SEAT No._____ No. of Printed Pages : 02

[1]

SARDAR PATEL UNIVERSITY

B.SC. (CA & IT) (INTEGRATED) & M.SC. IT (INTEGRATED) (NC)

(SEM-I) Examination November-2017

PS01CIIT01 : Introduction to Information Technology

Date: 03/11/2017 Time: 10:00 to 01:00 Total Marks : 70

Q.1 Multiple choice questions: [10]

1. Data is collection of _____
   A. Facts and entities relevant to user
   B. Raw Material
   C. A set of numbers and alphabets
   D. Input Material for computer

2. DSS is the short form of _____
   A. Decision Support System
   B. Discussion Support Software
   C. Decision Software System
   D. Direct Support System

3. _____are the devices which convert analog signals to digital.
   A. Router B. Bridge C. Modem D. Gateway

4. The first electronic computer was_____
   A. UNIVAC B. ADVAC C. ENIAC D. MINI

5. _____ is the world's fastest computer.
   A. Mini Computer
   B. Super Computer
   C. Mainframe Computer
   D. Micro Computer

6. Instruction for execution by a computer is given in _____ language.
   A. Symbolic B. BASIC C. Machine D. Compiler

7. A user could run a program larger than main memory by which of the following technique?
   A. Multi-programming
   B. Time Sharing
   C. Overlays
   D. Multi-Processing

8. _____shares characteristics with both hardware and software.
   A. Operating System
   B. Software
   C. Data
   D. None

9. EFT stands for_____
   A. Electronic Fund transfer
   B. Electronically Finance Training
   C. Electric Finance Transaction
   D. None

10. A Program which protects a disc from getting infected, is called
    A. Virus B. Vaccine C. Antidote D. None

Q.2 Write answer in short (Any Ten) [20]

1. Define data and information with example.
2. List the features of information.
3. Write the full form of MIS and TPS.
4. List the capabilities of computer.
5. Differentiate analog and digital computer.
6. What are the different types of micro computers?
7. Define Assembler in brief.
8. List the DOS Command.
9. Define simulator in brief.
10. List the types of package available.
11. List the elements of a health care network.
12. Briefly explain EFT.

Q.3(a) Differentiate data and information. [5]

(b) List and Explain categories of information in detail. [5]

OR

Q.3(a) List and explain features of information in detail. [5]

(b) Explain level of information in detail. [5]

Q.4(a) What is computer? List limitations of computer. [5]

(b) Write a short note on computer classification. [5]

OR

Q.4(a) Write a short note on personal computer. [5]

(b) Write a short note on modem. [5]

Q.5 What is Operating system? Explain the functions of it. Also write short note on DOS. [10]

OR

Q.5 Write a note on compiler, interpreter, and translator. Also explain the software types. [10]

Q.6(a) Write a short note on IT applications. [6]

(b) Write a short note on CBT. [4]

OR

Q.6(a) Write a short note on payroll system. [6]

(b) Write a short note on use of computer in entertainment. [4]

— X —

SC

[51] SEAT No._____ No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

External Examination

B.SC. (CA & IT) (INTEGRATED) – SEMESTER-I

Course No: PS01CIIT02

Subject : Computer Organization

Date : 7-11-2017, Tuesday

Time : 10:00AM to 1:00 PM **Marks : 70**

Q.1 Multiple choice questions. **[10]**

i. Which one of the following is not an input unit?

(A) Scanner (B) Printer
(C) Keyboard (D) None of above

ii. Radix in the Binary Number System is _____.

(A) 0 & 1 (B) 3 & 4
(C) 5 & 6 (D) None of above

iii. In Hexadecimal Number system, F stands for _____

(A) 14 (B) 16
(C) 15 (D) All of above

iv. The NAND gate has two or more input signals. If all inputs are _____, the output is high.

(A) Low (B) High
(C) Both A & B (D) None of these

v. The_____gate has two more input signals. All inputs must be same to get a low output.

(A) XOR (B) NAND
(C) XNOR (D) None of these

vi. Array processor is referred as _____

(A) SISD (B) SIMD
(C) MIMD (D) None of these

vii The world's first array processor was _____

(A) ILLIAC VI (B) ILLIAC IV
(C) 8086 (D) None of these

viii Dot matrix printer is an example of _____

(A) Serial Printer (B) Laser Printer
(C) Drum Printer (D) None of these

ix A method for specifying an operand in memory by giving its full address, such a mode is called _____.

(A) Immediate addressing (B) Direct addressing
(C) Register addressing (D) none of these

x. Which one is output device?

(A) Plotter (B) Keyboard
(C) Mouse (D) None of these

(P.T.O.)

Q.2 **Short answer (Attempt any ten questions)** **[20]**

a. What is primary storage?
b. What are the five basic operations performed by any Computer system?
c. Convert the following :
   i) $(185)_{10} = (\ ?\ )_2$ ii) $(1101)_2 = (\ ?\ )_{10}$
d. Define the term Logic Gates. List the basic gates.
e. Explain with symbol and truth table (for two inputs and three inputs) the following gates: I) AND II) NOR
f. Draw the circuit and write the truth table for the equation: A'B+B'C+AC'
g. What is vector processor??
h. What is Multicomputer?
i. What is secondary memory?
j. What is Immediate addressing?
k. Define stack addressing.
l. What is use of scanner?

Q.3 [A] What is Number System? Explain the various number systems you know. **[10]**

OR

[A] Draw a block diagram of Basic Organization of a Computer System and explain the functions of the various units. **[10]**

Q.4 [A] Explain Hammings code. **[06]**
[B] Explain the rules of Boolean algebra. **[04]**

OR

Q.4 [A] State and prove De'Morgan first and second theorem. **[06]**
[B] Explain UNICODE with example. **[04]**

Q.5 [A] Explain Multiprocessors. **[05]**
[B] Explain in detail the Von Neumann machine. **[05]**

OR

Q.5 [A] Explain the storage organization of optical disk. **[05]**
[B] Explain Superscalar Architectures. **[05]**

Q.6 [A] What is Direct addressing ? **[03]**
[B] What is addressing mode ? Explain the following addressing modes: **[07]**
i) Indirect addressing. ii) Indexed addressing iii) Register addressing

OR

Q.6 [A] Write a short note on Sequential Access device. **[03]**
[B] What is Input device ?Explain the following Input devices: **[07]**
i) Keyboard. ii) Scanner iii) Printer

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SARDAR PATEL UNIVERSITY

B.Sc. (CA&IT) Integrated / M.Sc. IT Integrated (NC)

Semester – 1

Thursday, Date: 9th November 2017

Session: Morning Time: 10:00 A.M. to 1:00 P.M.

Subject Code: PS01CIIT03 Total Marks: 70

Subject Title : Problem Solving Methodology and Programming in 'C'

Q1. Multiple Choice Questions. (Attempt all) [10]

1. Mnemonic a memory trick is used in which of the following language?
   A. Machine C. Assembly
   B. High D. None of the above

2. A compiler is a translating program which translates instruction of _____.
   A. High level language into Machine language.
   B. Machine level language into High language.
   C. Assembly level language into High language.
   D. High level language into Assembly language.

3. _____ format specifier for printing or reading integer data values.
   A. %s C. %c
   B. %d D. %f

4. Which of the following escape sequence character constant is used for printing on a new line?
   A. \n C. \t
   B. \b D. \c

5. _____ statement terminates the execution of loop.
   A. continue C. break
   B. switch D. case

6. _____ function returns absolute value of given number.
   A. pow C. isalpha
   B. abs D. num

7. In an array index of the first element begins with _____.
   A. 1 C. 0
   B. -1 D. 2

8. Elements in an array list are separated by a _____ symbol.
   A. Semi colon (;) C. Dot (.)
   B. Colon (:) D. Comma (,)

9. The strcpy() function performs _____ operation on string.
   A. reading C. reverse
   B. copying D. joining

10. The return type must be _____ if no value is return to the calling function.
   A. int C. char
   B. float D. void

(PTO)

Q2. Answer the following short questions (Attempt any TEN) [20]

1. Explain how does a Compiler differ from Interpreter.
2. What is an algorithm? List Characteristics of an algorithm.
3. What is an Editor? Give 3 examples of Well Know Editors.
4. What is a constant?
5. State and explain syntax of printf statement with example.
6. Explain Conditional operator with example.
7. Write syntax to declare 2D array in c. Give one example.
8. Explain the clrscr ( ) function.
9. Explain difference between break and continue statement.
10. Explain strlen ( ) function with syntax and example.
11. Define function? List out the category of User defined functions.
12. Write difference between User defined function and Library function.

Q3.a. List Characteristics of an algorithm. Write an algorithm to find whether given number is odd or even. [05]

b. What is Translator? List all translators and explain any one in detail. [05]

OR

Q3.a. What is Flowchart? Also explain symbols used to draw flowchart. [05]

b. Explain Machine Level Language in detail with advantages and disadvantages. [05]

Q4.a. What is operator? Explain different operators with example. [06]

b. What is Variable? List rules to declare valid variable names. [04]

OR

Q4.a. Explain switch statement with syntax and example. [06]

b. Explain Basic Structure of C program. [04]

Q5. Explain in detail any two looping statements with example. [10]

OR

Q5. Define array? What is One Dimensional Array? Explain the declaration and initialization of One Dimensional Array with syntax and example. [10]

Q6.a. Explain functions in detail with purpose, syntax and example. [05]
i) strcmp() ii) strrev()

Q6.b. Write short note on command line arguments. [05]

OR

Q6.a. What is string? List different string handling functions with its purpose. Explain syntax of declaring string with example. [05]

Q6.b. Explain the function category with argument and return value using suitable example. [05]

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SC

[56] SEAT No._____

Total No. of Printed Pages: 02

SARDAR PATEL UNIVERSITY

B.Sc (CA & IT)-(Integrated)

M.Sc(IT) – (Integrated) Semester – I (CBCS) (NC) Examination 2017

PS01CIIT04: PC Software

Saturday, 11th November' 2017

Time: 10.00AM to 1.00PM **Max. Marks: 70**

Note: Figure indicates right side is maximum marks for each question

Que: 1 Select an appropriate answer for the following. **[10]**

1. The ALU of a computer responds to the commands coming from _____
   A. Primary memory **B.** Control section **C.** External memory **D.** Cache memory
2. One of the functions of Operating System is _____
   A. File management **B.** Internet **C.** Networking **D.** Intranet
3. In MS Word, Ctrl+S is for, _____
   A. Scenarios **B.** Size **C.** Save **D.** Spelling Check
4. Portrait and Landscape are _____
   A. Page Orientation **B.** Paper Size **C.** Page Layout **D.** All of above
5. Which is the default direction for Search?
   A. Above **B.** Below **C.** All **D.** None
6. The area formed by the intersection of a row and column is called_____?
   A. Cell **B.** Spreadsheet **C.** Workbook **D.** Excel
7. A formula always begins with _____.
   A. + **B.** = **C.** { **D.** -
8. Which Chart can be created in Excel?
   A. Area **B.** Line **C.** Pie **D.** All of the above
9. Power Point presentation is a collection of _____
   A. Slides and Handouts **B.** Speaker's notes **C.** Outlines **D.** All of the above
10. Special effects used to introduce slides in a presentation are called _____.
    A. Effects **B.** Custom Animations **C.** Transitions **D.** Present Animations

Que: 2 Answer the following questions in brief: (Attempt any Ten) **[20]**

1. Write difference between Hardware and Software.
2. Lists types of editors with example.
3. What is compiler?
4. **Define**: Header and Footer.

[P.T.O]

5. What is Excel? List important features of Excel.
6. What is Table? List different ways to create a Table.
7. What is a Spreadsheet?
8. List the popular spreadsheet packages.
9. Which excel function is used to perform conditional calculations?
10. What is the meaning of Custom Animation?
11. In which condition you can use the Pivot Table facility?
12. What do you mean by protecting worksheet?

Que: 3 [A] Write a short note on Computer Languages. **[05]**

[B] Explain in detail what is Personal Computer? **[05]**

OR

Que: 3 [A] What is Word Processing? Write the advantages of Word Processing. **[05]**

[B] Write a note on Bullets and Numbering. **[05]**

Que: 4 Explain Mail Merge facility in detail with its steps and example. **[10]**

OR

Que: 4 Write a note on Page Setup Dialog Box and Print Dialog Box. **[10]**

Que: 5 [A] Explain any three Mathematical functions with example. **[06]**

[B] Explain the advantages of Spreadsheet Package. **[04]**

OR

Que: 5 [A] Explain Filter facility of Excel in detail. **[06]**

[B] Write a short note on AutoSUM facility of Excel. **[04]**

Que: 6 [A] Write difference between Simple Chart and Pivot Chart. **[05]**

[B] Write a short note on features of Presentation Tool. **[05]**

OR

Que: 6 [A] Explain "What If Analysis" in detail. **[05]**

[B] What are the different Slide Transitions available in Power Point? **[05]**

Best ☺f Luck

(2)

(12) No. of Printed Pages : 2 Sc

SEAT No._____ SARDAR PATEL UNIVERSITY

Bsc(CA&IT)(Inegrated) Examination, 1st Semester

Tuesday, 14th November, 2017.

Time: 10:00 A.M to 12:00 P.M

Subject Code: PS01EIIT02

Subject :-Information Technology in Buisness

Total Marks: 70

Q.1 Multiple Choice Questions [10]

1. The three basic components or functions of a system are:

(A) Input , processing, output (B) input , output, data
(C) input , presentation, processing (D) presentation , information, processing

2. Software resources include

(A) Program (B) Procedure (C) Both a and b (D) None of above

3. _____is a major customer cenetric business stretegy.

A. CIM B. ERP C. CRM D. SCM

4. How many basic categories of E-commerce.

A. One B. Two C. Three D. Four

5. Which of the Following is not a form of E-Commerce

A. B2B B. C2C C. D2C D. B2C

6. _____Marketing is a become an important tool in developing advertising promotion stretegies for a company e-commerce website.

A. Marketing B. Interactive C. Targeted D. Saleforce

7.Operating system is a Example of _____.

(A) Appliation Software B) System software C) Hardware D) Software

8. Which of the following is not a major component of Targeted marketing.

(A) Online behavior (B) Company (C) Contex (D)Content

9. Which is a objective of CIM.

(A) Simplicity (B) Continues (C) Simplify (D) different

10. Which one is not the strategic use of IT.

(a) Innovate (b)Promot growth (c) Lower cost (d) Creative

Q.2 Answer the following in short (Any Ten) [20]

1. Explain Output activities.
2. Draw the diagram of Marketing Information System.
3. List down five major component of Targeted Marketing.
4. List out basic function of system.
5. Explain SCOPE of E-Commerce.
6. What is Hardware?
7. What is CRM?
8. Explain B2B?
9. List down common business Accounting System.
10. Explain the meaning of DSS, TPS and MIS
11. Draw the diagram of Functional Buisness System.
12. Explain SCM in short?

(P.T.O.)

Q.3	a)	Explain IS Framework in detail	[05]
	b)	Explain Categories of Information System in detail.	[05]

OR

Q.3	a)	Explain Data Pyramid in detail.	[05]
	b)	Explain system activity.	[05]

Q.4 Draw and Explain People ,Harware and Data Resources of Information System. [10]

OR

Q.4 Draw and Explain Software,Netork and Data Resources of Information System. [10]

Q.5	a)	Explain Enterprise Resource Planning in detail.	[05]
	b)	Explain CRM in detail	[05]

OR

Q.5	a)	Explain SCM in detail.	[05]
	b)	Explain Scope of E-commerce as B2C, B2B, C2C.	[05]

Q.6	a)	Explain Marketing Systems in detail	[05]
	b)	Discuss HRM with following functions: (a) Training and Development (b) Staffing the Organization	[05]

OR

Q.6	a)	Explain Financial Management System in detail.	[05]
	b)	Discuss Accounting System with following functions: (a) Order Processing (b) Inventory Control	[05]

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S/C

No. of Printed Pages : 04

SEAT No._____

SARDAR PATEL UNIVERSITY

[01]

B.SC (CA&IT) (Regular)/M.SC (Integrated) (NC) SEM-I EXAMINATION

WEDNESDAY, 01ST NOVEMBER, 2017

10:00 am to 12:00 noon

PS01FIIT02: **MATHEMATICS-I** **Total Marks: 70**

Q:1 Choose the correct option in the following, mention the correct option with the answers in the answer book. **[10]**

(1) An alternating sequence of vertices and edges in graph is called:
(a) trail (b) cycle (c) path (d) degree

(2) The degree of an pendant vertex is:
(a) 0 (b) 1 (c) 2 (d) -1

(3) $3(0, 2, 1) - 2(1, 0, 3) =$ .....
(a) $(2, 6, -3)$ (b) $(-2, 6, 3)$ (c) $(-2, 6, -3)$ (d) $(-2, 0, -3)$

(4) The size of the Adjancey matrix of a graph with 7 vertices is:
(a) 7×6 (b) 6×6 (c) 7×7 (d) 7

(5) Chromatic number is the _____ number of color required to paint graph G.
(a) total (b) average (c) minimum (d) maximum

(6) Norm of the vector u = (3, 0, 4) is
(a) 25 (b) 7 (c) 0 (d) 5

(7) Median of 4, 7, 3, 11, 17, 14, 9, 8
(a) 9.5 (b) 9 (c) 8.5 (d) 8

(8) Geometric mean of x, y, z is given by
(a) $\sqrt{xyz}$ (b) $\sqrt{x+y+z}$ (c) $\sqrt[3]{xyz}$ (d) none of these

(9) The number of edges in a complete graph K_{15} is:
(a) 15 (b) 30 (c) 105 (d) 120

(10) The degree of each vertex of the complete graph K_5 is:
(a) 5 (b) –5 (c) 4 (d) 1

Q:2 Answer the following in short. (**Any Ten**) **[12]**

(1) Define regular graph. Draw regular graphs of degrees 0 and 1.

(2) Define bridge and cut points.

(3) If $A = \begin{bmatrix} 2 & 0 & -1 \\ 4 & 5 & 3 \\ 0 & 2 & 5 \end{bmatrix}$ then find $A + A^T$ and $A - A^T$.

(4) Find x, y, z if (2x, 3, y) = (4, x + z, 2z).

(5) Define simple graph and cycle.

(6) Draw all the spanning trees of the graph: 

(7) Define arithmetic mean.

(8) Find the Mode of 3, 7, 11, 9, 13, 1, 7, 12, 18, 6, 7.

(9) Explain quantitative data.

(10) Define tree and spanning trees of the graph.

(11) Define graph and multigraph.

(12) Is U=(5,4,1) and V=(3, –4,1) are orthogonal? Justify.

Q:3 (a) If $A = \begin{bmatrix} 3 & 7 \\ 2 & 5 \end{bmatrix}$ then find $A + A^{-1} + A^{T}$. **[5]**

(b) Define the dot product and norm of vector. Let U=(5,4,1) , V=(3,-4,1) ,(i) Find norm of U and V. **[5]**

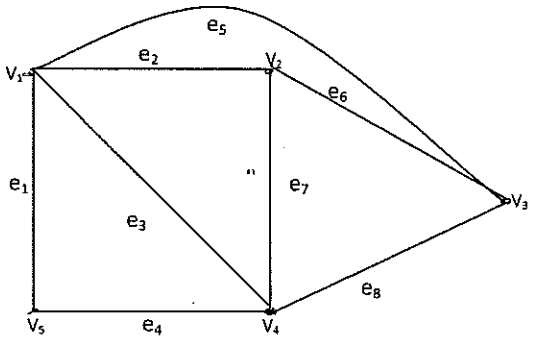
(ii) Show that U and V are orthogonal.

OR

Q:3 (c) Find the product AB and BA if $A = \begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -2 & -5 \\ 3 & 4 & 0 \end{bmatrix}$. **[5]**

(d) Using Cremer's rule solve the simultaneous equations 3x – 2y = 5, 5x +4y =1. **[5]**

Q:4 (a) Find the incidence matrix and adjacency matrix for the following Graphs: **[5]**



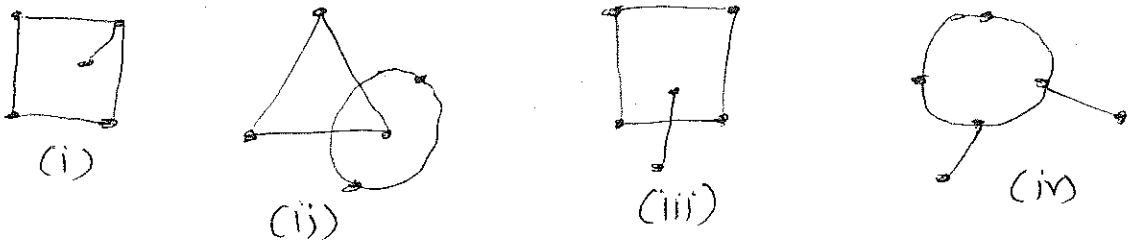
(b) Draw the graph G corresponding to each adjacency matrix given below. **[5]**

$$\begin{bmatrix} 1 & 1 & 2 & 0 \\ 1 & 2 & 1 & 3 \\ 2 & 1 & 2 & 0 \\ 0 & 3 & 1 & 0 \end{bmatrix}$$

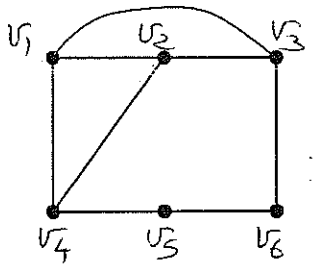
OR

Q:4 [5]

(c) Define connected graph. Determine whether or not each of the graphs is connected or not:



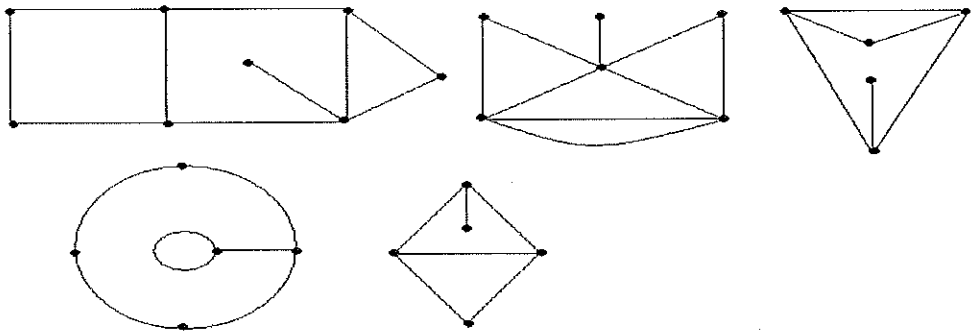
(d) Consider the graph G as [5]



(i) Find all simple paths from v_1 to v_6.
(ii) Find all trails from v_1 to v_6.
(iii) Find d (v_1 , v_5).
(iv) Find all cycles in G.

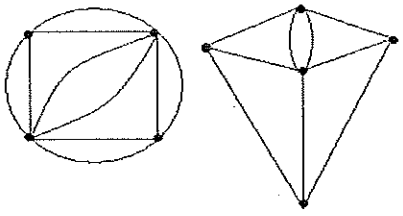
Q:5 [5]

(a) Identify cycle or closed path that borders each region of the following map. Also find the degree of each region and chromatic number of the following maps:



[5]

(b) Define the coloring of a map. Paint the following maps with minimum number of colors:

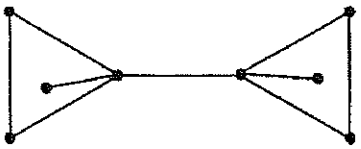


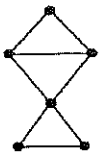
OR

Q:5 [5]

(c) Find chromatic number for the following graphs using Welch-Powell algorithm:

(d) State Euler's formula. Verify it for the following graphs: [5]





Q:6 The marks of 40 students who attended a workshop competitive exam are as follows: [10]

27	32	57	34	36	48	49	31	51	34
49	45	51	29	47	36	50	46	30	46
35	35	48	41	53	36	37	47	47	30
43	45	42	30	46	50	28	44	48	49

[i] Classify the above data in exclusive classes & one of them being 40 – 44.

[ii] Obtain mean and median of the distribution.

OR

Q:6 Calculate Harmonic mean, Median, Mode for the following data. [10]

Marks	20	30	36	40	50
No. of students	2	7	10	5	1

— X —