Exam No: _____

GANPAT UNIVERSITY
B. TECH SEM-IV (COMPUTER ENGINEERING/INFORMATION TECHNOLOGY)
FIRST INTERNAL EXAMINATION – FEBRUARY-MARCH 2023
2CEIT401: OPERATING SYSTEMS

TIME: 1 Hour **TOTAL MARKS: 20**

Instructions:
1) Figures to the right indicate full marks.
2) Be precise and to the point in your answer.
3) The text just below marks indicates the Course Outcomes Numbers, (CO) followed by the Bloom's taxonomy level of the question, i.e., R: Remembering, U: Understanding, A: Applying, N: Analyzing, E: Evaluating, C: Creating.

Q.1 Consider the set of 6 processes whose arrival time and burst time are given below. Calculate the average waiting time and average turnaround time using **[06] 1A**

1. Round Robin Scheduling Algorithm with Time Quantum = 3
2. Non-preemptive Priority Scheduling Algorithm (High value = High Priority)

PID	AT	BT	Priority
P1	5	5	4
P2	4	6	5
P3	3	7	7
P4	1	9	2
P5	2	2	1
P6	6	3	6

Q.2 Analyze following code snippet. How many times does "Hello World" would be printed? Justify your answer. **[02] 1N**

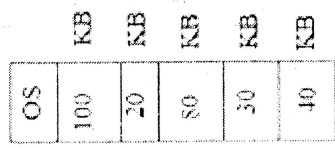
```
void doWork(){
fork();
fork();
printf("Hello world!\n");
}
void main() {
doWork();
printf("Hello world!\n");
}
```

Q.3 Define Operating System. Draw process state diagram and explain various types of schedulers. **[04] 1U**

Q.4 Write objective of memory management and describe following terms: **[04] 3U**

1) Address binding 2) Dynamic loading & linking
3) Role of MMU 4) Overlays & Compaction

Q.5 Identify given memory allocation belongs to which technique. Consider processes coming in the given order & sizes of 80, 60, 25, 15, 30 KB respectively. Which algorithm is most efficient among first fit, best fit & worst fit & why? **[04] 3N**



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