S. S. JAIN SUBODH P.G.(AUTONOMOUS) COLLEGE, JAIPUR

Affiliated to University of Rajasthan, Jaipur

I CIA BCA IV Semester Test ,Feb - 2018

Data Structure & Algorithms

Max. Marks: 30 **Duration**: 1 Hour

Instructions to the Candidates

Note:- **Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) What are String Operations? Explain any one of them with algorithm.

(2) What is Array? Write an algorithm to insert an element into an array.

(3) Write short note on :

(a) Data structure

(b) Abstract data type

(c) Pseudo code

Section B

(4) What is an Algorithm ? Explain how complexity of an algorithm can be measured?

OR

Write an algorithm to sort an array of n elements through Bubble Sort Technique. Explain it with an example.

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I CIA BCAIV Semester Test,Feb.2018

PHP PROGRAMMING

Max. Marks: 30 **Duration**: 1 Hour

Instructions to the Candidates

Note:-**Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) Differentiate between client side and server side programming.

(2) Explain data types available in PHP.

(3) Explain the purpose of switch statement with suitable example.

Section B

(4) Explain different iterative (looping) statements in PHP.

OR

Discuss various operators available in PHP.

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I CIA BCA IV Semester Test, Feb. 2018

Advanced Database Concepts

Max. Marks: 30 **Duration**: 1 Hour

Instructions to the Candidates

Note:- **Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) What do you mean by Transaction ? Define transaction state with suitable diagram.

(2) Explain Conflict Serializability in detail.

(3) Explain time-stamp based protocol.

Section B

(4) What is Deadlock ? How it can be detected, handled and recovered ? Explain with suitable example .

OR

Write short note on the following (any two) :

(a) Recoverability of transaction

(b) Lock Based Protocol

(c) ACID Properties

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I CIA BCA IV Semester Test, Feb. 2018

Data Communication & Networking

Max. Marks: 30 **Duration:** 1 Hour

Instructions to the Candidates

Note:- **Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) What is Networking ? Explain its advantages and disadvantages.

(2) Explain LAN and WAN in detail.

(3) Explain Peer to Peer to Client-Server Architecture.

Section B

(4) What do you mean by Topology ? Explain different topologies with diagram.

OR

Explain different components required in networking.

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II CIA BCA IV Semester Test, April 2018

Data Structure & Algorithms

Max. Marks: 30 **Duration:** 1 Hour

Instructions to the Candidates

Note:- **Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) Write an algorithm to insert a node at the end of a Linked List.

(2) Write an algorithm to delete a node from the beginning of a Linked List.

(3) Write short note on :

(a) Header Node

(b) Circular Linked List

(c) Doubly Linked List

Section B

(4) What is Linked List? How Linked Lists are represented in memory? Write an algorithm to count number of nodes in a Linked List.

OR

What do you mean by Stack? Write algorithms to perform PUSH and POP operations.

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II CIA BCA IV Semester Test, April 2018

PHP PROGRAMMING

Max. Marks: 30 **Duration:** 1 Hour

Instructions to the Candidates

Note:-**Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) Describe $_REQUEST variable in PHP.

(2) Explain any three sorting functions of an array.

(3) Write short note on-

(a) strtolower() (b) strtoupper (c) strlen()

Section B

(4) What is Array? Explain different types of arrays in PHP with appropriate example.

OR

Describe GET and POST methods in PHP with suitable example.

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II CIA BCA IV Semester Test, April, 2018

Advanced Database Concepts

Max. Marks: 30 **Duration**: 1 Hour

Instructions to the Candidates

Note:- **Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) What is Complex Data Type? How object can be created in database?

(2) What is Distributed Database System? Explain the benefits and drawbacks of it.

(3) How inheritance can be achieved in Object Oriented Database? Explain.

Section B

(4) What is Persistent Programming Language? What are the benefits of it? How a data can be made persistent, explain?

OR

What do you understand by Parallel Database? Explain different Parallel Database architectures in detail.

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Data Communication & Networking

Max. Marks: 30 **Duration:** 1 Hour

Instructions to the Candidates

Note:- **Section A** : Consists of three short answer type questions, each carrying 7.5 marks. The candidates are required to attempt any two (7.5x2=15 marks)

Section B : Consists of one descriptive question of 15 marks with an internal choice.

Section A

(1) Explain Guided Transmission Media with its advantages and disadvantages.

(2) What do you mean by Multiplexing? Explain FDM, TDM and WDM.

(3) Explain the following terminology with suitable examples-

(a) Bandwidth

(b) Distortion

(d) Attenuation

Section B

(4) What do you mean by Error? Explain all types of error detection techniques.

OR

Explain OSI Model with suitable diagram.