

**R-2967**

**Sub. Code**

**7SD2C1**

**M.Voc. DEGREE EXAMINATION, APRIL 2019**

**Second Semester**

**Software Development**

**PRINCIPLES OF COMPUTER NETWORK SECURITY**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **ALL** questions.

1. Define Network.
2. Give the purpose of Internet.
3. What are the characteristics of Data Link Layer?
4. Give the expansion for PPP.
5. Mention the importance of Network Layer.
6. What is meant by Fragmentation?
7. Give the expansion of UDP.
8. What is the need for a Protocol?
9. Define Public Key.
10. What is meant by confidentiality?

**Part B**

(5 × 5 = 25)

Answer **ALL** questions, choosing either (a) or (b).

11. (a) List the uses of Networks.

Or

- (b) How Telephone system works?

12. (a) Discuss on Data Link Protocols.

Or

- (b) Explain the concept of Petri Networks.

13. (a) Mention the design issues in Network Layer.

Or

- (b) Explain the concept of Inter Network Routing.

14. (a) Discuss the elements of Transport Protocols.

Or

- (b) Explain the following :

(i) TCP.

(ii) UDP.

15. (a) Mention the requirements for Network Security.

Or

- (b) How message authentication is done? Explain it.

**Part C**

(3 × 10 = 30)

Answer any **THREE** questions.

16. Discuss on OSI reference model.
17. Explain the importance of Sliding Window Protocols.
18. Describe the congestion control algorithm.
19. Discuss the design issues in the application layer.
20. How digital signature works? Explain it.

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**R-2968**

**Sub. Code**

**7SD2C3**

**M.Voc. DEGREE EXAMINATION, APRIL 2019**

**Second Semester**

**Software Development**

**FUNDAMENTALS OF OPERATING SYSTEM**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Distinguish track from sector.
2. Define the term, "Cache Coherency".
3. What is meant by degree of multiprogramming?
4. Define the aging technique with respect to CPU scheduling.
5. What are homogeneous systems?
6. What is meant by race condition?
7. What is a claim edge?
8. Identify four conditions that pave way for deadlock occurrence.
9. What is TLB miss?
10. What is meant by transient operating system code?

**Part B****(5 × 5 = 25)**

Answer **all** questions, choosing either (a) or (b).

11. (a) With a case study, discuss on virtual machines.

Or

- (b) Explain the working methodologies of magnetic disks.

12. (a) Write down the overview and benefits of threads. Also discuss on user and kernel threads.

Or

- (b) Give a brief note on round robin scheduling.

13. (a) Write about thread scheduling in detail.

Or

- (b) Elucidate the two-process solutions with suitable algorithms.

14. (a) Narrate the procedure of detecting a deadlock.

Or

- (b) Illustrate and explain the resource allocation algorithm.

15. (a) Give a brief account on the following memory management concepts :

(i) Dynamic Loading (3)

(ii) Logical versus physical address space. (2)

Or

- (b) Summarize the workings of hashed page tables and inverted page tables.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Write notes on the following :
    - (a) I/O structure (6)
    - (b) Distributed systems. (4)
  17. With an example, explain the concept of Inter process communication.
  18. Give a detailed description on Semaphores.
  19. With suitable example, explain the Banker's algorithm that is used for deadlock avoidance.
  20. Explain the procedure of optimal page replacement policy and LRU page replacement policy.
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<b>Sub. Code</b>
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<b>7SD3C1</b>
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**M.Voc. DEGREE EXAMINATION, APRIL 2019**

**Third Semester**

**Software Development**

**PRINCIPLES OF COMPILER DESIGN**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define translator.
2. What is parse compiler?
3. Write any two advantages of a grammar.
4. Define productions.
5. What is synthesized translation?
6. Draw a parser tree for expression  $1 + 2 + 3$ .
7. When the semantic errors can be detected?
8. What are the items that appear in the activation record?
9. What is code optimization?
10. Define DAG.

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write the regular expression construction rules.

Or

- (b) Explain macros in an assembly language.

12. (a) How does a context-free grammar define a language?

Or

- (b) How to construct the SLR parsing table?

13. (a) Write the syntax-directed translation scheme (production and semantic action) for desk calculator.

Or

- (b) Write note on mixed mode expression.

14. (a) What are the informations are associated with a names in the symbol table?

Or

- (b) Write note on syntactic errors.

15. (a) How to construct DAG?

Or

- (b) Write note on peephole optimization.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Explain structure of a compiler with diagram.
17. Explain predictive parsers.



18. Write a top-down translation scheme to produce quadruples for Boolean expressions.
  19. Explain construction of equivalence algorithm.
  20. Explain data flow equations and to compute IN and OUT.
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