Fifth Semester B.C.A Degree Examination
October / November 2019
(2016-17 New Scheme)

(BCE 440) : OPERATING SYSTEM

Time : 3 Hours   Max. Marks : 80

I. Answer ALL the questions: **1x5=5**

   1. What is an Operating System ?

   2. What is Compaction in memory ?

   3. Define Process.

   4. What is aging ?

   5. Define Thrashing.

II. Answer any FIVE full questions: **15x5=75**

   6. a) Differentiate Multiprogramming and Multitasking.

       b) Write a note on peer to peer and client server computing environment.

       c) What is a opensource operating system ? Write a note on open source operating system.

   7. a) Explain sequential and concurrent processes.

       b) Define threads, explain different thread models.

       c) What is the reason for process co-operation ? Explain.

   8. a) Define the following:
       i) Turn around time   ii) waiting time   iii) burst time
       iv) Throughput   v) Response time

       b) Explain: i) Dispatcher   ii) CPU and I/O burst cycles

       c) For the following example calculate average waiting time and average turn-around time using pre emptive SJF and Round Robin (1 time unit) CPU scheduling Algorithms.

Jobs	Arrival time	Burst time
P_0	0	8
P_1	1	4
P_2	2	9
P_3	3	5

9. a) What is the status of the system in deadlock state ? With your own example of 5 process and 3 resources availability determine the status of the sequence using Banker's Algorithm.

    b) What is circular wait condition in deadlock ? Explain deadlock detection methods and recovery methods.

    c) Write a note on deadlock prevention method.

10. a) For the following page reference calculate the page faults that occurs using FIFO for 3 pages frames respectively
        5, 4, 3, 2, 1, 4, 3, 5, 4, 3, 2, 1, 5

    b) What are the advantages and disadvantages of paging ?

    c) Define fragmentation, differentiate segmentation and paging.

11. a) Explain disk scheduling methods.

    b) Explain disk management.

    c) Describe any two free space management.

12. a) Explain various directory structures.

    b) Explain File allocation methods.

    c) Explain index disk space allocation methods.

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