

BCA Fourth Semester Examination, May - 2017
(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 upto 20 words each)

- a) Write the importance of Pseudo Codes.
- b) What is an abstract data type?
- c) What are the characteristics of an algorithm ?
- d) What do you mean by primitive data types ?
- e) What do you mean by garbage collection ?
- f) Write the structure of the tree node.
- g) What is a Linear Array ?
- h) Define Pointer Array.
- i) Differentiate between linear search and binary search.
- j) Differentiate between Recursion and Iteration process.
- k) What is the Priority Queue ?
- l) What is Adjacency Matrix ?

2. Attempt all questions. Each question carries 5 marks.

4x5=20

(Word limit upto 50 words each)

- a) What do you understand by analysis of an algorithm ?
- b) How linked list is different from an array as data structure ?
- c) Write short notes on Polish Notation.
- d) Differentiate between queues and dequeues.

P.T.O

PART-II

UNIT I

3. Explain the concept of time and space complexity of an algorithm. What notations are used to represent different complexities of an algorithm ? 10

OR

Differentiate between : 5+5

- (a) Linear data structure and Non-linear data structure
(b) Static Array and Dynamic Array

UNIT II

4. Discuss the features of a linked list. Write an algorithm to insert a new element in the doubly linked list. 10

OR

Explain how a postfix expression is evaluated using stack with a suitable example. 10

UNIT III

5. Discuss the representation of various types of queues. Write an algorithm to add element at the end of queue. 10

OR

- (a) Define perfectly balanced binary tree. 5
(b) Define threaded binary tree 5

UNIT IV

6. What is Traversing ? Explain the two methods of graph traversing. 10

OR

Differentiate between :

- (a) Directed and Undirected graph 5
(b) BFS and DFS 5

BCA Fourth Semester Examination, May - 2017**(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 upto 20 words each)

- a) What is PHP ?
- b) What does PEAR stands for ?
- c) Give the name of different datatypes available in PHP.
- d) How to declare an array in PHP ?
- e) What is Function ? In how many ways can you call a function ? (Give names only).
- f) How can we create a String in PHP ? Give an example.
- g) How to create a session ? How to set a value in session ? How to remove data from a session ?
- h) What is \$_GET variable ?
- i) What do you mean by Cookies ?
- j) What is X+ mode in fopen() used for ?
- k) What is File ?
- l) Give the names of operations which you can perform on database.

2. Attempt all questions. Each question carries 5 marks.

4x5=20

(Word limit upto 50 words each)

- a) What is the use of loop in PHP ? explain with example.
- b) In how many ways can you pass parameters to a Function ? Explain with an example.
- c) Explain difference between \$_GET and \$_POST.
- d) Explain the function fopen() and fwrite() to handle a file.

P.T.O

PART-II

UNIT I

3. Explain Control Statements and Server Variables used in PHP in detail . 10

OR

How arrays are created in PHP ? Discuss any three Sorting Functions of an array. 10

UNIT II

4. Define Function. How to define user defined function ? Explain with example. Explain Pass by Value and Pass by Reference with example. 10

OR

Explain the following string function : 5x2

- (i) Str_replace()
- (ii) Strr Pos ()
- (iii) Substr_Count()
- (iv) Strstr()
- (v) StrPbrk()

UNIT III

5. What is PHP Error Handling ? Explain the die() function and trigger_error() function to handle an error. 10

OR

- (a) What is a Session ? Explain the process of Session. 5
- (b) What is a Cookie ? How many types of cookies are there in PHP ? 5

UNIT IV

6. Explain the steps to connect to database in PHP. 10

OR

Explain the following function. 5x2

- (i) Unlink()
- (ii) Fgetc()
- (iii) Fgets()
- (iv) Rename()
- (v) Touch()

BCA Fourth Semester Examination, May - 2017**(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 Recoverability ?
- b) What do you mean by Atomicity ?
- c) What is Isolation ?
- d) What is Deadlock ?
- e) What is Locked Based Protocols ?
- f) What is Validation ?
- g) What is PL/SQL ?
- h) What do you mean by Database System Architecture ?
- i) What are Triggers ?
- j) What are Parallel Database ?
- k) What do you mean by a Transaction ?
- l) What is Cursor ?

2. Attempt all questions. Each question carries 5 marks.

4x5=20

(Word limit upto 50 words each)

- a) Explain the Deadlock handling .
- b) What is Persistent Programming Languages and what is the utility of these languages in SQL Database ?
- c) What is Concurrency Control in Distributed Databases ?
- d) What is procedure and package in PL-SQL ? Explain with example.

P.T.O

PART-II

UNIT I

3. What is Locked Based Protocol ? How to resolve lock problem using Dead Lock ? 10

OR

What is the concept of Transaction Management ? Explain the various states of Transaction. 10

UNIT II

4. What is Database System Architecture ? Explain the Client – Server architecture in Database System. 10

OR

What is Parallel & Distributed System ? Explain advantages of both the systems. Explain the Parallel & Distributed System in detail. 10

UNIT III

5. What is Distributed Database ? Explain the utility of Concurrency Control in Distributed Databases. 10

OR

What are the advantages of Parallel Databases ? Explain the design of Parallel System in detail. 10

UNIT IV

6. What is PL-SQL Block ? Explain the Conditional and Sequential Control Statements with Control Structure in PL-SQL ? 10

OR

What is Exception Handling in PL-SQL ? Explain the use of exception handling in PL-SQL with example. 10

BCA Fourth Semester Examination, May - 2017

(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

(Words limit upto 20 words each)

- a) Define Data Communication.
- b) Define Network.
- c) Define Transmission Mode & its types.
- d) What is the function of a Bridge ?
- e) Explain Bit Rate.
- f) Write design issue of Data Link Layer.
- g) What is Router ?
- h) Explain the use of switches.
- i) What is UDP ?
- j) What is the main use of DNS ?
- k) Write the difference between wired and wireless transmission.
- l) Write the full form of SMTP.

2. Attempt all questions. Each question carries 5 marks.

4x5=20

(Word limit upto 50 words each)

- a) Explain connection-oriented & connectionless services.
- b) Explain the services provided by data link layer to network layer.
- c) Write a note on IEEE standard 802.
- d) Explain the concept components of SNMP.

P.T.O

PART-II

UNIT I

3. What are the goals & objectives of computer networking ? Also describe the advantages & disadvantages of various network topologies. 10

OR

State the difference between LAN, WAN & MAN. What are the factors that determine whether a communication system is a LAN, WAN or MAN ? 10

UNIT II

4. Discuss error detection & correction codes in detail. 10

OR

Discuss any three transmission media in detail. 10

UNIT III

5. Compare OSI & TCP/IP reference models. Explain shortest path routing algorithm. 10

OR

Write down the working of network layer. Explain congestion control with example. 10

UNIT IV

6. What do you understand by protocols ? Explain the purpose of following protocols: SMTP, DNS, POP3. 10

OR

Write short notes on : 4+3+3

- (i) Broadband & Based Line Connection
- (ii) Bluetooth
- (iii) Wi-Fi Network
