SOMAIYA VIDYAVIHAR UNIVERSITY

Semester: August 2022 – December 2022 **Maximum Marks: 30** **Examination: In-Semester Examination** **Duration :1 hr 15 min**		
Programme code: 01 **Programme: B.Tech**	**Class:**TY	**Semester: V** **(SVU 2020)**
Name of the Constituent College: **K. J. Somaiya College of Engineering**	**Name of the department:** COMP	
Course Code: 116U01C503	**Name of the Course:Operating System**	

Question No.		Max. Marks	CO Mapped	BT Level

Q1	Define linker, loader, assembler, compiler. Discuss each one of their role in execution following program:
	
	#include<stdio.h>
	void main()
	{ string S="INDIA";
	printf("Hello World %s", S);
	}
		10	CO1	RE,UN

Q2	Consider a set of 7 processes whose arrival time, CPU time needed and Priority are given below: (Process / Arrival Time / Burst Time / Priority) P1 / 0 / 1 / 2 P2 / 1 / 7 / 6 P3 / 2 / 3 / 3 P4 / 3 / 6 / 5 P5 / 4 / 5 / 4 P6 / 5 / 15 / 10 P7 / 15 / 8 / 9 If the CPU scheduling policy is Preemptive Priority Scheduling. Calculate the waiting time, turnaround time for each process and the average waiting time. Illustrate the scheduling policy with the help of Gantt chart. (Assume Smaller Numbers for Higher Priority)	10	CO2	AP, AN

Q3	Differentiate between Process and Thread. Further with respect to thread scheduling, discuss the following a) Thread creation b) Thread joining c) Thread termination **OR** In context to Inter Process Communication, a. Define Independent and Cooperating Processes. b. Illustrate the Message Passing and Shared Memory Model for Inter Process Communication, Further Differentiate between them	10	CO2, CO3	RE,UN