



**SPDCA 101 - PROBLEM SOLVING AND PROGRAMMING**

**Assignment -1 5 X 3 = 15**

1. Explain about the terms order of notation and Big notation?
2. a) Explain the types of Errors in C?  
b) Explain the difference between while – do – while with suitable program  
c) Write a program to calculate simple interest
3. a) What is Array? What are the types of Arrays?  
b) Write a program file operations using pointers in C?
4. a) Explain the string I/O functions and for method I/O functions  
b) Write a program file operations using pointers
5. Explain the steps involved in Problem solving?  
**Assignment -2 5 X 3 = 15**
6. Write a program to compute Total, Average and Rank of a student using structures
7. a) Explain the importance of a compete system in problem solving  
b) Explain the computational complexity
8. a) Write a program to compute Total, Average and Rank of a student using structures
9. What are the characteristics of an Algorithm and Flow chart. Draw a flow chart to find whether the given number is palindrome or not
10. Explain the types of If stalemates with suitable program

**SPDCA 102 - DISCRETE MATHEMATICS**

**Assignment -1 5 X 3 = 15**

1. Write notes on travelling sales person problem
2. State and prove ore’s criterion
3. State and prove the Generalized Pigeonhole Principle
4. Show that for any two sets  $A$  and  $B, A-(A \cap B) = A-B$
- 5) Obtain the principal disjunctive normal form of  
$$P \rightarrow (P \rightarrow Q) \wedge \neg(\neg Q \vee \neg P)$$
  
**Assignment -2 5 X 3 = 15**
6. A box contains 3 red, 3 blue and 4 white socks. In how many ways can 8 socks be pulled out of the box, one at a time, if order is important
7. If  $w$  is a  $u - v$  walk joining two distinct vertices  $u$  and  $v$ , then show that there is a path joining  $u$  and  $v$  contained in the walk
8. Find the number of integers between 1 and 250 both inclusive that are not divisible by any of the integers 2, 3, 5 and 7
9. Find the number of non-negative integer solutions of the inequality  
$$x_1 + x_2 + x_3 + x_4 + x_5 + x_6 < 10$$
10. Write notes on travelling sales person problem

**SPDCA 103 - COMPUTER ORGANISATION**

**Assignment -1 5 X 3 = 15**

1. Explain the working of a 4-bit down-counter. Draw its logic Diagram
2. Explain various addressing modes with computers
3. Explain Minimization of Gates
4. Write notes on travelling sales person problem
5. What are the differences between Hardwired and Micro programmed controls  
**Assignment -2 5 X 3 = 15**
6. Distinguish between decimal fixed point and floating point representations
7. Write about Cache memory, Virtual memory, Associative memory
8. Explain the design of Micro programmed control
9. Explain the following mapping techniues for each memory  
i. Associative mapping  
ii. Direct mapping
10. Explain Master – slave flip - flop

**SPDCA 104 - DATA STRUCTURES**

**Assignment -1 5 X 3 = 15**

1. Discuss about B-trees and its operations with example
2. How DFS and BFS are applied to a connected graph?
3. Write an algorithm to implement Circular Queues using Linked List
4. What is the importance of Sparse Matrix? Write an algorithm to represent to add two sparse matrices
5. Explain Quick sort algorithm with neat illustration  
**Assignment -2 5 X 3 = 15**
6. Explain Prims Algorithm in detail with example
7. Explain the following  
i) Circular Queue ii) Dequeue iii) Priority Queue
8. Write an algorithm to convert an infix expression to postfix expression
9. What is data structure? Discuss about linear and non-linear data structures
10. Write an algorithm which finds shortest path between all pairs of vertices in a given graph

## SPDCA 105 - DATABASE MANAGEMENT SYSTEMS

### Assignment -1 5 X 3 = 15

1. Compare the 3NF and Boyce Codd normal form in data
  2. Discuss about DDL, DML, DCL command
  3. What is the main purpose of DB
  4. Write short notes on
    - i) Views
    - ii) Sequences
    - iii) Indexes
  5. Explain Redundancy and Associated Problems
- Assignment -2 5 X 3 = 15**
6. Write about Transaction Management in S
  7. Describe enhanced ER model and how they are different from E-R Models
  8. Explain Concurrency Control in data
  9. What are the Recovery techniques used in multiple Concurrent Transactions
  10. Describe the procedure of Normalization? Explain 1NF & 2NF

## SPDCA 106 - COMMUNICATION SKILLS

### Assignment -1 5 X 3 = 15

1. Explain the role of vocabulary for effective communication
2. Explain the essential characteristic features for a successful leader
3. Explain the role of body language for an effective presentation
4. Explain essential characteristics for successful negotiation
5. What is "Proxemics" (Space Management) and its importance in non-verbal communication

### Assignment -2 5 X 3 = 15

6. Write a Dialogue between two passengers in the train about the High rise of prices
7. Describe the strategy to be successful in group discussion
8. Explain the role of cover letter in job search
9. Explain the vital role of telephonic etiquette in the professional environment
10. Discuss the importance of effective communicative abilities in the present scenario

### **NOTE:**

- 1) Last date for submission of assignments for all the courses / paper is- 15.03.2018
- 2) Non-submission of assignments as per the scheduled dates mentioned above attracts a fine of Rs. 200/- upto 26.03.2018 per each assignment of a course / paper and under any circumstances the assignments will not be accepted from 27th March, 2018.
- 3) Assignments are to be written in the Book-lets provided by CDL and other formats are not accepted.
- 4) Answer all 10 questions, in a single book only