

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

**Section-A**

**8×2=16**

**(Very Short Answer Type Questions)**

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

1. (i) What is virus? How they impact computers?
- (ii) What is critical section?
- (iii) Define cache coherence.
- (iv) Define Kernel.
- (v) Define regular expression.
- (vi) What is empty pattern?
- (vii) What is the need of advanced operating system?
- (viii) Define remote procedure calls.

**Section-B**

**4×8=32**

**(Short Answer Type Questions)**

**Note :-** Answer **any four** questions. Each answer should not exceed **200** words. Each question carries **8** marks.

2. Explain Ricart-Agrawala algorithm.
3. Explain distributed file storage system and its building mechanism.
4. Explain coherence protocols.
5. Differentiate private key and public key cryptography.
6. Write a note on Kerberos.
7. Differentiate NORMA and NUMA.
8. What are ACID properties? Explain usefulness of each with example.
9. Discuss Dining Philosophers Problem.

**Section-C**

**2×16=32**

**(Long Answer Type Questions)**

**Note :-** Answer **any two** questions. You have to delimit your each answer maximum up to **500** words. Each question carries **16** marks.

10. What is deadlock? Explain deadlock detection and prevention in detail.
11. Explain various filters in shell programming.
12. What is process synchronization? Also, explain semaphores.
13. Explain memory coherence and consistency models.

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