BCA Fourth Semester Examination, May - 2018

(Faculty of Science)

FIRST PAPER

Data Structure and Algorithms

Paper Code :4611

Time Allowed: Three Hours **Maximum Marks : 70**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(Attempt all six questions)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

PART-I

1. Answer any 10 questions. Each question carries 1 mark. **10x1= 10**
(Words limit 20-25 words)
   a) What is running time of a program?
   b) What is Garbage Collection?
   c) What is Time –Complexity?
   d) What are the characteristics of Algorithm?
   e) What do you mean by Abstraction?
   f) Differentiate between linear search and binary search.
   g) What is String?
   h) What are two dimensional Arrays?
   i) What is Adjacency Matrix?
   j) What do you mean by Skip List?
   k) What is Polish Notation?
   l) What is a Thread?

2. Attempt all questions. Each question carries 5 marks. **4x5=20**
(Word limit 50 words each)
   a) Define perfectly balanced tree.
   b) What are the drawbacks of binary search trees?
   c) Explain the doubly circular linked list.
   d) What are the advantages of an array?

P.T.O

• 'weep' EXPEL tears
• EXPEL tears and produce sound from mouth
of the skin.

BCA

PART-II

UNIT I

3. What is the difference between Dynamic and Static Data Structures? Explain their merits and demerits. 10

OR

Explain Record Structure with example. What is array of structure? 5+5

UNIT II

4. What is a Tree? Explain the various types of trees. 5+5

OR

Explain the process of deleting a. nodes from a binary tree using example. 10

UNIT III

5. What is a Graph? Differentiate between Graph and Tree and also explain when a graph becomes a tree. 10

OR

Write short notes on any two of the following. 5+5

(a) Merge Sort
(b) Insertion Sort
(c) Binary Search

UNIT IV

6. Explain Quick Sort and Heap Sort techniques with example. 10

OR

Explain Encapsulation? How this is different from Abstraction? 3+7

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BCA Fourth Semester Examination, May – 2018
(Faculty of Science)
SECOND PAPER
PHP Programming
Paper Code :4621

Time Allowed: Three Hours **Maximum Marks : 70**

(1) No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(2) All the parts of one question should be answered at one place in the answer book.

(Attempt all six questions)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

PART-I

1. Answer any 10 questions. Each question carries 1 mark. **10x1= 10**
(Words limit up to 20 words each)
   a) Write the full form of PHP.
   b) Write about Server.
   c) Write about Scripting Language.
   d) Write about GET method in PHP.
   e) What do you mean by Cookies?
   f) Write about mySQL.
   g) Write about include ( ) in PHP.
   h) What is Print ( ) and echo ( ) in PHP ?
   i) Write about alter table in mySQL.
   j) Write the names of operations which you can perform on database.
   k) What is $_GET variable?
   l) What is X+ mode in Fopen ( ) used for ?

2. Attempt all questions. Each question carries 5 marks. **4x5=20**
(Word limit up to 50 words each)
   a) Explain array with example in PHP.
   b) Write about Loop in PHP.
   c) Write the query to insert a data in table.
   d) In how many ways can you pass parameters to a function? Explain with example.

P.T.O

- 'cry' EXPEL
- 'sweat' EXPEL moisture out of the pores of the skin

SPEAK Producing sounds (e g. say, tell, and sing) For example.

PART-II

UNIT I

3. Write a Login Form Code with PHP and my SQL. 10

OR

Explain Open Source Technology. 1

UNIT II

4. Define Functions. Explain Calling a Function and Returning Value from Function.

OR

Write a program to print a table of no. 5 in PHP. 5

UNIT III

5. What is PHP Error Handling? Explain the Exception Handling in brief.

OR

Explain Cookies Handling and session management.

UNIT IV

6. Write the PHP Program to find the Sum of first n numbers.

OR

What do you mean by Client Side and Server Side Scripting.

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BCA Fourth Semester Examination, May - 2018

(Faculty of Science)

THIRD PAPER

Advanced Database Concepts

Paper Code : 4631

Time Allowed: Three Hours **Maximum Marks : 70**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(Attempt all six questions)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

PART-I

1. Answer any 10 questions. Each question carries 1 mark. **10x1= 10**
(Words limit up to 20 words each)
   a) What is Serializability ?
   b) Define Concurrent Executions.
   c) What is Deadlock?
   d) What is Locked Based Protocols?
   e) What is Package in PL \ SQL?
   f) Write Basic Loop statement structure in PL\SQL.
   g) What is Intra Operation Parallelism ?
   h) What is Single Table Inheritance ?
   i) Name two Database System Architecture.
   j) What are Triggers ?
   k) What is I\O Parallelism ?
   l) What is Transaction ?

2. Attempt all questions. Each question carries 5 marks. **4x5=20**
(Word limit upto 50 words each)
   a) Draw a State diagram and explain Transaction States .
   b) Describe Commit Protocol for Distributed Database.
   c) What is Exception Handling in PL\SQL?
   d) Define Complex Data types in object based database.

P.T.O

SPEAK Producing sounds (e.g. say, tell, and sing)

PART-II

UNIT I

3. Explain the Implementation of Atomicity, Durability and Isolation of a Database Transaction. 10

OR

What is Concurrency Control ? Explain Time Stamp based protocols. 10

UNIT II

4. What is Database System Architecture ? Difference between Client – Server and Centralized Architecture. 10

OR

What do you mean by Object – Based Database ? Define Complex Data types in Object – based Database. 10

UNIT III

5. What is Distributed Database System? Explain Distributed Data Storage. 10

OR

What is Architecture of Parallel Database ? Difference between inter query and intral query parallelism. 10

UNIT IV

6. What is PL\SQL ? Describe data types in PL / SQL. 1

OR

Define following for PL / SQL :-

1) Control Statements
2) Static SQL
3) Dynamic SQL

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BCA Fourth Semester Examination, May - 2018

(Faculty of Science)

FOURTH PAPER

Data Communication and Net Working

Paper Code:4641

Time Allowed: Three Hours **Maximum Marks : 70**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(Attempt all six questions)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

PART-I

1. Answer any 10 questions. Each question carries 1 mark. **10x1= 10**
   a) Define Internet. What is its need?
   b) What are the basic components of a Network?
   c) What is a Protocol?
   d) What is Multiplexing?
   e) What is Communication Channel? Name some basic types of communication channel.
   f) Distinguish between Serial and Parallel Transmission.
   g) What is the purpose of bridge?
   h) What is a Gateway?
   i) What are the algorithms used for congestion control in TCP?
   j) What is Bluetooth?
   k) Write the full form of DHCP.
   l) Write about the uses of Wi-Fi.

2. Attempt all questions. Each question carries 5 marks. **4x5=20**
   a) Difference between LAN, MAN and WAN.
   b) Explain the error correcting codes.
   c) Explain about Transport Layer Services.
   d) What is the difference between Baseband and Broadband connection?

P.T.O

SPEAK: Producing sounds (e.g. say, tell, and sing). For example,

PART-II

UNIT I

3. What do you understand by computer network? Explain the different data transmission modes with example. 10

OR

Explain three most popular LAN topologies namely Bus, Ring and Star. Discuss the merits and demerits of each of these topologies. 10

UNIT II

4. (a) What is Modulation? Explain AM, FM and PM with waveforms. 5
(b) Explain in detail channel allocation problem. 5

OR

Explain the Ethernet MAC sub layer with a neat diagram. 10

UNIT III

5. Difference between Distance Vector Routing Protocol and Link State Routing Protocol. 10

OR

Explain Network, presentation and session layer in detail. 10

UNIT IV

6. What is TCP/IP Model? Compare it with OSI model? 10

OR

Explain the following: 4+3+3
(i) DNS
(ii) FTP
(iii) Telnet

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