[Total No. of Questions - 9] [Total No. of nted Pages - 2]
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B. Tech 5th Semester Examination

Operating Systems (NS)

CS-311

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

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all by selecting one question from Section A, B, C and D. Section E is compulsory (Question No. 9).

SECTION - A

1. What are the differences between a Compiler and Assembler? Explain the various stages of a Compiler. (20)

2. How time Sharing in Operating system can avoid a deadlock? Also, explain the concept of buffering and spooling in operating systems. (20)

SECTION - B

3. What is Context Switching? Explain in brief. Also, discuss the features of Multi-threading. (20)

4. What is mutual exclusion principle? How deadlock condition occurs in operating system? (20)

SECTION - C

5. Discuss the Various advantages and disadvantages of fragmentation and segmentation? Write a page replacement algorithm by using the concept of LRU. (20)

6. Explain the differences between Hardware clock and software clock. Also discuss their advantages. (20)

SECTION - D

7. Describe the various features of LINUX in brief. Also, discuss its internal file system. (20)

8. Explain the differences between Protection and Security in an operating system. (20)

SECTION - E

9. Define the following: (ANY TEN)

   (a) Define Multi-programming.

   (b) What is Multi-Processing?

   (c) FCFS

   (d) What is Data IPC?

   (e) What is page replacement in virtual memory?

   (f) Local and Global Memory.

   (g) Define Demand paging.

   (h) What are the advantages of One-time passwords?

   (i) How LINUX is different from Windows operating system?

   (j) Define the concept of Disk protection.

   (k) What is ANDROID?

   (l) Define Directory Systems. (2×10=20)