

BACHELOR OF COMPUTER APPLICATION

II YEAR EXAMINATION, 2017

BCAD - 301

Computer System Architecture

Time: Three Hours

Maximum Marks: 100

(Write your Roll No. at the top immediately on receipt of this question paper.)
Answer ALL questions of section A, any five questions of B and any five questions of section C.

Section A (2x10=20)

- Q1. Explain Universal gates.
- Q2. What is the difference between combinational and sequential circuit.
- Q3. What is T-flip-flop?
- Q4. What is cache memory?
- Q5. What is the use of DMA?
- Q6. Write name of some of the Input- Output peripheral devices.
- Q7. What is RISC?
- Q8. What is addressing modes?
- Q9. What is Bus?
- Q10. What are SOP and POS?

Section-B (5x6=30)

Attempt any five

Q1. Explain one of the applications of XOR gate.

Q2. Simplify the following functions.

(a) $F(A,B,C,D) = \sum m(0,7,8,10,12)$

$d = \sum m(2,6,11)$

(b) $F(A,B,C,D) = \sum m(1,3,5,7,11,15)$

Where 'd' is a function of don't care conditions.

Q3. Design a full adder circuit with the help of XOR gate.

Q4. Explain JK Flip-flop.

Q5. What do you mean by control word? Describe the meaning of each field in a control word.

Q6. What are modulation techniques? Explain in brief.

Section-C (5x10=50)

Attempt any five

Q1. Design Universal shift register.

Q2. Design a 4-bit synchronous up counter with the help of T flip-flop.

Q3. Define memory. What are the types of memory used in computer? Explain each in brief.

Q4. Explain CPU in brief.

Q5. Design a BCD to Gray code converter circuit.

Q6. What are Multiplexer and Demultiplexer. Design 8:1 and 1:8 Multiplexer and Demultiplexer.

Q7. Write short notes on the following:-

- (a) DMA
- (b) Peripheral interface

Jamia Hamdard
Directorate of Open and Distance Learning (DODL)

Roll No: _____

Bachelor of Computer Application (BCA)
2nd Year Examination - 2017

Subject : Object Oriented Programming in C++
Paper : BCAD - 302

Time : 03 Hours

Max Marks : 100

(Write your Roll No. at the top immediately on receipt of this question paper)

Section - A

(20 x 1 = 20 Marks)

Answer All Question. Each Question carries 1 Marks.

- Q1 : OOP stand for _____.
- Q2 : 1 Byte = _____ Bits.
- Q3 : Size of **int** = _____ Bytes and size of **float** = _____ Bytes.
- Q4 : What is the meaning of **++** in OOP ?
- Q5 : What is the use of **&&** operator ?
- Q6 : **cin** and **cout** is used for what purpose in C++ ?
- Q7 : What is assignment operator? Explain with one example.
- Q8 : What is the use of scope resolution operator? Explain with one example.
- Q9 : Write down the syntax of **if-else construct** .
- Q10 : Break statement is used for _____.
- Q11 : Constructor is used to _____ class data members.
- Q12 : Which header file must be included for **cin** and **cout** ?
- Q13 : What is the use of **~** operator in C++ ?
- Q14 : Explain shift operators. Give two examples.
- Q15 : Which Tag (Symbol) is used in C++ to input any comment?
- Q16 : What is the difference between the term **a++** and **++a** , where **a** is any variable.
- Q17 : What do you mean by objects?
- Q18 : What is **super class** and **sub class** with respect to inheritance in C++ ?
- Q19 : Default type of data members in C++ class is : public / private / protected (Choose any one)
- Q20 : SDLC stand for _____.

Section - B

(6 x 5 = 30 Marks)

Answer **ANY SIX** Question. Each Question carries 5 Marks.

- Q1 : What is procedure oriented programming?
- Q2 : What are the benefits of OOP ?
- Q3 : What is the difference between structure and class ?
- Q4 : Differentiate between public and private inheritances with suitable example.
- Q5 : What do you understand by copy constructor? Illustrate with suitable example.
- Q6 : Explain inline functions in C++ with proper example. Explain its various advantages.
- Q7 : What do understand by static binding and dynamic binding ? Give proper example.
- Q8 : Differentiate between **while** and **do-while** statements with proper example.
- Q9 : Illustrate the utilities of '**this**' pointer with proper example.

Section - C

(5 x 10 = 50 Marks)

Answer **ANY FIVE** Question. Each Question carries 10 Marks.

- Q1 : Explain inheritance and its different types in C++.
- Q2 : What supports are necessary for a programming language to classify it as an OOP language? Explain with one example.
- Q3 : Explain friend function with proper example. What are its various merits and demerits.
- Q4 : Write a program in C++ to overload any binary operator.
- Q5 : What are the differences between function overriding and function overloading? Explain with suitable examples.
- Q6 : What is the purpose of virtual base classes? Write a program to explain it.
- Q7 : Explain where will you use **virtual functions**. What is the purpose of **pure virtual function** ? Illustrate with a suitable example.
- Q8 : What is the meaning of primitive data type in C++ ? Give size and range of all the primitive data types.
- Q9 : Design a calculator in C++.

----- The End -----

- A) Tangible, Intangible
 C) Intangible, Tangible
- B) Tangible, Tangible
 D) Intangible, Intangible
16. Which of the following is not considered as a tool at the system design phase?
 A) pie chart B) data-flow diagram C) decision table D) systems flowchart
17. Technical writers generally provide the _____ for the new system.
 A) programs B) network C) analysis D) documentation
18. _____ manage the system development, assign staff, manage the budget and reporting, and ensure that deadlines are met.
 A) Project managers B) Network engineers C) Graphic designers D) Systems analysts
19. _____ is the process of translating a task into a series of commands that a computer will use to perform that task.
 A) Project design B) Installation C) Systems analysis D) Programming
20. Debugging is:
 A) creating program code. B) finding and correcting errors in the program code.
 C) identifying the task to be computerized. D) creating the algorithm.

Section B

Answer any six questions (6x5=30)

1. Discuss the important characteristic of a system with suitable example.
2. What is feasibility study? What are the different types of feasibility? Explain.
3. What is decision tree? How does it differ from a decision table? Explain with an example.
4. Discuss Coupling and Cohesion with suitable example.
5. What software criteria are considered for selection? Summarize.
6. Explain the different software metrics with examples.
7. Define Capacity Maturity Model.
8. Mention the Risks associated with Software Estimation.

Section C

Answer any five questions (10x5=50)

1. Define the role of system analyst. What are the necessary qualification of a system analyst and why?
2. Explain the phases of SDLC. What is the purpose of preliminary investigation?
3. What is DFD? Differentiate between physical and logical DFD. Draw the DFD for ATM.
4. Write the Case study for Analysis and Design of an Inventory Control System.
5. Explain Entity Relationship (ER) Diagram. Draw the ER diagram for Library Management System.
6. Discuss the steps involved in Software project planning in detail.
7. Write Short notes on the following:
 - i) PERT Chart
 - ii) Software Cost Estimation

Roll No.

Bachelor of Computer Application (BCA)

DIRECTORATE OF DISTANCE LEARNING, JAMIA HAMDARD

BCA 2nd YEAR, ANNUAL EXAMINATION, 2017

DATABASE APPLICATION IN MS ACCESS (BCAD – 304)

Time : 3 Hours.

Max Marks : 100

(Write your Roll No. at the top immediately on receipt of this question paper.)

Note: Attempt all questions of Section A, any Six questions of section B and any Five from Section C.

Section - A

1) Choose the correct answer.

[10 x 1 = 10]

- i) A relational database consists of a collection of –
a) Tables
b) Fields
c) Records
d) Keys
- ii) DBMS is a collection of that enables user to create and maintain a database.
a) Keys
b) Translators
c) Program
d) Language Activity
- iii) In an ER model, is described in the database by storing its data.
a) Entity
b) Attribute
c) Relationship
d) Notation
- iv) DFD stands for –
a) Data Flow Document
b) Data File Diagram
c) Data Flow Diagram
d) Non of the above
- v) A is an association among at least two entities belonging to one or more entity types.
a) Relationship
b) Attribute
c) Entity
d) None of the these
- vi) is a full form of SQL.
a) Standard query language
b) Sequential query language
c) Structured query language
d) Server side query language
- vii) Key to represent relationship between tables is called
a) primary key
b) secondary key
c) foreign key
d) none of the above
- viii) Course(course_id,sec_id,semester)
Here the course_id,sec_id and semester are and course is a
a) Relations, Attribute
b) Attributes, Relation
c) Tuple, Relation
d) Tuple, Attributes
- ix) Which one of the following attribute can be taken as a primary key?
a) Name
b) Street
c) Id
d) Department
- x) Grant and revoke are statements.
a) DDL
b) TCL
c) DML
d) None of these

2) Fill in the blanks with correct answer.

[10 x 1 = 10]

- a) DML stands for
- b) All data in a relational database is stored in
- c) is collection of meaningful facts or figures expressed in a form that its users could understand.
- d) DBA is also called the
- e) A is a collection of concepts that can be used to describe the structure of a database.
- f) The description of a database is called

- g) Model describes data as entities, relationship and attributes.
- h) Rectangles in ER Diagram, which represent
- i)is the process of compiling information on an object.
- j) Hierarchical database was developed during

SECTION - B

Answer any six of the following questions.

[6 x 5 = 30]

- 3) Write briefly the role of the following database users –

| | |
|----------------------------------|-----------------------|
| a) Database Administrators (DBA) | b) Database Designers |
| c) End Users | d) System Analysts |
| e) Application Programmers | |
- 4) What is Data independence? Explain briefly Logical and Physical data independence.
- 5) What are the advantages of Relational Database?
- 6) What are the various types of the update operations on relations?
- 7) What is the function of CREATE, ALTER commands?
- 8) What do you understand by Functional Dependency? Explain briefly.
- 9) Consider the following relations -
 RENTER(rno, fname, lname, address, tel_no, pref_type, max_rent)
 VIEWING(rno, pno, date, comment)
 PROPERTY_FOR_RENT(pno, street, area ,city, pcode, type, rooms, rent)

Express the following queries in relational algebra.

 - (i) List the name and comments of all renters who have viewed a property.
 - (ii) Identify all renters who have viewed all properties with three rooms.
- 10) What do you understand by TCL commands? Write all TCL commands.

SECTION - C

Answer any five of the following questions.

[5 x 10 = 50]

- 11) Explain Data abstraction and Data integration.
- 12) Define the following -

| | |
|--------------------------------------|--------------------|
| (i) Specialisation / generalization. | (iii) Aggregation. |
|--------------------------------------|--------------------|
- 13) A database is to be constructed to keep track of the teams and games of a sport league. A team has a number of players, not all of whom participate in each game. It is desired to keep track of the players participating in each game of each team and the result of the game.

Create an ER diagram, completely with attributes, keys and constraints, for the above description. State any assumptions that you make.
- 14) Compare and contrast between different data models.
- 15) What is Normalization of database? Explain 1NF and 2NF with example.
- 16) Create a database in MS-Access for storing and managing information of hospital.
- 17) Define the following with respect to SQL with example-
 - (i) WHERE clause
 - (ii) IS NULL operator
 - (iii) ORDER BY clause
 - (iv) LIKE operator
 - (v) Asterisk (*)

Roll no.:

Bachelor of Computer Application (BCA)
Directorate of Distance Learning, Jamia Hamdard

Annual Examination - 2017
BCA-II year

Numerical and statistical Analysis (BCAD – 401)

Time: 3 Hours.

Maximum Marks: 100

(Write your roll no. at the top immediately on receipt of this question paper.)

SECTION - A

Note: Attempt all questions of section-A (All parts of Q. 1).

[10 x 2 = 20]

1)

- i) Which error exist when a finite representation of an inherently infinite number expression is used.
- ii) Define the dispersion.
- iii) Let A is a square matrix then, value of $[A^{-1}]^2$.
- iv) Write the empirical relation between mean, median and mode.
- v) Write the formula for Lagrange-interpolation.
- vi) Standard deviation is independent of.....but not change of.....
- vii) For a symmetrical distribution all the three measure of central tendency are..... (equal/not equal).
- viii) What is the formula used for find the real root by Regula-Falsi method.
- ix) Pictogram is used to represent data.....
- x) In graphical representation of business problems, which chart is very popular. **X**

SECTION - B

Note: Answer any six of the following questions.

[6 x 5 = 30]

2) Solve the following system of linear equations using Gauss-Jordan method:

$$2x+y-z= 8; -3x-y+2z= -11; -2x+y+2z= -3.$$

3) What are the various methods of collecting statistical data?

4) Calculate the value of $\int_0^{\pi/2} \sin x \, dx$ by Simpson's 1/3 rule, using $h = \pi/3$.

5) Find the median of data: 245,230,265,236,220 and 250.

6) A sample of 90 values has mean 55 and standard deviation 3. A second sample of 110 value has mean 60 and standard deviation 2. Find the mean and standard deviation of the combined sample of 220 value.

7) Using Lagrange's interpolation method find, $y(10)$ from the following table:

| | | | | |
|---|----|----|----|----|
| X | 5 | 6 | 9 | 11 |
| Y | 12 | 13 | 14 | 16 |

8) Integrate $\int_0^1 \frac{1}{(1+x)} dx$ using Trapezoidal rule with $h=0.125$.

9) Find the coefficient of correlation between X and Y from the following data:

| | | | | | |
|----|----|---|---|---|----|
| X: | 10 | 9 | 7 | 8 | 11 |
| Y: | 6 | 3 | 2 | 4 | 5 |

10) The production figure (in 10^3 tons) of three companies A, B and C in a particular year are 100, 630 and 1750 respectively. Represent the data by a three dimensional diagram.

SECTION - C

Note: Answer any five of the following questions.

[5 x 10 = 50]

11) Determine the positive root of the equation $x^2-5x+2=0$ between 4 and 5 using Newton-Raphson method.

12) Solve the following equations with the help of matrix inversion method:

$$x+2y+3z=14; \quad 3x+y+2z=11; \quad 2x+3y+z=11.$$

13) Find the mode of following distribution:

| | | | | | |
|------------------------------|---------|---------|---------|---------|---------|
| Weekly wages of Workers (Rs) | 105-115 | 115-125 | 125-135 | 135-145 | 145-155 |
| No. of Worker | 8 | 15 | 25 | 40 | 62 |

14) Find a positive root of equation $f(x) = x^3-9x^2+1=0$ by Regula-Falsi method taking initial value as 2.

15) The population of a city in a census taken once in ten year is given below. Estimate the population in year 1925 and 1975.

| | | | | | | | |
|--------------------|------|------|------|------|------|------|------|
| Year | 1921 | 1931 | 1941 | 1951 | 1961 | 1971 | 1981 |
| Population in 1000 | 35 | 42 | 58 | 84 | 120 | 165 | 220 |

16) Evaluate $\int_0^6 \frac{1}{1+x^2} dx$ using:

a) Trapezoidal rule,

b) Simpson's 1/3 rule

17) Calculate the Karl-Pearson's coefficient of skewness from the following data:

| | | | | | | | |
|------------|-----|----|----|----|----|---|----|
| Size | : 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Frequency: | 10 | 18 | 30 | 25 | 12 | 3 | 2. |

18) Calculate the standard deviation of the following data:

| | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|
| X | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Y | 2 | 7 | 10 | 12 | 15 | 11 | 10 | 6 | 3 |

19) Fit a least square line into the given set of data:

| | | | | | | | |
|---|---|---|---|----|----|----|----|
| X | 1 | 2 | 4 | 5 | 6 | 8 | 9 |
| Y | 2 | 5 | 7 | 10 | 12 | 15 | 19 |

-----End-----

Roll no.....

Bachelor of Computer Application
II YEAR EXAMINATION, 2017

Paper-BCAD-402

Data Structures in C

Time: 3 hrs.

Max. Marks: 100

(Write your Roll No. at the top immediately on receipt of this question paper)

Answer all questions of Section-A, any SIX of Section-B and any FIVE of Section-C

Section A

Attempt all questions

20×1=20

- Q.1. Performance of an algorithm is often measured in terms of the _____ and _____ required to execute it.
- Q.2. A data structure which displays the relationship of adjacency between elements is said to be linear. **(True/False)**
- Q.3. Array is a collection of _____ type of elements.
- Q.4. Push() and Pop() functions are found in
a. Queues b. Lists c. Stacks d. Trees
- Q.5. An array elements are always stored in _____ memory locations.
- Q.6. Array size is always fixed and requires a fix number of memory locations **(True/False)**
- Q.7. _____ variable are created during program execution.
- Q.8. A stack is a list of elements in which insertion is performed at one end and deletion is performed at another end **(True/False)**.
- Q.9. Polish notation is also known as _____ form.
- Q.10. Queue is a list of elements in which insertion is performed at one end and deletion is performed at another end **(True/False)**.
- Q.11. In a binary tree a parent can have maximum of _____ children.
- Q.12. Height balanced tree is also known as _____ tree.
- Q.13. A _____ is a structure made of vertices and edges.
- Q.14. Ordered list of given numbers is known as _____.
- Q.15. What will be printed after execution of the following code?
void main()
{ int arr[10] = {1,2,3,4,5};
 printf("%d", arr[5]); }
- a. Garbage value b. 5 c. 6 d. 0
- Q.16. What will be the output of the following program?
void main()
{ char str1[] = "abcd"; char str2 = "abcd";

```

if(str1 == str2)
printf("Equal");
else
printf("Unequal"); }

```

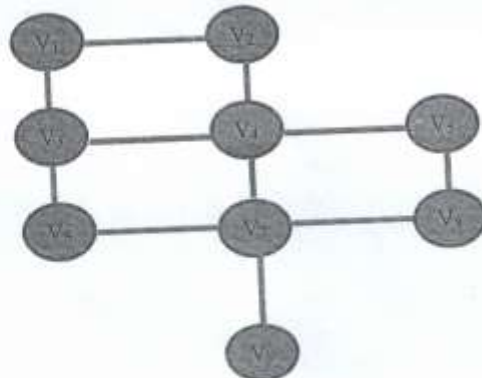
- a. Equal b. Unequal c. Error d. None of these
- Q.17. In Binary trees nodes with no successor are called
- a. End nodes b. Terminal nodes c. Final nodes d. Last nodes
- Q.18. TREE[1]=NULL indicates tree is
- a. Overflow b. Underflow c. Empty d. Full
- Q.19. The in-order traversal of tree will yield a sorted listing of elements of tree in
- a. binary trees b. binary search trees c. heaps d. binary heaps
- Q.20. A binary tree whose every node has either zero or two children is called
- a. Complete binary tree b. Binary Search tree
- c. Extended binary tree d. E2 tree

Section B

6×5=30

Attempt any six questions

- Q.1. Draw a binary tree for the following traversal :-
Inorder : a+b*c+d*e *Postorder* : abc*+de*+
- Q.2. What is the difference Doubly and Circular linked list.
- Q.3. What do you understand by memory representation of array. How many values can be held by an array with dimensions A[0..n], B[-1..n].
- Q.4. Define Stacks with the help of example. Explain the operations on stacks.
- Q.5. Discuss how you would represent the list of name and telephone number pairs using data structure.
- Q.6. Sort the following keys with the help of quick sort algorithm and explain.
 13, 10, 15, 9, 17, 8, 19, 7, 27, 28, 35, 22, 32, 44, 38
- Q.7. What is the difference between BFS and DFS. Write the BFS and DFS for the following graph. Starts from V₁



- Write short notes on :-
- Queue
 - Sorting of elements

Section C

10×5=50

Attempt any five questions

- Q.1. Define array with the help of example. Write a program to insert element into start, end and middle position into array in C.
- Q.2. What is the difference between static and dynamic memory allocation. Write a program or algorithm to insert element into start, end and middle position into a Linked List.
- Q.3. What are prefix, infix and postfix notations. Evaluate the following expression using stack
$$X = -5 + 3^2 * 5 - 4/2$$
- Q.4. What is AVL tree. Create the AVL tree for the following nodes.
March, May, November, August, April, January, December, July, February, June, October and September.
- Q.5. Given two arrays of integers in ascending order. Write a program in C to merge these two arrays to form a third array in ascending order.
- Q.6. Define BST (Binary Search Tree) with example. Create the BST for the following key.
15, 12, 24, 10, 19, 35, 26, 37, 28, 9, 39, 48, 31, 28, 69, 96, 40, 46, 32
- Q.7. What is the difference between linear search and binary search. Write a program for insertion sort in C.

Roll no.....

Bachelor of Computer Application
II YEAR EXAMINATION, 2017
Paper-BCAD-403
Computer Networks

Time: 3 hrs.

Max. Marks: 100

(Write your Roll No. at the top immediately on receipt of this question paper)

Answer all questions of Section-A, any SIX of Section-B and any FIVE of Section-C

Section A

Attempt all questions

20×1=20

- Q.1. _____ this equipment is a data communication system terminal that inputs and outputs data.
- Q.2. The device that accomplishes the analog to digital conversion is known as _____
- Q.3. _____ combine the functions of concentrator and a message switch.
- Q.4. _____ is a device sitting at a network node for interfacing with another network.
- Q.5. _____ is a device to amplify digital signal.
- Q.6. _____ is a computer network service that allows the clients to make indirect network connections to other network services.
- Q.7. _____ it is a piece of hardware or software to prevent network from outside viruses.
- Q.8. _____ are entities that convey some meaning to their users
- Q.9. _____ are the electric or electromagnetic encoding of data
- Q.10. Computer process, store and communicate information in _____ form.
- Q.11. The amplitude of a signal is the number of times a signal makes a complete cycle within a given time frame. (True/False)
- Q.12. The frequency of a signal is the height of the wave above or below a given reference point. (True/False)
- Q.13. The phase of a signal is the position of the waveform relative to a given moment of time. (True/False)
- Q.14. A device that accepts a serial stream of bits and produce a modulated carrier is called switch. (True/False)
- Q.15. Half duplex means that signals can be passed in either direction, but not in both simultaneously. (True/False)
- Q.16. Full duplex means that signals can be passed in one direction only. (True/False)
- Q.17. DNS is used to provide host-to-IP address mapping. (True/False)
- Q.18. SMTP is an electronic mail service provider. (True/False)
- Q.19. Fiber offers lowest bandwidth of any transmission system. (True/False)
- Q.20. Start frame delimiter represents the ending of the valid frame. (True/False)

Section B

Attempt any six questions

6×5=30

- Q.1. What do you understand by Computer Network? Explain its type with the help of example.
- Q.2. Discuss various transmission impairments that affect the quality and transfer rate of information.
- Q.3. What is the difference between network layer delivery and transport layer delivery?
- Q.4. Given a 10-bit sequence 1010011110 and a divisor of 1011, find the CRC, Check your answer.
- Q.5. Explain the communication between two persons using Shannon's model of communication.
- Q.6. Explain Optical Fiber Transmission with the help of diagram.
- Q.7. What is the use of asynchronous and synchronous transmission in computer networks?
- Q.8. Explain different types of network topology with the help of diagram.

Section C

Attempt any five questions

10×5=50

- Q.1. Explain the components of Data Communication System in detail.
- Q.2. Define guided and unguided transmission media with their applications and limitations.
- Q.3. What is Open Systems Interconnection model? Explain its layers and their functionality with the help of suitable diagram.
- Q.4. What does broadband and baseband mean? Explain LAN, MAN, WAN with the help of diagram.
- Q.5. A transmitter wants to send code 11110101101 to the receiver, Using the Hamming Encoding Algorithm protect the code so that it can be received without error. Suppose at the receiving end fifth bit got changed, then how you detect the error.
- Q.6. What do you understand by PAM and quantization in the context of digitization of analog voice signal.
- Q.7. Write the difference between:-
- Analog and Digital transmission
 - FDM and TDM

Jamia Hamdard
Directorate of Open and Distance Learning (DODL)

Roll No: _____

Bachelor of Computer Application (BCA)
2nd Year Examination - 2017

Subject : Web Technology
Paper : BCAD - 404

Time : 03 Hours

Max Marks : 100

(Write your Roll No. at the top immediately on receipt of this question paper)

Section - A

(20 x 1 = 20 Marks)

Answer All Question. Each Question carries 1 Marks.

- Q1 : WWW stand for _____.
- Q2 : Define HTTP.
- Q3 : URL stand for _____.
- Q4 : Who invented internet?
- Q5 : What is ARPANET ?
- Q6 : ISDN stand for _____.
- Q7 : What is SMTP ?
- Q8 : What is Telnet ?
- Q9 : What is HTML ?
- Q10 : ASP stand for _____.
- Q11 : Explain JVM ?
- Q12 : What is the meaning of primitive data type in Java?
- Q13 : Explain Perl.
- Q14 : Explain the meaning of "Perl is free form"
- Q15 : Which Tag (Symbol) is used in Perl to input any comment.
- Q16 : In Perl programming what is `scalar(@ARRAY)` and `pop(@ARRAY)` .
- Q17 : OBI stands for _____.
- Q18 : What is Encryption and Decryption ?
- Q19 : Explain OFB.
- Q20 : Explain SSL.

Section - B

(6 x 5 = 30 Marks)

Answer **ANY SIX** Question. Each Question carries 5 Marks.

- Q1 : Define Web Technology.
- Q2 : Explain briefly the following network hardwares - Routers, Hub, Switch, Bridge and Repeaters.
- Q3 : What is Remote Login ? Also explain why it is important.
- Q4 : Write a short note on : IMAP, MIME and UUCP.
- Q5 : How does e-mail works? Explain with proper example.
- Q6 : What is Servlets? How are they different from Applets?
- Q7 : What is IRC? What are its importance?
- Q8 : What is BBS? Where it is used for ?
- Q9 : Explain briefly NNTP.

Section - C

(5 x 10 = 50 Marks)

Answer **ANY FIVE** Question. Each Question carries 10 Marks.

- Q1 : Explain OSI Reference model in detail.
- Q2 : Explain FCS with proper diagram.
- Q3 : What do you understand by Digital Signature ?
- Q4 : Explain in detail - Electronic Cash System. Explain all the phases with proper diagram.
- Q5 : Explain the following in Java with proper example - Class, Instance Variable and Instance Method.
- Q6 : What is Internet ? Explain various services of Internet.
- Q7 : Explain Banking system in online commerce.
- Q8 : Explain Symmetric Method and Asymmetric Method in cryptography.
- Q9 : Write an HTML program to display the following table along with its contents.

| State Name | Capital of the State | Size of the State (Sq. km.) |
|-------------|----------------------|-----------------------------|
| Tripura | Agartala | 10486 |
| Maharashtra | Mumbai | 307713 |
| West Bengal | Kolkata | 88752 |

----- The End -----