

MSCCS-10
December - Examination 2016
MSCCS (Final) Examination
Operating System
Paper - MSCCS-10

Time : 3 Hours]

[Max. Marks :- 100

Note: The question paper is divided into three sections A, B and C.
Write answers as per given instructions.

Section - A

10 × 2 = 20

(Very Short Answer Questions)

Note: Answer **all** questions. As per the nature of the question delimit your answer in one word, one sentence or maximum upto 30 words. Each question carries 2 marks.

- 1) (i) Define Distributed OS.
- (ii) Give difference between Computer Virus and Worm?
- (iii) Give an example of Distributed File System.
- (iv) List the advantages of Distributed System.
- (v) Give the definition of Thread.
- (vi) State cache coherence problem.
- (vii) What is the use of log?

- (viii) What is checkpoint?
- (ix) What do you mean by Encryption?
- (x) What is ACID properties of a Transaction?

Section - B**4 × 10 = 40**

(Short Answer Questions)

Note: Answer **any four** questions. Each answer should not exceed 200 words. Each question carries 10 marks.

- 2) Explain path-pushing deadlock detection Algorithm.
- 3) Write short note on Semaphores.
- 4) What is Resource Allocation Graph? How Deadlock can be described by Resource Allocation Graph? Explain.
- 5) Explain Migration Algorithm for implementing DSM with example.
- 6) What is Cryptography? Explain Encryption and Decryption process.
- 7) What is the advantages of Multiprocessor? Explain the classification of Multiprocessor.
- 8) Write short note on Shadow Paging.
- 9) Discuss the relation between Shell and Kernel in Linux.

Section - C**2 × 20 = 40**

(Long Answer Questions)

Note: Answer **any two** questions. You have to delimit your each answer maximum upto 500 words. Each question carries 20 marks.

10) What is deadlock? Discuss in distributed deadlock detection and resolution.

11) What is Regular Expression in AWK? Suppose an input file "student-mark.txt" with the following content – Student name, Roll Number, Test1 score, Test2 score and Test3 score.

Example of input file:

```
$ cat student-mark.txt
```

```
Sandeep 2143 78 84 77
```

```
Sushil 2321 56 58 45
```

```
Alok 2537 78 67 45
```

```
Sudrendra 2415 30 47 20
```

Now write Awk script that will calculate and generate the report to show the Average marks of each student, average of Test1, Test2 and Test3 scores.

12) Discuss the Architecture and Design issues related to Distributed Shared memory.

13) Write short note on the following:

(i) Message Passing Model

(ii) Remote Procedure Calls.