

Total No. of Printed Pages: 01

SUBJECT CODE NO:- N-4096
FACULTY OF SCIENCE

B.Sc. (Information Technology) F.Y. (Sem-I) Examination Oct/Nov 2018
C Programming - I-IT104-T

[Time: 1:30 Hours]

[Max. Marks: 50]

N.B

Please check whether you have got the right question paper

- 1) All questions carry equal marks.
- 2) All questions are compulsory.

Q.1 Fill in the blanks:- 10

- a) The format identifier '% i' is also used for ----- data type.
- b) ----- is the size of int data type?
- c) ----- is the size of char data type?
- d) C language developed at ----- laboratories.
- e) Standard ANSI C recognizes ----- number of keywords?
- f) ----- is not a reserved keyword for C.
- g) Variable name cannot start with -----.
- h) ----- is the only function all C programs must contain?
- i) There are ----- types of loop statements use in C.
- j) There are ----- types of conditional statements use in C.

Q.2

- a) Write features of C programming. 1 05
- b) Explain in brief structure of C programming. 1 05

OR

Write a program in C to calculate area of circle. 10

Q.3

- a) What is operator? Enlist C operators. 3 05
- b) Write note on Input and output function. 3 05

OR

Write a program in C to find even numbers in between 1 to 30. 2 10

Q.4

- a) Explain switch statement with its syntax and example. 3 05
- b) What is nested if else? Explain with example. 3 05

OR

Write a program in C to calculate addition of 2×2 matrix using array. 10

Q.5 Write note on (Any two) 10

- a) Continue & break statements.
- b) Array
- c) Loop statements.
- d) Keywords & identifier

Total No. of Printed Pages: 1

SUBJECT CODE NO:- N-4101**FACULTY OF SCIENCE & TECHNOLOGY****B.Sc. (Information Technology) F.Y. (Sem-I) Examination March/April 2019****C Programming - I-IT104-T****[Time: 1:30 Hours]****[Max. Marks: 50]**

Please check whether you have got the right question paper.

N.B

- 1) All questions carry equal marks.
- 2) All questions are compulsory.

Q.1 Fill in the blanks.**10**

- 1) The C language consists of 92 number of keywords.
- 2) auto is a Keyword used for a storage class.
- 3) C was developed in the year 1972.
- 4) C is a structured language
- 5) Character constants should be enclosed between ' '
- 6) The maximum length of a variable in C is 4-bit
- 7) The operator && is an example for logical operator.
- 8) There are 3 types of array use in C.
- 9) Continue statement is used to continues the program
- 10) 'stdio' stands for standard library functions

Q.2

- a) Enlist the feature of C.
 b) Explain different data type use in C language.

05**05****OR**

Write a program in C to calculate sum of five given numbers?

10**Q.3**

- a) Explain types of identifiers in C?
 b) Differentiate between relational and logical operators used in C?

05**05****OR**

Write a program in C to find given number is odd or even.

10**Q.4**

- a) Explain conditional statements with example.
 b) Explain loop statements with example.

05**05****OR**

Write a program in C to calculate factorial of given number.

10**Q.5**

Write note on any two of the following.

10

- a) Switch case
 b) Input functions
 c) Output functions

Total No. of Printed Pages:2

SUBJECT CODE NO:- D-4050

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc.(Information Technology) F.Y. (Sem-I)

Examination Oct/Nov 2019

C Programming - I-IT104-T

[Max.Marks:50]

[Time: 1:30 Hours]

Please check whether you have got the right question paper.

N.B

- 1) Attempt all questions.
- 2) All questions carry equal marks.

Q.1 Multiple Choice Questions

10

- 1) Which of the following is valid variable in C?
 a) While b) int@123 c) 1 two'4 d) sum
- 2) Which of the following is NOT the 'C' header file
 (a) Stdio. h (b) Standard. h
 (c) Math. h (d) Conio. h
- 3) Who is known as father of C language?
 (a) Balagurusamy (b) Stroustrup
 (c) Denis Ritchie (d) Dr. E.F. Codd
- 4) Which of the following can be used in an arithmetic expression?
 a) () b) < > c) {} d) []
- 5) Which of the following specifier is used for the integer data type?
 a) %i b) %d c) %% d) % l.
- 6) Every 'C' program must have the following function.
 (a) main () (b) main []
 (c) void () (d) printf ()
- 7) Which of the following is NOT unary operator.
 a) - b) * c) size of () d) !
- 8) An identifier used to identify a variable, function consist _____ number of maximum characters in C.
 a) 8 b) 16 c) 31 d) 32
- 9) Which is not keyword in 'C'?
 a) typedef b) Const c) long d) Complex
- 10) Which of the following is an operator in 'C'?
 a) . b) \$ c) @ d) None

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- Q.2**
- a) Write any five feature of 'C' language. 05
 - b) State the use of increment and decrement operators. Also give the difference between $i++$ and $++i$ with example. 05
- OR
- c) What are 'C' tokens? Give suitable examples of each token. 10
- Q.3**
- a) State the use of $\%c$, $\%d$ and $\%f$. 05
 - b) Write a program to convert inputted Fahrenheit temperature into equivalent Celsius temperature (Given $C = (F-32)/1.8$). 05
- OR
- a) Explain the working of do.....while loop with flowchart diagram. Also write a program to find the sum of numbers from 1 to 50. 10
- Q.4**
- a) State use of break and continue statement. 05
 - b) Explain the need for array variables, state the types of array. 05
- OR
- c) Explain the initialization of 2D array with example. Also write a program to input the elements of matrix A of size 3×2 and display it. 10

- Q.5** Write short notes on (Any two):- 10

- a) While loop.
- b) Formatted output statement
- c) Library function

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SUBJECT CODE NO:- D-4044

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (Information Technology) F.Y. (Sem-I) Examination Oct/Nov 2019

Digital Electronics

IT 102-T

[Max. Marks:50]

[Time: 01:30 Hours]

Please check whether you have got the right question paper.

N.B

- 1) All questions carry equal marks.
- 2) All questions are compulsory.

10

Q.1

Fill in the blanks:-

- 1) In law of Complements : $A \cdot \bar{A} = \text{-----}$
- 2) In Commutative law: $X + Y = \text{-----}$
- 3) In Associative law : $X + (Y + Z) = \text{-----}$
- 4) In Distributive law: $X + (Y \cdot Z) = \text{-----}$
- 5) In Absorption law: $X \cdot (X + Y) = \text{-----}$
- 6) 1's complement of $(10010)_2 = \text{-----}$
- 7) 2's complement of $(1001)_2 = \text{-----}$
- 8) $(1010)_2 + (0101)_2 = (\text{-----})_2$
- 9) In two input AND gate one input is '0' & second input is '1' the output is -----.
- 10) In OR gate if all inputs are one then output is -----.

Q.2

- a) Explain Demorgan's theorem.
- b) Explain Binary Number System.

05

05

OR

- c) Define gate. Explain NOR, EX-OR gate with symbol & truth table.

10

Q.3

- a) Explain K-map for 4 variables.
- b) Explain Half subtractor.

05

05

OR

- c) What is Multiplexer? Explain 4 line to 1 line multiplexer.

10

Q.4

- a) Explain Race around Condition.
- b) Explain working of D Flip-Flop.

05

05

OR

- c) What is counter? Explain Asynchronous counter with suitable diagram.

10

Q.5

Write a short notes on (any two):-

10

- a) Shift Register
- b) Demultiplexer
- c) Ring Counter

Total No. of Printed Pages:2

SUBJECT CODE NO:-D-4053
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc.(Information Technology) F.Y (Sem-I)
Examination Oct/Nov 2019
Mathematical Foundation-IT106-T

[Max.Marks:50]**[Time: 1:30 Hours]**

Please check whether you have got the right question paper.

N.B

- 1) All questions are compulsory.
- 2) All questions carry equal marks.

10

Q.1 Multiple choice questions

- 1) A complete graph of n vertices should have --- edges.
a) $n-1$ b) n c) $n(n-1)/2$ d) $n(n+1)/2$
- 2) A function is said to be ----- if $f(a) = f(b)$ for all a and b in the domain of f
a) Many to one b) one to many c) many to many d) one to one
- 3) The intersection of two set $\{1, 2, 5\}$ and $\{1, 2, 6\}$ is -----
a) $\{1, 2, 5, 6\}$ b) $\{1, 2\}$ c) $\{5, 6\}$ d) none
- 4) A relation $R = \{a, b, b, a\}$ on set $A = \{a, b\}$ is -----
a) Reflexive b) symmetric c) Asymmetric d) Transitive
- 5) $A \cup \phi = \text{-----}$
a) ϕ b) A c) $\{\}$ d) none of above
- 6) Pictorial representation of set is called -----
a) Flowchart b) venn diagram c) Algorithm d) none
- 7) The set difference of the set A with null set is -----
a) Null b) U c) B d) A
- 8) A graph in which all nodes are of equal degree is called ----- graph
a) Irregular b) Regular c) multi d) all of above
- 9) Two sets are called disjoint if there ----- is empty set.
a) Intersection b) union c) Difference d) all of above
- 10) $\overline{A \cup B} = \text{-----}$
a) $\bar{A} \cap B$ b) $\bar{A} \cap \bar{B}$ c) $A \cap B$ d) $\overline{A \cap B}$

Q.2.

- a) What is finite and infinite graph? Explain with example.
- b) Draw the incidence matrix of graph.

05

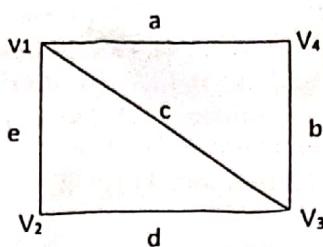
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OR

- a) Let $A = \{a, b, c, d\}$ and $B = \{a, c, e, f, g\}$ find $(A - B) \cup (B - A)$

10

- Q.3 a) If $A = \{a, b, c\}$ then find $P(A)$, power set of A
b) Draw a venn diagram which shows $(A \cap B) \cap C$

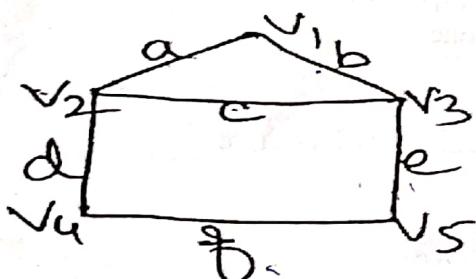
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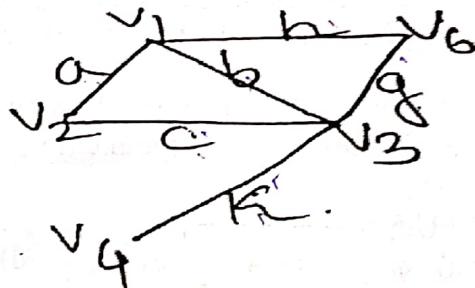
OR

- a) Perform the Union and intersection of two graphs

10



(a)



(b)

Q.4

- a) Let $A = \{a, b, c, d, e\}$ and R be the symmetric relation given by $R = \{(a, b), (b, a), (a, c), (c, a), (b, c), (c, b), (b, e), (e, b), (e, d), (d, e), (c, d), (d, c)\}$
Find the directed graph of R

05

- b) State and prove Associative Laws in set theory

05

OR

- a) What is functions? explain its types

10

Q.5

Write short note on (any 2)

10

- a) Isomorphism
b) Paths and circuits
c) Union and intersection of 2 sets

Total No. of Printed Pages: 02

-4101

SUBJECT CODE NO:- N-4105**FACULTY OF SCIENCE & TECHNOLOGY****B.Sc. (Information Technology) F.Y. (Sem-I) Examination March/April 2019**
Mathematical Foundation-IT106-T**[Time: 1:30 Hours]****[Max.Marks: 50]****N.B**

Please check whether you have got the right question paper.

- i) Attempt all questions.
ii) Illustrate your answer with suitable labeled diagram.

50]

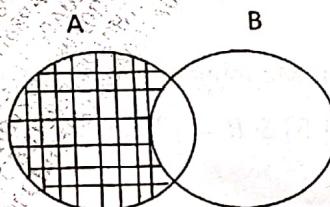
Q.1 Multiple choice questions.

10

- 1) The union of the sets {1,2,5} and {1,2,6} is set _____
 - a) {1,2,6,11}
 - b) {1,2,5,6}
 - c) {1,2,1,2}
 - d) {1,5,6,3}
- 2) Two sets are called disjoint if there _____ is the empty set.
 - a) Union
 - b) Difference
 - c) Intersection
 - d) Complement
- 3) In which of the following sets A-B is equal to B-A.

a) $A = \{1,2,3\}, B = \{2,3,4\}$	b) $A = \{1,2,3\}, B = \{1,2,3,4\}$
c) $A = \{1,2,3\}, B = \{2,3,1\}$	d) $A = \{1,2,3,4,5,6\}, B = \{2,3,4,5,1\}$
- 4) If A is $\{\{\emptyset\}\}, \{\emptyset, \{\emptyset\}\}$, then the power set of A has how many element?
 - a) 2
 - b) 4
 - c) 6
 - d) 8
- 5) Which Sets are not empty?

a) $\{X: X \text{ is an even prime greater than } 3\}$	b) $\{X: X \text{ is a multiple of 2 and is odd}\}$
c) $\{X: X \text{ is an even number and } x+3 \text{ is even}\}$	d) $\{X: X \text{ is a prime number less than 5 and is odd}\}$
- 6) The shaded area of figure is best described by:



- a) A'
 - b) $A \cap B$
 - c) B
 - d) $A - B$
- 7) If $n(A) = 20$ and $n(B) = 30$ and $n(A \cup B) = 40$ then $n(A \cap B) =$ is
- a) 20
 - b) 30
 - c) 40
 - d) 10

- 8) Let Set $A = \{1,2\}$ and c be $\{3,4\}$ then $A \times B$ is :
 a) $\{1,2,3,4\}$
 b) $\{(1,3), (2,4)\}$
 c) $\{(1,3), (2,4), (1,4), (2,3)\}$
 d) $\{(3,1), (4,1)\}$
- 9) If Set A has 3 elements then number of elements in $A \times A \times A$ are:
 a) 9
 b) 27
 c) 6
 d) 19
- 10) Which of the following statements regarding sets is False?
 a) $A \times B = B \times A$
 b) $A \times B \neq B \times A$
 c) $n(A \times B) = n(A) * n(B)$
 d) None
- Q.2 A) Let $A = \{1,2,3,4,5\}$ and $B = \{4,5,6,7\}$ find
 i) $(A \cup B) \Delta A$
 ii) $B \Delta (A \Delta B)$
 iii) $A \cup B$
- B) List the ordered pairs in the relation R from $A = \{0,1,2,3,4\}$ to $B = \{0,1,2,3\}$ where $(a, b) \in R$
 if and only if
 i) $a = b$
 ii) $a + b = 3$
- OR
- C) 150 students are participated in a survey where 3 Juice brands are there A, B, C
 i) 58 students drinks A
 ii) 49 Students drinks B
 iii) 57 students drinks C
 iv) 14 Students drinks $A \cap C$
 v) 13 students drinks $A \cap B$
 vi) 17 Students drink $B \cap C$
 vii) 4 students drink $A \cap B \cap C$
 How many students drink none.
- Q.3 A) State and prove commutative law of three Sets A,B,C.
 B) Draw a Venn diagram of following:
 i) $A \Delta B$
 ii) A'
 iii) $B \subset A$
- OR
- C) Explain different function Mapping techniques in detail.
- Q.4 A) Let $P = \{1,2,3,4\}$, $Q = \{1,5\}$ & $R = \{2,3,6\}$ find
 a) $P \oplus Q$
 b) $P \cap R$
 c) $Q - R$
- B) Can a set be a proper subset of itself? Explain.
- OR
- Q.5  Explain different operations on set in detail.
- Q.5 Write a short note on (any 2)
 1) Isomorphism of graph
 2) Adjacency matrix
 3) Antisymmetric relation
 4) Ternary Relation.

Total No. of Printed Pages: 02

SUBJECT CODE NO:- N-4101
FACULTY OF SCIENCEB.Sc. (Information Technology) F.Y. (Sem-I) Examination Oct/Nov 2018.
Mathematical Foundation-IT106-T

[Time: 1:30 Hours]

[Max.Marks: 50]

Please check whether you have got the right question paper.

N.B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable labeled diagram.

Q.1 Multiple Choice Questions.

10

- equivalent set*
- disjoint set*
1. Which of the following two sets are disjoint?
 a) $\{1,3,5\}$ and $\{1,3,6\}$
 b) $\{1,2,3\}$ and $\{1,2,3\}$
 c) $\{1,3,5\}$ and $\{2,3,4\}$
 d) $\{1,3,5\}$ and $\{2,4,6\}$
 2. The complement of the set A is -----
 a) $A-B$ b) $U-A$ c) $A-U = \emptyset$ d) $B-A$
 3. If a set contains 3 elements then the number of subsets is
 a) 6 b) 3 c) 12 d) 8
 4. The inverse of function $f(x) = x^3 + 2$ is -----
 a) $F^{-1}(y) = (y - 2)^{1/2}$
 b) $F^{-1}(y) = (y - 2)^{1/3}$
 c) $F^{-1}(y) = (y)^{1/3}$
 d) $F^{-1}(y) = (y - 2)$
 5. An injection is a function which is:
 a) Many-one b) one-one c) onto d) none of the mentioned
 6. The isolated vertex is a vertex with degree -----
 a) 1 b) 2 c) 0 d) 4
 7. If $R = \{(1,1), (2,3), (4,5)\}$ then domain of the function is:
 a) $\text{DOM } R = \{1,2,4\}$
 b) $\text{DOM } R = \{1,3,5\}$
 c) $\text{DOM } R = \{2,3,4,5\}$
 d) $\text{DOM } R = \{1,1,4,5\}$
 8. Which of the following is type of matrix:
 a) Adjacency b) Control c) Incidence d) both a & c
 9. Let R be the set of real numbers. If: $R \rightarrow R$ is a function defined by $F(x) = x^2$, then F is
 a) Injective but not subjective
 b) subjective but not injective
 c) bijective
 d) none of these

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10. If X and Y are two sets, then $X \cap (X \cup Y)^c$ equals:
 a) X b) Y c) \emptyset d) none of these

Q.2

- A) Draw Venn diagram for $(A \cup B \cup C)$ and $(A - B)$.
 B) If $A = \{1, 2, 3, 4\}$ then find $P(A)$ i.e power set of A .

OR

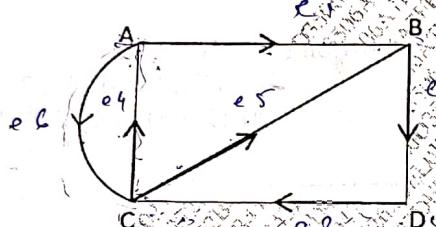
- A) Solve among 18 students in a room 7 study mathematics, 10 study science & 10 study computer programming also 3 study mathematics and science, 4 study mathematics and computer programming. We know that one student study all three subject. How many of these student study none of the 3 subject.

Q.3

- A) Draw a graph $G = (V, E)$ where $V = \{a, b, c, d\}$ and $E = \{a, b\}, \{b, d\}, \{c, d\}, \{c, a\}, \{a, a\}$.
 B) Draw the incidence matrix of the following graph.

05
05

10

05
05

OR

- C) Given $A = \{1, 2, 3, 4, 5, 6\}$, $B = \{2, 4, 6, 8, 10\}$, and $C = \{3, 6, 9\}$. State the elements of each of the following:
 a) $A \cap B$ b) $B \cap C$ c) $A \cap C$ d) $A \cap B \cap C$ e) $A \cap (B \cup C)$ f) $B \cup (A \cap C)$

Q.4

- A) State and prove associative law of three sets A, B , and C .
 B) Let $A = \{2, 4, 5, 6\}$, enlist elements of Relation $R = \{(a, b) / a \text{ divisible by } b\}$ also draw graphical form of R .

05
05

OR

- C) Consider the relation R from X to Y :

10

$X = \{1, 2, 3\}$, $Y = \{7, 8\}$ and $R = \{(1, 7), (2, 7), (1, 8), (3, 8)\}$ Find
 i) R^{-1} (inverse of R)
 ii) Domain of R^{-1}
 iii) Represent relation R graphically.

Q.5

- Write a short note on:- (any 2).

10

- 1) Venn diagram
- 2) Distributive law
- 3) Types of graph
- 4) Properties of Relation

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Total No. of Printed Pages: 1

SUBJECT CODE NO:- N-4097**FACULTY OF SCIENCE & TECHNOLOGY****B.Sc. (Information Technology) F.Y. (Sem-I) Examination March/April 2019**
Microprocessor - I-IT-103-T**[Max.Marks: 50]****[Time: 1:30 Hours]**

Please check whether you have got the right question paper.

N.B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable diagram.

Q.1 Write purpose of following instructions of 8086.**10**

- 1) ADD
- 2) ADC
- 3) SUB
- 4) SBB
- 5) XCHG
- 6) AAD
- 7) AAS
- 8) MUL
- 9) DIV
- 10) AAM

Q.2

- a) Explain Direct addressing mode.
- b) Explain word – sized data format

**05
05****OR**

- c) WALP to store 99H in AL and 44H in CL, to perform subtraction and store result on Memory location [7000 H] (DS=0500 H)

10**Q.3**

- a) Explain Base – Plus – index addressing mode.
- b) Explain BCD arithmetic.

**05
05****OR**

- c) Draw 8086 internal architecture, and Explain working of BIU (Bus interface unit)

10**Q.4**

- a) Explain protected mode memory addressing.
- b) Explain comparison (CMP) instruction with example.

**05
05****OR**

- c) Explain stack memory addressing modes.

10**Q.5 Write notes on : (Any two)****10**

- 1) Historical background of Microprocessor
- 2) LAHF & SAHF instructions
- 3) Real mode memory addressing.

Total No. of Printed Pages:2

SUBJECT CODE NO:- D-4056**FACULTY OF SCIENCE AND TECHNOLOGY****B.Sc. (Information Technology) F.Y.(Sem- I)****Examination OCT/NOV 2019****Communication Skill -I-CS105-T (I.T), (BCA Sci)****[Max.Marks:50]****[Time: 1:30Hours]**

Please check whether you have got the right question paper:

N.B

- i) All questions are compulsory
- ii) All questions carry equal marks.

Q.1 Multiple choice questions**10**

- 1) Taking a pause while delivering a speech creates ----- in the audience.
a) Intention b) curiosity c) ignorance d) knowledge
- 2) ----- is the objective of downward communication.
a) Warning b) Request c) Demand d) Appeal
- 3) ‘ ’ = -----
a) Comma b) quotation mark c) Hyphen d) colon
- 4) Communication is the task of imparting -----
a) Training b) information c) knowledge d) message
- 5) ----- is a common method for making decisions.
a) Listening b) writing c) meeting d) speaking
- 6) The skills of enquiry are mainly -----
a) Speaking skill b) listening skill c) sharing ideas d) Any other
- 7) Communication is -----
a) Continuous b) complicated c) contextual d) All of the above
- 8) Hurrah! =-----
a) Preposition b) interjection c) conjunction d) adverb
- 9) ----- is not the C's of good communication.
a) Concise b) clarity c) complete d) character
- 10) Beautifully =-----
a) Adjective b) Adverb c) verb d) pronoun

Q.2	a) Explain different definition of communication.	05
	b) Which are the elements of communication?	05
Q.3	OR	10
	a) Explain importance of communication.	
Q.3	a) Which are the objectives of downward communication?	05
	b) Enlist the different kinds of past tense with suitable examples.	05
Q.4	OR	
	a) Which are the different media's of written communication?	10
Q.4	a) What is noun? Explain different kinds with examples.	05
	b) How do you improve dialogue skills?	05
Q.5	OR	
	a) What is speech? Explain guidelines for effective speech.	10
Q.5	Write short notes on (any two)	10
	a) C's of good communication	
	b) Speaking skill	
	c) Horizontal communication	

Total No. of Printed Pages:2

SUBJECT CODE NO:- N-4106**FACULTY OF SCIENCE AND TECHNOLOGY****B.Sc. (Information Technology) F.Y. (Sem-I) Examination Oct/Nov 2018**
Communication Skill -I-CS105-T (I.T.), (BCA Sci.)**[Max.Marks:50]****[Time: 1:30 Hours]**

Please check whether you have got the right question paper.

N.B

- 1) All questions are compulsory.
- 2) Use only blue or black pen for writing

Q.1 Multiple Choice Questions.

10

1. Communication is a part of _____ skills
(a) Soft (b) Hard (c) rough (d) short
2. Countries when referred to by names are also considered _____
(a) Marculine (b) Feminine (c) Common (d) Neuter
3. All communication events have a _____
(a) Resource (b) Source (c) Start (d) End
4. The _____ is an exclamation mark.
(a) ? (b) . (c) , (d) !
5. Proper nouns always begin with _____ letters
(a) Capital (b) Small (c) Running (d) Numerical
6. The _____ is the person who transmits the message
(a) Receiver (b) Driver (c) Sender (d) Cleaner
7. _____ refers to all these factors that disrupts the communication
(a) Nonsense (b) Noise (c) Nowhere (d) Nobody
8. Oral Communication is better than written communication for _____.
(a) Conveying Fact & Opinions (b) Saving Time
(c) Conveying feeling & emotion (d) All of above
9. Our dress code is an example of _____ Communication.
(a) Verbal (b) Nonverbal (c) Written (d) Spoken
10. Suggestions for improvements from an employee in accounting department is an example of _____.
(a) Upward (b) Horizontal (c) Downward (d) None of the above