VNR VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)
B.Tech. III Year I Semester Regular / Supplementary Examinations, Nov/Dec, 2018
OPERATING SYSTEMS
(Common to CSE and IT)

Time: 3 hours   Max. Marks: 60
PART-A is Compulsory
Answer ONE question from each unit of PART-B

PART-A
10X2=20M

a) What are the objectives of Operating System?
b) List and draw the process state.
c) Write a short note on Round-Robin Scheduling algorithm.
d) What is readers-writers problem?
e) Discuss the conditions that can raise the deadlock situation.
f) Write about recovery from deadlock.
g) What is the difference between page and segment?
h) Discuss about swap space management.
i) What are file attributes?
j) Write about intruders.

PART-B
5X8=40M

1. a) Explain briefly about the services and functions provided by the operating system.   5M
   b) Write about process control block.   3M

OR

2. a) What is the purpose of system calls? Explain various types of system calls.   5M
   b) How are system calls different from system programs?   3M

3. Consider the following set of process with the length of CPU burst time given in milliseconds:

Process	Arrival Time	Burst Time	Priority
P1	2	2	3
P2	3	3	2
P3	0	1	4
P4	4	2	1
P5	3	2	3

Draw the three Gantt charts illustrating the execution of these processes using FCFS, SJF, Preemptive priority scheduling and calculate waiting and turnaround time of each process for each scheduling algorithm.   8M

OR

4. Define thread. Explain in detail about threading issues.   8M

5. What is deadlock? Explain the Banker's deadlock-avoidance algorithm with a suitable example. 8M

OR

6. a) Explain the features that characterize the deadlocks in detail.   3M
   b) Discuss about deadlocks prevention?   5M

7. a) Explain how protection can be ensured using paging?   4M
   b) What is the cause of thrashing? How does the system detect thrashing? Once it detects thrashing, what can the system do to eliminate this problem.   4M

OR

8. a) Explain any two disk scheduling algorithms with an example.   4M
   b) Explain the RAID levels and discuss various problems associated with RAID.   4M

9. What are the allocation methods of a file system? Explain in detail.   8M

OR

10. a) Explain about operating system security issues in detail.   4M
    b) What are the differences between file systems of windows and LINUX?   2M
    c) Write a short note on viruses.   2M

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