Printed Pages : 1 **Roll No.** | | | | | | | | | | | **NCS401**

B. TECH.

THEORY EXAMINATION (SEM–IV) 2016-17

OPERATING SYSTEM

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Attempt all of the following questions: **10 x 2 = 20**

(a) Difference between Process and Program.
(b) Explain Context Switching.
(c) What is Demand paging?
(d) Explain Concept of Virtual Memory.
(e) Difference between Directory and File.
(f) Define multiprogramming system.
(g) Difference between External and Internal Fragmentation.
(h) What is Critical Section?
(i) Explain threads.
(j) Define operating system explain in short.

SECTION – B

2. Attempt any five of the following questions: **5 x 10 = 50**

(a) Write down the different types of operating system
(b) What is Kernel? Describe various operations performed by Kernel.
(c) What is the cause of Thrashing? What steps are taken by the system to eliminate this problem?
(d) What do you understand by Process? Explain various states of process with suitable diagram. Explain process control block.
(e) Give the principles, mutual exclusion in critical section problem. Also discus how well these principles are followed in Dekker's solution.
(f) State the Producer-consumer problem. Given a solution to the solution using semaphores.
(g) Explain File organization and Access mechanism.
(h) Explain the services provided by operating system.

SECTION – C

Attempt any two of the following questions: **2 x 15 = 30**

3 (i) What is a deadlock? Discuss the necessary conditions for deadlock with examples
(ii) Describe Banker's algorithm for safe allocation.

4 What do you mean by cashing, spooling and error handling, explain in detail. Explain FCFS, SCAN & CSCAN scheduling with eg.