Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 07

B.Sc.(IT) (Sem.–3rd)

OPERATING SYSTEM

Subject Code : BS-203

Paper ID : [B0410]

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students has to attempt any FOUR questions.**

SECTION-A

1. Write briefly :

(a) Differentiate between multitasking and multiprogramming.

(b) Write note on throughput.

(c) Write note on system call.

(d) Define Locality of Reference.

(e) Differentiate between MVT and MFT.

(f) Why is compaction needed?

(g) List the various types of directory structures.

(h) Explain PCB.

(i) Write note on Buddy system.

(j) What do you mean by re-entrant code?

SECTION-B

2. What is an operating system? What are the functions of the operating system?

3. Assume that following jobs have arrived in the order 1,2,3,4 and 5:

Job	Arrival Time	Burst Time
1	0	15
2	2	25
3	5	5
4	6	8
5	7	12

Give Gantt chart and calculate Average Turnaround Time and Waiting Time for FCFS.

4. Describe internal and external fragmentation with illustrative examples.

5. Consider the following page reference string:

A, B, C, C, B, A, E, A, A, B, C,G, F, C, F. How many page faults would occur for the following page replacement algorithm assuming three frames? Remember all frames are initially empty:

(i) FIFO

(ii) Optimal

6. What is deadlock? Explain the necessary conditions for deadlock.

7. (a) What are various components of a file system?

(b) Describe the Linked allocation method for allocating disk space.