

## **B.C.A. Sem.-I (BCA0C-101)**

Dec. 2016

### **Introduction to Internet & ICT Technologies**

Time : 3 Hours

[Max. Marks : 70]

Instruction : Symbols have their usual meanings.

1. Answer the following (any ten) 30
  1. Discuss the concept of Internet and its importance in today's world.
  2. Explain URL with appropriate example.
  3. Write a short note on : Remote login.
  4. Explain Role of Internet service provider (ISP), list various ISP in city.
  5. What do you mean by TCP/IP. Explain its importance in today's computer network.
  6. What is browser ? List various browsers.
  7. List of mail protocol.
  8. What are the services of Internet ? List various services of Internet.
  9. Write a short note on : Virtual private Network.
  10. Differential : Intranet v/s Internet .
  11. Discuss needs of E-mail service.
  12. What is the difference between HTTP and HTTPS.
2. Answer the following (any five) 30
  1. List various applications of Internet, and discuss advantages to Internet users.
  2. Explain E-Banking service along with its advantages.
  3. How are we using Instant messenger ? What are its advantages compared to traditional communication technologies.
  4. Explain FTP and SMTP with its needs in Internet.
  5. List various search engines. Explain its utilities for students.
  6. Write a short note on : Internet protocols.
  7. Write a short note on : Smart Phone.
3. Answer the following (any one) 10
  1. Write a brief note on : E-Commerce in today's world.
  2. Write a brief note on : Needs of security in Internet world.
  3. Discuss social Networking its advantages and disadvantages.

## B.C.A. Sem.-I

Dec. 2016

### CC- 102 Problem Solving Through C Language

Time : 3 Hours

[Max. Marks : 70]

Instruction : Symbol have their usual meanings.

- 1 Answer the following in brief (any 5) 15
- 1) What is variable ? Why is it required ?
  - 2) What is an array ? Give an Example of array declaration.
  - 3) Differentiate between Higher Level language and lower level language.
  - 4) Draw a flow chart to add 10 numbers from 1 to 10.
  - 5) What is bitwise operator ? Give an example of using bitwise operator.
  - 6) Define terms: Constant, C Character set, Keywords.
  - 7) Discuss the terms:- strcmp (), strcmp(), strcmp().
  - 8) What will happen when the following pseudo-code is executed ? Discuss the results.  

```
Int c = 10;  
Float f= 3.14;  
C = f;
```
- 2 Do as directed (Any 5) 30
- 1) What is looping ? Differentiate between for loop and while loop in C programming.
  - 2) Write any program of your choice that demonstrates the use of switch-case structure.
  - 3) Write a C program to find the largest of 3 integer numbers. Your program must accept the numbers from the user.
  - 4) Write a detailed note on string handling functions.
  - 5) What are operators ? List the type of operators used in C language.
  - 6) What is multi-dimensional array ? Give at least two examples where multi dimensional array is used.
  - 7) Write a c program that accepts name of any city, your output must display the cith name in capitals (upper case) and also count the number of characters of city name.

3 Do as directed (Any 5)

- 1) Explain the use of break, continue and go to statements.
- 2) Discuss the history of C programming language.
- 3) Differentiate between Global variable and Local Variable, Give an Example of each type of variable.
- 4) Write a calculator program where you enter two numbers, further your program calculates addition, subtraction, multiplication and division of the two numbers entered by you.
- 5) What will be the output for the following code :

```
Int j, i;  
For (i=1, j=5; i++, j-)  
{
```

- 6) Print f("\n %d %d", I, j);  
}

Explain each line of the following program:

```
# include<Stdio.h>  
#include<conio.h>  
Main ()  
{  
Int p, r,t,I ;  
Scanf ("%d%d%d", &p, &r, &t);  
I=p*r*t/100;  
Printf ("%d", i);  
Getch();  
}
```

- 7) What will be the output for the following code:

```
Main ()  
{  
int I;  
i=1;  
do  
{  
Printf ("%d", i*i);  
i++;  
} while (i<=5);  
}
```

Seat No:- \_\_\_\_\_

**B.C.A, Sem :- I**  
**December-2016**  
**CC-103: Mathematical Foundations**

**Time : 3 Hours**

**Marks : 70**

**Instructions.**

- 1) All Questions are compulsory.
- 2) Answer of each question must start on a new page.
- 3) Answer of all sub-questions of a question should be written in continuous order.

**1.(a) Given**

**[08]**

Compute the following:

- (1)  $A + B$
- (2)  $A - B$
- (3)  $A + (B + C)$
- (4)  $(A - B) + C$

**OR**

**Attempt the following:**

- (i) Write the definition of: (a) Square matrix (b) Null matrix
- (ii) If then, find  $AB$ .

**(b) Find the inverse of the matrix**

**[06]**

**OR**

Solve completely the following equations:

Using matrices.

**2.(a) Find the derivatives of the following:**

**[08]**

- (i)
- (ii)
- (iii)
- (iv)

**OR**

**Attempt the following:**

- (i) If , find .

(ii) Find the derivative of with respect to .

**(b) Evaluate the following:**

[06]

- (i)
- (ii)
- (iii)

**OR**

Attempt the following:

- (i) Find .
- (ii) Find

**3.(a) Attempt the following:**

[08]

(i) Calculate the mean profit of a given firm in Rs. from the following data by short cut method.

Year:	1965	1966	1967	1968	1969
Profit (Rs.):	10,612	10,610	10,600	10,625	10,638

(ii) Calculate standard deviation.

Roll no.:	1	2	3	4	5	6	7	8	9	10
Marks:	83	87	93	109	124	126	126	101	102	108

**OR**

**Attempt the following:**

(i) From the following data, find the missing value when mean is 126.3:

Salary(Rs.):	60	80	100	?	160	180	200
No. of persons:	5	8	12	22	10	7	6

(ii) Five coins are tossed 99 times and at each toss the number of heads were observed. The number of tosses during which 0, 1, 2, 3, 4, 5 heads were obtained is shown in the following table. Find the median size of the heads obtained.

No. of heads (X):	0	1	2	3	4	5	Total
No. of tosses (f):	4	15	35	29	6	10	99

**(b) Attempt the following:**

[06]

(i) Calculate the co-efficient of correlation and interpret the result:

X:	28	37	40	38	35	33	40	32	34	33
Y:	23	32	33	34	30	26	29	31	34	38

(ii) Locate the median in the following data of marks obtained by 9 students in statistics:

Marks:	18	14	18	13	14	18	16	15	20
--------	----	----	----	----	----	----	----	----	----

**OR**

**Attempt the following:**

(i) Calculate the mode for following distribution:

Class interval	Frequency
0-5	9
5-10	12
10-15	15
15-20	16
20-25	17
25-30	15
30-35	10
35-40	13

(ii) From the following data, find the regression equations of Y on X.

X:	1	2	3	4	5	6	7
Y:	2	4	7	6	5	6	5

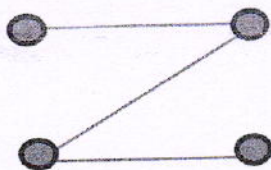
**4. (a) Attempt the following:**

[08]

(i) Draw a picture of following graph.

$G = (V, E)$  where  $V = \{a, b, c, d, e\}$  and  $E = \{ab, bc, ac, ad, de\}$

(ii) Find the incidence matrix (M) and adjacency matrix (A) of the following graph:

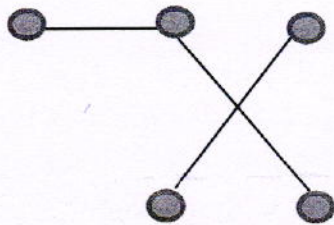


**OR**

**Attempt the following:**

(i) Draw the graph G corresponding to adjacency matrix given below:

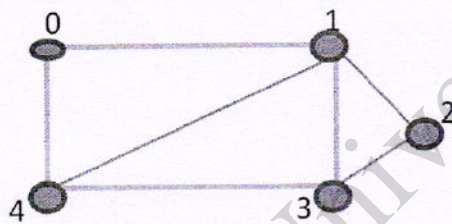
(ii) Find the incidence matrix (M) and adjacency matrix (A) of the following graph:



**(b) Attempt the following:**

[06]

(i) Find the adjacency list of the following graph:



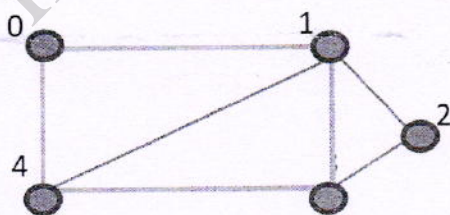
(ii) Write the definition of Graph with an example.

OR

**Attempt the following:**

(i) Find the number of edges in the graphs: (a)

(ii) Find the degree of all the vertices of following graph.



**5. Do as directed:**

[14]

(1) Edges connecting the same end points are called \_\_\_\_\_.

- (a) Trivial graph (b) multi-graph (c) loops (d) multiple edges
- (2) The degree of isolated vertex is \_\_\_\_\_.  
(a) Not possible (b) zero (c) two (d) one
- (3) An edges whose end points are the same vertex is called \_\_\_\_\_.  
(a) Trivial graph (b) multi-graph (c) loops (d) multiple edges
- (4) The number of edges in the complete graph  
(a)
- (5) \_\_\_\_\_ refers to that value of variable which occurs with maximum frequency.  
(a) Mode (b) Mean (c) median (d) standard deviation
- (6)  
(a) (b) (c) (d)
- (7)  
(a) (b) (c) (d) 1
- (8)  
(a) (b) (c) (d) 0
- (9)  
(a) (b) (c) (d)
- (10) is a matrix of order \_\_\_\_\_.  
(a) (b) (c) (d)
- (11) Transpose of matrix will be \_\_\_\_\_.  
(a) (b) (c) (d)
- (12) The rank of the matrix is \_\_\_\_\_.  
(a) 2 (b) 3 (c) 1 (d) 0
- (13) What is the mean of test score: 43, 50, 30, 33, 41, 18 ?  
(a) 35.84 (b) 35 (c) 34 (d) 35.5
- (14) Find the mode of the values 4, 14, 5, 4, 3, 14, 4 and 5.  
(a) 14 (b) 5 (c) 4 (d) 3



Seat No. : \_\_\_\_\_

## **B.C.A. Sem.-I**

Dec. 2016

### **BCA0C-104 Computer Fundamentals**

Time : 3 Hours

[Max. Marks : 70]

Instruction : Symbol have their usual meanings.

- 1 Answer the following (any ten) 30
- 1) Discuss the evolution of computer.
  - 2) Write a short note on : Classification of Computer.
  - 3) Explain the role of Control Unit in Computer.
  - 4) Explain different categories of keys in a key board.
  - 5) What do you mean by Cache Memory ?
  - 6) What is ASCII ?
  - 7) Explain different types of input Devices.
  - 8) Write about binary addition and subtraction with examples.
  - 9) Explain Binary to decimal and decimal to binary conversions with examples.
  - 10) What are the characteristics of an Algorithm ?
  - 11) What are the different symbol used in a Flowchart ?
  - 12) Explain inter connection architectures for a computer with appropriate diagrams.
- 2 Answer the following (any three) 30
- 1) Describe model of a Computer and its parts with a diagram.
  - 2) Write a short note on : Storage devices.
  - 3) Write a short note on : LAN, MAN and WAN.
  - 4) Write a short note on : Microprocessor.
  - 5) Differentiate : Application Software v/s System Software

3 Multiple Choice question.

5

- 1 The favorite folder where \_\_\_\_\_
  - a) The bookmarked are stored
  - b) The best website are listed alphabetically
  - c) Pictures are saved for printing
  - d) Your deleted bookmarks are kept.
- 2 WAN stands for \_\_\_\_\_
  - a) Wap Area Network
  - b) Wide Area Network
  - c) Wide Array Net
  - d) Wireless Area Network.
- 3 CD – ROM stands for \_\_\_\_\_
  - a) Compactable Read only Memory.
  - b) Compact Data Read Only Memory.
  - c) Compactable Disk Read Only Memory.
  - d) Compact Disk Read Only Memory.
- 4 Which of the following is used as a primary storage device ?
  - a) Magnetic drum
  - b) PROM
  - c) Floppy disk
  - d) All of these
- 5 How many bytes do 4 kilobytes represent.
  - a) 512
  - b) 1024
  - c) 4096
  - d) 8192

4 True or False.

5

- 1) Mouse is an output device.
- 2) Yahoo.co.in is a browser
- 3) Compiler translate low level to high level language.
- 4) A byte corresponds to 8 byte.
- 5) BCD is binary decimal code.

## B.C.A. Sem.-I

Dec. 2016

### BCA0E-101-Communication English.

Time : 3 Hours

[Max. Marks : 70]

Instruction : Symbol have their usual meanings.

1. Fill in the blanks with correct words given in the brackets. 5
  1. He is good..... English. (at, in, with)
  2. When he was young he ..... Cross the river. ( can , could, may)
  - 3 ..... Ramayana is a holy book of Hindus. ( a, an, the)
  4. He has .....books.(Much, Many, none)
  5. He will not leave the place ..... I come back.(until, because, as)
  
2. Read the carefully and answer the questions given below. 10

But the brave boy didn't want to die. He made up his mind that he would survive somehow, to the amazement of the physician, he did survive. When the mortal danger was past, he again heard the doctor and his mother speaking quietly. The mother was told that since the fire had distrayed so much flesh in the lower part of his body it would have been better if he had dies, since he was doomed to be a life time cripple with no use at all of his lawer limbs. Once more the brave by made up his mind the would, But unfortunately, from the waist he had no motor ability. His this legs just dangled there, all but lifeless.

**Questions :**

  - 1) What did the body decide ?
  - 2) Why was the physician amazed ?
  - 3) What did the physician tell the boy's mothers ?
  - 4) What was the condition of his legs ?
  
3. Write short notes on any four of the following 20
  - 1) Media and modes of communication.
  - 2) Communication as a two-way process.
  - 3) Communication effectively in the International context.