

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY, CHANGA

DEVANG PATEL INSTITUTE OF ADVANCE TECHNOLOGY AND RESEARCH

Department of Information Technology

Unit Test 1

Subject: Operating System

Subject Code: IT343

Total Marks: 30

Time: 01 Hr.

Note:

- I). Each question carry 5 marks
- II). From Q. 1 to Q. 6 attempt any 3 questions
- III). From Q. 7 to Q. 10 attempt any 3 questions

Q. 1. Define Operating System and Explain layered structure of operating system.

Q. 2. Describe the Operations of Operating System.

Q. 3. Write short note on System Call.

Q. 4. Consider following jobs to be Executing on a uniprocessor system

Process	Arrival Time (AT)	Burst Time (BT)	Priority
P1	0	8	3
P2	1	6	5
P3	2	1	2
P4	3	4	1
P5	4	2	4

Draw Gantt chart and calculate average waiting time and turnaround time for

(i) SJF (Non-Preemptive)

(ii) SJF (Preemptive)

Note: Assume low number as high priority

Q. 5. Discuss importance of process control block & fields of its structure.

Q. 6. What is Threading and Multithreading? List the types of Threads.

Q. 7. Explain process states transition diagram in brief.

Q. 8. Consider following jobs to be Executing on a uniprocessor system

Process	Arrival Time (AT)	Burst Time (BT)	Priority
P1	0	8	3
P2	1	6	5
P3	2	1	2
P4	3	4	1
P5	4	2	4

Draw Gantt chart and calculate average waiting time and turnaround time for

(i) Priority based (Non-Preemptive)

(ii) Priority based (Preemptive)

Note: Assume low number as high priority

Q. 9. Consider following jobs to be Executing on a uniprocessor system

Job	B. T.
p ₁	06
p ₂	05
p ₃	04
p ₄	02
p ₅	01

Draw Gantt chart and calculate average waiting time and turnaround time for

i) FCFS

ii) SJF (Non-Preemptive)

Q. 10. Consider following jobs to be Executing on a uniprocessor system

Job	B. T.
p ₁	06
p ₂	05
p ₃	04
p ₄	02
p ₅	01

Draw Gantt chart and calculate average waiting time and turnaround time for

i) Round Robin (Time slice = 2)