BIT (Ist Sem)

Title of Course: Communication Skills (101)
Maximum Marks: 80
Minimum Marks: 32

October, 2012
Time Allowed: 2 ½ hrs.

Note:- Attempt all questions from Section A & B and two questions from Section C.

Section A: very short answer type questions to be answered in about 20 words

1.

i) Name the organs of speech with their respective functions. **8x2=16**
ii) Why do we study language?
iii) What are the barriers in learning a foreign language?
iv) Define listening comprehension.
v) How is extensive reading important in acquiring language skills?
vi) Define a phrase and a clause. Give examples.
vii) How is report different from minutes?
viii) How can oral presentation be effective.

Section B (short answer type questions to be answered in about 250 words)

(4x8=32)

2. Write a paragraph on 'work is worship'.
3. How is a resume different from a letter?
4. What is communication? How can barriers in communication be overcome?
5. Punctuate the following

"What shall i bring you when I come back from the college" said the father to his two daughters and a son. one daughter said "please bring a pen for me, i want to have a pencil" said the second "and what would ram like" said the kind father. I want to have a balloon" said the son "shall i get it."

Section C (Long answer type questions to be answered in about 400-500 words)

(2x16=32)

6. How would you prepare for the interview for the post of a computer analyst? What questions would you expect from the body of interviewers?
7. Write a critical report concerning complete dependence on the use of computer in the modern fast changing world.
8. How can effective language prove a good means of communication? What results do you expect from it.
9. Combine the following pairs of sentences into a single sentence each. using a relevant connective, if necessary:-
   i) She studies Medical. She hopes to become a doctor.
   ii) He failed in the examination. He is weak in English.
   iii) He is a man of conviction. He will not budge an inch from his stand.
   iv) The apples are juicy. How sweet it is to taste them.
   v) I met a traveler. He was fatigued.
   vi) He had a severe fall. He ran very fast.
   vii) The Jehlum is spanned by nine bridges. Each bridge is strongly cemented.
   viii) He often tells lies. He gains nothing.

B.I.T Programme

1st Semester
Subject: Mathematics - I

October, 2012
Maximum Marks: 80
Min Pass Marks: 32

Time Allowed: 2 ½ Hours

Note: Attempt all questions from Section A & B and only two questions from Section C.

Section: A Marks: 8x2=16

1. i) If $Sin\ A = \frac{12}{13}$, find the value of $\tan A + Cot\ A$, A being positive acute.
   ii) Find the value of $Sin\ 75^0$.
   iii) If $x+iy = \frac{\sqrt{3}-i\sqrt{2}}{2\sqrt{3}-i\sqrt{2}}$, find the value of x and y.
   iv) Simplify $\frac{(Cos\ \theta+i\ Sin\ \theta)^{10}}{(Cos\ 2\theta+i\ Sin\ 2\theta)^4}$
   v) Draw the graph of the following inequation
   $$4x + 3y \leq 12$$
   vi) Find the value of x so that the points (2,3), (4,1) and $(x,7)$ are Collinear.
   vii) Show that
   $$1 + 2 + 3 + \text{-----to } n \text{ terms} = \frac{n(n+1)}{2}$$
   viii) Find the 14th term of the sequence
   1, 2, 4, 8, ...

Section: B Marks: 4x8=32

2. a) Prove that $\sqrt{\frac{1+Sin\ \theta}{1-Sin\ \theta}} = Sec\ \theta + \tan\theta$
   b) Prove that $\tan\left(\pi/4 - \theta\right) = \frac{Cos\ \theta - Sin\ \theta}{Cos\ \theta + Sin\theta}$
3. a) Find the modulus and amplitude of
   $$\frac{1+2i}{1-3i}$$
   b) Prove that $Cos\ n\left(\pi/2 - \theta\right) + i\ Sin\ n\left(\pi/2 - \theta\right) = (Sin\ \theta + i\ Cos\theta)^n$
4. a) If α, β be the roots of the equation $ax^2 + bx + c = 0$, find the value of
   $$\left(\frac{\alpha}{\beta} + \frac{\beta}{\alpha}\right)^2$$
   b) If ω is the imaginary cube root of unity, find the value of $\begin{vmatrix} 1 & \omega & \omega^2 \\ \omega & \omega^2 & 1 \\ \omega^2 & 1 & \omega \end{vmatrix}$.

P.T.O

5. a) Find the sum of the first 45 terms of an A.P, if the 4^{th} and 7^{th} terms are 13 and 25 respectively.

b) If you save 1 rupee today, 2 rupees the next day, 4 rupees the succeeding day and so on, what will be your total savings in two weeks.

Section: C Marks: 2x16=32

6. a) If $Cot\ \theta = \frac{m}{n}$, show that

$$\frac{m\ Cos\ \theta - n\ Sin\ \theta}{m\ Cos\ \theta + n\ Sin\ \theta} = \frac{m^2-n^2}{m^2+n^2}$$

b) Prove that

$$Sin\ (A+B)\ Sin\ (A-B) + Sin\ (B+C) Sin(B-C) + Sin(C+A) Sin(C-A) = 0$$

c) Prove that

$$tan^2(\pi/4 + \theta/2) = \frac{1+Sin\ \theta}{1-Sin\ \theta}$$

7. a) Show that for any two Complex numbers Z_1 and Z_2.

$$\left|\frac{Z_1}{Z_2}\right| = \frac{|Z_1|}{|Z_2|}$$

b) Show that

$$(\sqrt{3}+i)^n + (\sqrt{3}-i)^n = 2^{n+1}\ Cos\frac{n\pi}{6}, \quad where\ n \in I.$$

8. a) Solve for x

$$\left(x+\frac{1}{x}\right)^2 - 8\left(x+\frac{1}{x}\right) + 12 = 0$$

b) Find the inverse of the following matrix.

$$A = \begin{bmatrix} 3 & -2 & 3 \\ 2 & 1 & -1 \\ 4 & -3 & 2 \end{bmatrix}$$

9. a) Sum to n terms of the following :

5+55+555+.....

b) Prove that

$$1^2 + 2^2 + 3^2 + \ldots\ldots\ldots\ldots + n^2 = \frac{n(n+1)(2n+1)}{6}$$

****

B.Sc IT (Ist Sem)

Title of Course: Programming in C (103)
Maximum Marks: 80
Minimum Marks: 32

October, 2012
Time Allowed: 2 ½ hrs.

Note:- Attempt all questions from Section A & B and two questions from Section C.

Section A: very short answer type questions to be answered in about 20 words

1. **8x2=16**

i) What do you men by keywords?
ii) Name the different library functions in C.
iii) Explain the Syntax of if-else statement.
iv) Define the use of break statement.
v) Define array.
vi) What are the major advantages of functions in C?
vii) What is the difference between structure and union?
viii) Name the different I/o operations performed on file.

Section B (short answer type questions to be answered in about 250 words)

(4x8=32)

2. Write a program in C to display the prime Nos between 50 to 100.
3. Write a program segments to explain the similarities and differences between while ( )loop and do-while ( ) loop.
4. Write a program to compare the two strings.
5. Write a program to display the following information by using union.
   i) name
   ii) Age
   iii) Height
   iv) Status

Section C (Long answer type questions to be answered in about 400-500 words)

(2x16=32)

6.

a) Describe the four basic data types. How could we extend the range of values they represent?
b) Write a program to convert the given temperature in Fahrenheit to Celsius using the following conversion formula:
C = F-32/1.8

7. a) What is looping in C? What are the advantages of using loops in C?
   b) Write a program to display the name of the day in a week, depending upon the number entered through the keyboard using Switch – Case Statement.
8. a) Explain the salient features of an array and its uses.
   b) Write a program to read the elements of the given two matrices of order n x m anc perform the matrix multiplication.
9. a) Summarize a few real life applications of a structure data type.
   b) Write a program to perform the following arithmetic operations of a number us function as well as structure.
      i) Addition of two numbers.
      ii) Subtraction of two numbers.
      iii) Multiplication of two numbers.
      iv) Division of two numbers.

****

BIT (Ist Sem)
(Paper B)

Title of Course: Fundamentals in Information Technology (104)
Maximum Marks: 80
Minimum Marks: 32

October, 2012
Time Allowed: 2 ½ hrs.

Note:- Attempt all questions from Section A & B and two questions from Section C.

Section A: very short answer type questions to be answered in about 20 words

1. **8x2=16**
   i) Define Information.
   ii) Define Data
   iii) Give any two advantage of a computer.
   iv) Define RAM.
   v) Explain in brief EBCDIC.
   vi) Define DBMS.
   vii) Give any two virus names.
   viii) Define FTP.

Section B (short answer type questions to be answered in about 250 words)
(4x8=32)

2. Explain the difference between DSS and MIS.
3. Write short notes on:
   a) Types of RAM
   b) Types of ROM
4. How does hardware and software are inter-related with each other. Explain with the help of an example.
5. Explain the difference between single user and multi-use O.S.

Section C (Long answer type questions to be answered in about 400-500 words)
(2x16=32)

6.
   a) Explain EDP with the help of an example.
   b) Explain any two types of information system.
7. Define a computer. Explain in detail classification of computers.
8. Explain what do you mean by DBMS. Also give its advantages.
9. Define O.S.. Explain different functions of O.S.