B.A./B.Sc. 3rd Semester (Batch 2020-23)

COMPUTER APPLICATION

(Operating System)

Time Allowed—3 Hours]   [Maximum Marks—75

Note :—Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

SECTION—A

1. Distinguish between single and multi-user operating systems with examples.   15

2. (a) Distinguish between :

    (i) Compiler and Interpreter

    (ii) Assembly and Machine languages.   10

    (b) Explain the evolution of the operating system in detail.   5

SECTION—B

3. Explain the following :
    (i) Multi-programming
    (ii) Multi-tasking
    (iii) Timesharing
    (iv) File management
    (v) Security.   15

4. (a) What do you mean by booting of a system ? What is the boot sequence ? Explain in detail. 7.5

   (b) Compute the Average waiting time and Turnaround time for the following set of processes by applying FCFS, preemptive SJF algorithms :

Process	Arrival Time (ms)	CPU burst (ms)
P_1	0	10
P_2	1	29
P_3	2	3
P_4	3	7
P_5	4	12

7.5

SECTION—C

5. (a) Explain the concept of Kernel and Shell. 10

   (b) What are the features and benefits of Unix ? 5

6. Explain the UNIX file system in detail. 15

SECTION—D

7. (a) What is a filter in UNIX ? List out various filters in UNIX. Explain any two of them. 7.5

   (b) Explain any file commands in UNIX. 7.5

8. (a) Explain the purpose and syntax of the following commands :

   (i) cat

   (ii) ls

   (iii) chmod

   (iv) date

   (v) grep

   (vi) who

   (vii) cal

   (viii) pwd

   (ix) ps

   (x) clear 10

   (b) Explain the piping in Unix. 5