SLR-O – 1

Seat No.	

B.C.A.– I (Semester – I) Examination, 2016
(New CBCS)
COMPUTER SCIENCE
Fundamentals of Computer

Time : 2½ Hours | Total Marks : 70

Instructions : *i)* ***All*** *questions are* ***compulsory****.*
ii) Figure to the ***right*** *indicates* ***full*** *marks.*

1. Rewrite the following sentences by choosing the correct alternative : **14**

1) _____ is output device designed to get hard copy output.
   a) Printer b) Monitor c) CRT d) LCD

2) 1 Gb is equal to
   a) 1024 bytes b) 1024 kb c) 1024 mb d) 1024 tb

3) ALU stands for
   a) Array Logic Unit b) Arithmetic Logic Unit
   c) Application Logic Unit d) None of above

4) A computer program that converts an entire program into machine lang is called
   a) Interpreter b) Compiler c) Simulator d) None of above

5) The second generation was developed during
   a) 1955-1964 b) 1942-1955 c) 1964-1975 d) 1975-85

6) Which of the following is most closely related to Main Memory ?
   a) Non volatile b) Volatile c) Fixed d) None of above

7) _____ is main circuit board of computer.
   a) Motherboard b) SMPS c) Serial port d) None of above

8) _____ most popular pointing device used for GUI applications.
   a) Mouse b) Plotter c) Printer d) None of above

P.T.O.

9) Which of the following is not hardware ?
   a) Magnetic Tape b) Printer
   c) VDU terminal d) Assembler

10) _____ is base of hexadecimal number system.
   a) 2 b) 10 c) 16 d) 8

11) _____is communication system that can transmit data in one direction only.
   a) Simplex b) Half Duplex
   c) Full Duplex d) None of above

12) _____ is network in which each node has adjacent node for controlling other nodes.
   a) Ring Network b) Star Network
   c) Bus Network d) Hybrid Network

13) _____ is interval between the time of submission of job to the system for processing and time of completion of job.
   a) Throughtput b) Response Time
   c) Turnaround time d) None of above

14) Execution of two or more programs by a single CPU is known as
   a) Multiprocessing b) Time Sharing
   c) Multiprogramming d) Real Time

2. Answer **any seven** of the following questions in **two** or **three** sentences **each** : **14**
   1) Define process and Program.
   2) What is Operating System ? Give any two functions of it.
   3) What is modem ? Explain its use.
   4) Write the steps to convert another base to decimal number system.
   5) What is meant by soft copy and hard copy output ? Give examples of softcopy and hardcopy output devices.
   6) Define serial port and parallel port.
   7) What do you mean by Hardware and Software.
   8) What is sequential Access storage device and Direct access storage device.
   9) What is Virus ? Give any two characteristics of virus.

3. A) Write short paragraphs on **any two** of the following : **10**

   1) Magnetic Disk

   2) Printers

   3) Binary Arithmetic.

   B) Answer **any two** of the following questions : **4**

   1) $(11011110)_2 = ()_8$

   2) $(42)_{10} = ()_2$

   3) Explain working mechanism of plotter.

4. Attempt **any two** questions : **14**

   1) Define Assembly languages. Give with their advantages and disadvantages.

   2) Draw block diagram of computer and explain all its units with neat diagram.

   3) What is different types of memory ? Explain in detail.

5. Attempt **any two** questions : **14**

   1) Explain compiler and interpreter.

   2) Define network topology. Explain different types of topology.

   3) Explain third generation computer along with their main characteristics.

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SLR-O – 2

Seat No.	

B.C.A. – I (Semester – I) (New CBCS) Examination, 2016
COMPUTER SCIENCE
Basics of 'C' Programming

Time : 2 Hours 30 Minutes Max. Marks : 70

***Instructions** : 1) **All** questions are **compulsory**.*
*2) Figures to the **right** indicate **full** marks.*

1. Choose the correct alternatives from the following. **14**

1) An identifier cannot start with _____
   a) – b) uppercase alphabet
   c) lowercase alphabet d) #

2) What format is used to print a string with the printf function ?
   a) %c b) %d c) %s d) none of the above

3) The scanf function is used to print the values on the screen.
   a) True b) False

4) A function can return _____ value.
   a) one b) two c) three d) none of these

5) The parameters in function call are called _____.
   a) actual parameters b) formal parameters
   c) dummy parameters d) optional parameters

6) Which of the following is not a type of logic ?
   a) sequence b) complex c) selection d) Iteration

7) Which of the following is not a datatype in 'C' ?
   a) int b) char c) string d) float

8) While loop is called _____ loop.
   a) Entry restricted b) Entry controlled
   c) Exit controlled d) None of these

9) In for loop how many semicolons are need ?
   a) 1 b) 2 c) 3 d) 4

10) In an array stored elements are _____ datatype.

a) mixed b) same c) different d) any

11) Two dimensional array is called as Matrix.

a) True b) False

12) The starting index of an array is called _____.

a) limit b) upper bound c) lower bound d) none of these

13) We cannot write one for loop inside another for loop.

a) True b) False

14) Which of the following is not a storage class ?

a) auto b) register c) storage d) default

2. Solve **any 7** from the following. **14**

1) Give the extensions of source and object file of 'C' program.

2) Define pseudo code.

3) State the rules of identifier.

4) List any four functions of stdio.h header file.

5) Write the syntax of switch statement.

6) Give the syntax of do-while loop statement.

7) Define an array. Write a syntax for declaration of array.

8) Define function. List the types of function.

9) Define Recursion.

3. A) Solve **any two** from the following. **10**

1) What is Algorithm ? What are the characteristics of Algorithm ?

2) Explain the basic structure of 'C' program.

3) Explain if else statement with example.

B) Write a note on datatypes in 'C' language. **4**

4. Solve **any two** from the following. **14**

   1) Explain different types of operators.

   2) Write a program to check given number is Armstrong or not.

   3) Write a program to check the given year is leap year or not.

5. Solve **any two** from the following. **14**

   1) Define Flowchart. What are the characteristics of flowchart ?

   2) Write a program to calculate factorial of given number using function.

   3) Write a program to accept integer values in an array and display the sum of array elements.

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SLR-O – 3

Seat No.	

B.C.A. – I (Semester – I) (New CBCS) Examination, 2016
FINANCIAL ACCOUNTING WITH TALLY

Time : $2^{1}/_{2}$ Hours Max. Marks : 70

***Instructions** : 1) **All** questions are **compulsory**.*
*2) **Draw** neat labeled diagram **wherever** necessary.*
*3) Figures to the **right** indicate **full** marks.*

1. Select the most correct alternative and rewrite the following sentences : **14**

1) Money Value of the reputation of business is known as _____
   a) Copyright b) Goodwill
   c) Patents d) Trademark

2) Commission received is _____ account.
   a) Personal b) Nominal
   c) Purchase d) None of these

3) Recording of an entry from journal to ledger is called as _____
   a) Balancing b) Posting
   c) Totalling d) Transferring

4) The trial balance shows only _____ accuracy.
   a) Arithmatical b) Accounting
   c) Historical d) Financial

5) Use _____ to delete specific data in computer.
   a) Alt+A b) Alt+D
   c) Ctrl+D d) Ctrl+A

6) _____ key is used to open accounting features option.
   a) F11 b) F12
   c) F10 d) Alt+F2

P.T.O.

7) _____ key is used for entering transaction in purchase voucher.

a) F5 b) F6

c) F9 d) F8

8) Group and ledger are contained in _____ Menu.

a) Account information b) Inventory information

c) Alt + F1 d) All voucher

9) Tally provides a set of _____ numbers of predefined groups mainly based on the traditional methods of accounting system.

a) 15 b) 28

c) 32 d) 30

10) To activate Gateway of tally _____ shortcut key is used.

a) Ctrl+M b) Ctrl+P

c) Ctrl+O d) Ctrl+J

11) Long form of TAN _____

a) Tax Account Number b) Tax Assessment Number

c) Tax Assignment Number d) None of these

12) MIS stands for _____

a) Man Information System

b) Machine Information System

c) Management Information System

d) None of these

13) Owner account is under _____ account group.

a) Capital b) Purchase

c) Sales d) Drawing

14) TDS stands for _____

a) Tax Deducted at Source b) Tax Development Service

c) Tax Divided Source d) None of these

2. Solve **any seven** of the following : **14**

   1) What is meant by account ?

   2) Define conventions.

   3) Define inventory.

   4) What do you mean by purchase order ?

   5) What is Invoice Entry ?

   6) What is meant by Management ?

   7) Define Reports.

   8) What is meant by Ledger ?

   9) Define Foreign Exchange.

3. A) Attempt **any two** of the following : **10**

      1) What is double entry system ? Explain its merits and de-merits.

      2) Explain the Inventory Valuation Policy - LIFO, FIFO.

      3) Explain the concept of Budget Management.

   B) Write short notes on Cost Centre. **4**

4. Answer **any two** of the following : **14**

   a) State and explain clearly the concept in Financial Accounting.

   b) What is Depreciation ? Explain the method of depreciation.

   c) What is group of Tally ? Enlist the groups.

5. Answer **any two** of the following : **14**

   1) Explain types of Vouchers in Tally.

   2) Explain the proforma of Journal, Ledger, Trial Balance and Balance sheet.

   3) What is TDS ? Explain TDS Reports, TDS Return.

SLR-O – 4

Seat No.	

B.C.A. – I (Semester – I) (New – CBCS Pattern) Examination, 2016
COMMUNICATION SKILLS

Time : 2½ Hours Max. Marks : 70

N.B. : *1)* ***All*** *questions are* ***compulsory****.*
2) Figures to the ***right*** *indicate* ***full*** *marks.*

1. A) Rewrite the following sentences by choosing correct alternative given below **each**. **10**

1) The word communication means

a) to make common b) to discuss

c) to understand d) to obtain

2) A word has two meanings is a _____ barrier.

a) Physical b) Mental

c) Socio-Psychological d) Semantic

3) Principals of Communication are called

a) 7 C's b) 5 C's

c) 3 C's d) 9 C's

4) _____ begins a communication.

a) Sender b) Message

c) Feedback d) Context

5) Letters sent to introduce new schemes and plans are called _____ letter.

a) Sales b) Collection

c) Credit d) Application

6) If the information flows from bottom to top level in the organization is called _____ communication.

a) Upward b) Downward

c) Horizontal d) Consensus

P.T.O.

7) Non-routine reports are also known as
   a) Periodical b) Special
   c) Informal d) Formal

8) _____ is written in future tense.
   a) Memo b) Notice
   c) Circular d) Report

9) Full stop is given at the end of
   a) Word b) Clause
   c) Phrase d) Sentence

10) Conciseness is a
   a) Objective b) Barrier
   c) Type d) Principle

B) Write whether the following statements are **True** or **False** : **4**

1) Body language is non-verbal communication.
2) Seminars are useful for learning and sharing experiences.
3) Noise in the environment is called psychological barrier.
4) Enclosure is important in every letter.

2. Write the answer of **any seven** of the following questions : **14**

1) What is a two way communication ?
2) What is an agenda ?
3) Give the example of language and semantic barrier.
4) What is an email ?
5) What do you understand by barriers ?
6) What is group discussion ?
7) Write the definition of communication.
8) What is the 'you attitude' ?
9) What is abbreviation ? Explain with examples.

3. A) Write the answer of **any two** of the following questions : **10**

   1) Use of Internet in business.

   2) Write any three principles of communication.

   3) Write any three types of meetings.

   B) Write the agenda for company meeting. **4**

4. Write the answer of **any two** of the following questions : **14**

   1) Prepare your bio-data for the post of a typist in bank.

   2) Write types of communication.

   3) Write any four objectives to communication.

5. Write the answer of **any two** of the following questions : **14**

   1) Write an application letter to the Principal, Excellent English Medium School New Mumbai for the post of a computer teacher.

   2) Explain barriers to communication.

   3) Write a report on study tour.

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SLR-O – 5

Seat No.	

B.C.A. – I (Semester – I) (New-CBCS Pattern) Examination, 2016
MATHEMATICS
Discrete Mathematics

Time : $2^1/_2$ Hours Max. Marks : 70

N.B. *: 1)* ***All*** *questions are* ***compulsory****.*
2) Figures to the ***right*** *indicate* ***full*** *marks.*
3) ***Use*** *of calculator is* ***allowed****.*

1. Choose the correct alternative : **14**

1) The conditional statement $q \rightarrow p$ is called as _____ of the conditional statement $p \rightarrow q$.
   a) Inverse b) Converse
   c) Contrapositive d) Implication

2) Cardinality of an empty set is _____
   a) ϕ b) 1 c) 0 d) 2

3) If $|A| = 5, |B| = 12$ and $|A \cap B| = 3$ then $|A \cup B| =$ _____
   a) 14 b) 17
   c) 12 d) 20

4) If all elements of matrix of relation R are 1 then relation R is _____ relation.
   a) Void b) Empty
   c) Universal d) Identity

5) The number of edges in K_5 are _____
   a) 4 b) 20 c) 5 d) 10

6) A graph which have both the parallel edges and loop is called as _____ graph.
   a) Simple b) Pseudo c) Multi d) Parallel

P.T.O.

7) If aRb and bRa implies that a = b then relation R is called as _____ relation.

a) Symmetric b) Anti symmetric

c) Asymmetric d) Transitive

8) The set A and its complement A' are always _____ sets.

a) Equal b) Empty c) Disjoint d) Mutual

9) Which of the following is a statement ?

a) 2 + 3 = 7 b) x + 2 =7

c) Bring that pen. d) What is your name ?

10) If a graph G contains 5 vertices and 7 edges then order of its adjacency matrix is _____

a) 5×7 b) 7×5

c) 7×7 d) 5×5

11) If both the statements p and q are true then the truth value of their conjunction $p \wedge q$ is _____

a) T b) F

c) T and F d) None of these

12) De Morgan's law for set is $(A \cap B)'$ = _____

a) $A' \cup B'$ b) $(A \cup B)'$

c) $A' \cap B'$ d) $A \cap B$

13) If $f(x) = x^2 - 2x + 5$ then f(5) = _____

a) 20 b) 40

c) 28 d) 0

14) If f(a) = f(b) implies that a = b then the function $f : A \rightarrow B$ is called as _____ function, where $a, b \in A$.

a) Onto b) Surjective c) Identity d) One – one

2. Attempt **any seven** of the following : **14**

1) Define simple graph. Give one example.

2) State De Morgan's laws in logic.

3) Let A = {a, b, c} then write power set of the set A.

4) Let A = {a, b, c, d}. Let R be the relation defined on the set A given by R = {(a, a), (a, b), (a, c), (a, d), (b, a), (b, d), (c, c), (d, d)}. Draw digraph of relation R.

5) Define bijective function.

6) Draw the graphs N_4 and K_4.

7) Prepare the truth table for the following statement.

$(p \wedge q) \leftrightarrow (p \vee q)$

8) Let A = {x | x $\in$ N and 3 $\leq$ x < 10} and B = {x | x is a positive even number less than 16}. Then write the elements of the set A and B.

9) Show that $|A \cup B| = |A| + |B|$ where A and B are disjoint sets.

3. A) Attempt **any two** of the following : **10**

1) Determine whether the following statement is tautology or contradiction or neither.

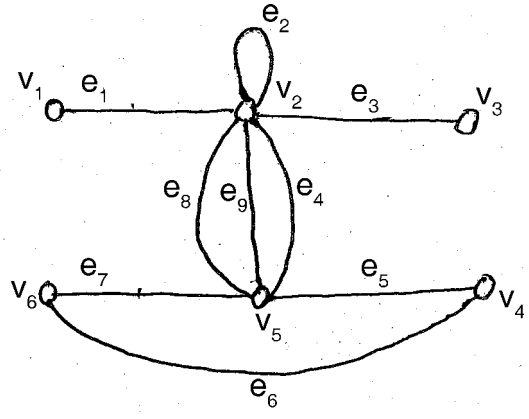
$(p \leftrightarrow q) \rightarrow [(p \rightarrow q) \wedge (q \rightarrow p)]$.

2) Let A = {1, 2, 3, 4, 6, 9}, B = {2, 3, 5, 6, 7, 8} be the subsets of the set U = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14}. Then show that

$(A \cup B)' = A' \cap B'$.

3) In a survey of 1000 people, it was found that 425 people drinks tea, 305 people drinks coffee and 226 people drinks both tea and coffee. Then find the number of people who drinks at least one of tea or coffee.

B) From the following graph G, write adjacency matrix and incidence matrix. **4**



G

4. Attempt **any two** of the following : **14**

   1) How many integers between 1 to 999 which are divisible either by 3 or by 5 or by 7 ? Also find the number of integers between 1 to 999 which are neither divisible by 3 nor by 5 nor by 7.

   2) Let U = {a, b, c, d, e, f, g, h, i, j, k} be the universal set. Let A = {b, c, e, g, h, i} and B = {a, b, c, d, f, i, j, k} be the subsets of U then write the following sets.

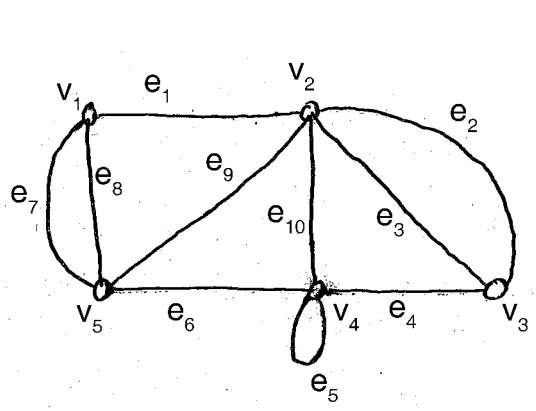
      $A \cup B$, $A \cap B$, A', B', $A - B$, $B - A$ and $A \oplus B$.

   3) Check the validity of the following argument by using truth table.

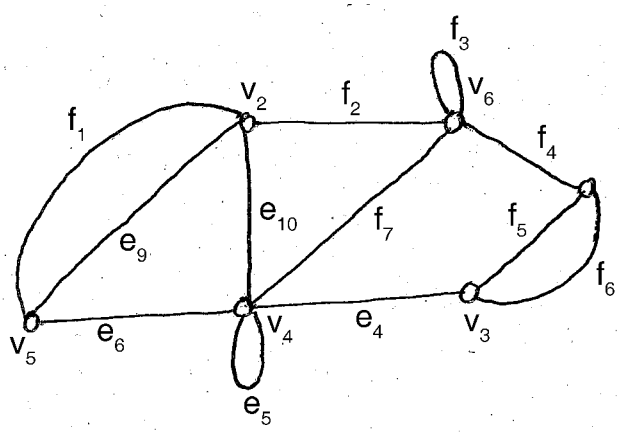
      $p \rightarrow \sim q,\ q \vee r,\ \sim p \vdash p \rightarrow r$.

5. Attempt **any two** of the following : **14**

   1) From the following graphs G_1 and G_2 draw the graph $G_1 \cap G_2$ and $G_1 \oplus G_2$.



G_1



G_2

   2) Define transitive closure. Hence by using Harshall's algorithm find transitive closure of relation R = {(a, a), (a, b), (b,a), (b, c), (c, d), (d, a), (d, b)} defined on the set A = {a, b, c, d}.

   3) State both the distributive laws in logic. Prove one of them by using truth table.
