Enrolment Number: _____

P P SAVANI UNIVERSITY
P P SAVANI SCHOOL OF ENGINEERING
4th Semester of B Tech Examination (1st Internal Exam)
Subject: OPERATING SYSTEM (SEIT2031)
Branches: CE/IT

[Date: 08/02/2019, Friday] [Time: 10.15 A.M. to 11.15 A.M.] [Total Marks: 30]

Instructions:

- Figures to the right indicate full marks.
- Q 1 & 2 are compulsory.
- Use of scientific calculator is allowed.
- Draw neat and clean drawings & Assume suitable data if necessary.

Q.1 Answer the following Questions (each carry 1 mark) **(05)**

1. Define Operating System.
2. Short term scheduler controls the number of processes in main memory. TRUE/FALSE
3. What is convoy effect?
4. The time taken to stop one process and start execution of another process is called as _____.
5. Why thread is called as Light weight Process?

Q.2.A "How the state of process may get change during its lifetime?" Support your answer with proper diagram. **(05)**

Q.2.B Consider the following scenario and find Throughput, Average Waiting Time and Average Turnaround Time using Shortest Task First algorithm. **(05)**

Process Number	Execution Time	Arrival Time
P1	2	0
P2	4	5
P3	1	8
P4	3	2
P5	5	1

Q.3.A Enlist different services provided by OS and describe any two. **(04)**

Q.3.B Consider the system with N number of CPUs (N>=1) and M number of processes (M>N). What is the lower bound and upper bound on the number of processes that can be in 1) Ready State 2)Running State 3)Waiting State **(04)**

Q.3.C Justify the statement: "OS can be viewed as Resource Allocator." **(02)**

OR

Q.3.A Why we use threads in designing of OS and what are the factors that need to be taken into account? **(04)**

Q.3.B Differentiate between Uni-programming OS and Multi-programming OS with suitable example. **(04)**

Q.3.C Give real life example of CPU bound process and I/O bound process. **(02)**

Q.4.A Write short note : Multiprocessor OS (Diagram, Working, Types, Advantages, Example) **(05)**

OR

Q.4.A Explain Process Control Block in detail. **(05)**