Why are pages size always power of 2 ?

7. (a) Explain the following allocation algorithms :

(i) First fit

(ii) Best fit

(iii) Worst fit

(b) Consider the following segment table ?

Segment	base	length
0	219	600
1	2300	14
2	90	100
3	1327	580
4	1952	96