(12) Seat No.:_____ No. of Printed Pages : 2.

SARDAR PATEL UNIVERSITY
BCA Examination, 1st Semester (CBCS) (Regular& NC)
March2017 Examination
Saturday, Date: 18th March, 2017
Session : Morning Time : 2:00 P.M. TO 04:00 PM

Course Code: US01CBCA01
Course Title : Fundamentals of Computer Programming Using 'C'

Total Marks: 70

Q1. Multiple Choice Questions. [10]

1. Mnemonic a memory trick is used in which of the following language?
   A. Machine Language C. High Language
   B. Assembly Language D. All of the above
2. _____ converts Assembly language instructions into equivalent Machine language instructions.
   A. Compiler C. Assembler
   B. Interpreter D. All of the above
3. What is the standard decision symbol used for a flowchart?
   A. Diamond C. Parallelogram
   B. Rectangle D. Arrows
4. _____ is an example of a valid variable name.
   A. sum of digits C. amount
   B. char D. float
5. The value cannot be changed during program execution is known as _____.
   A. variable C. define
   B. NULL D. constant
6. Two dimensional array requires ____ number of subscripts/index.
   A. 1 C. 2
   B. 3 D. 4
7. String end with '\0', known as _____ character.
   A. NULL C. symbolic constant
   B. blank D. escape character
8. Array can be declared of _____ datatype.
   A. float C. integer
   B. char D. All of the above
9. gets() function is available in _____ header file.
   A. process C. math
   B. conio D. stdio
10. Function parameter is also known as _____.
   A. void C. return value
   B. argument D. index

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

1. List categories of Computer Languages.
2. What is an editor ? List 2 well known editors.
3. What is translator? List various translators.
4. List all basic data types that can be used in 'C' Program.
5. Explain pre-increment and post- increment operator.
6. Draw the basic structure of C program.
7. Define array. Give 2 examples of one dimensional array.
8. Explain the isdigit ( ) function.
9. Explain break statement in brief.
10. List out any 4 functions of string.h header file.
11. Define function? List out the category of function.
12. What is difference between Library function and User define functions.

Q3. Explain High Level Language and Assembly level Language with list of advantages and disadvantages. [10]

OR

Q3. Define Flowchart. Explain all symbols used to draw a flowchart in detail. State advantages of flowchart. [10]

Q4.a. Explain Relational and Arithmetic operators with example. [05]

b. Define Variable? State rules for declaring a variable. [05]

OR

Q4.a. Explain simple if and if..else statement in detail with general form, description and example. [05]

b. Explain printf() and scanf() statements with its syntax, description and example. [05]

Q5.a. What is One dimensional array? Explain declaration and initialization of One dimensional array with example. [05]

b. Explain for loop in detail with general form, description and example. [05]

OR

Q5.a. Explain following functions with syntax, purpose and example: [06]
i) sqrt() ii) pow() iii) isupper() iv) abs()

b. State the purpose of loops. List different looping statements used in 'C'. Write difference between exit and entry controlled loop. [04]

Q6.a. Explain function with argument and return value. [05]

b. Explain syntax, purpose, description and example of any 2 string handling functions available in string.h header file. [05]

OR

Q6.a. Explain in detail Function declaration and Function call statements. [05]

b. What is string? Explain declaration and Compile time and Run time initialization of strings in C. [05]

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SARDAR PATEL UNIVERSITY

BCA (Semester – I) (CBCS) (Reg. & NC)

US01CBCA02: Computer Organization

Monday, 20th March, 2017

Time: 2.00pm To 5.00pm **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. Numbers are stored and transmitted inside a computer in _____ form
   [A] Binary **[B]** ASCII code **[C]** Decimal **[D]** Alphanumeric

2. Which statement is valid?
   [A] 1KB = 1024 bytes **[B]** 1 MB=2048 bytes
   [C] 1 MB = 1000 kilobytes **[D]** 1 KB = 1000 bytes

3. A byte corresponds to _____
   [A] 4 bits **[B]** 32 bits **[C]** 16 bits **[D]** 8 bits

4. ASCII stands for,
   [A] America standard coded information interchange
   [B] American standard code for information interchange
   [C] America standard coded interchange information
   [D] American standard coded interchange information

5. Extra bit added to a string of bits to detect errors is known as_____
   [A] Additional bit **[B]** Correction bit **[C]** Parity bit **[D]** Updation bit

6. Which memory is permanent type of memory?
   [A] ROM **[B]** RAM **[C]** EPROM **[D]** EEPROM

7. Cache memory is being deployed for
   [A] Speed up rate of data fetching **[B]** Reduce rate of data fetching
   [C] To reduce the error **[D]** None of these

8. Floppy disk is a _____ disk.
   [A] Removable **[B]** Permanent **[C]** Direct access **[D]** None of these

9. Which one is a pointing device?
   [A] Scanner **[B]** Keyboard **[C]** Mouse **[D]** None of these

10. Which printer gives the best result of printing?
    [A] Dot-matrix printer **[B]** Laser printer
    [C] Inkjet printer **[D]** None of these

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

1. Define : Software with examples
2. List applications of computer
3. Find Binary and Octal number equivalent to decimal 10
4. Explain ASCII character code with example
5. List steps of Instruction Execution cycle

6. Explain 1's complement method with example
7. Explain Cache memory
8. List stages of pipelining
9. Explain Static ROM
10. What is Scanner?
11. Give two differences between input device and output device
12. What is keyboard? List types of its keys.

Que: 3 [A] Draw and explain Block Diagram of Computer with its functions **[05]**

[B] Explain Hexadecimal Number System. Also Find $(ABC)_{16} = (?)_2$ **[05]**

OR

Que: 3 [A] List the generations of computers and explain any two in detail **[05]**

[B] Explain Binary addition and subtraction with suitable example **[05]**

Que: 4 [A] Explain Error detection and correction code (Even & Odd Parity bit) with example **[06]**

[B] Explain Excess Notation with example **[04]**

OR

Que: 4 [A] Explain Hamming code method with example **[06]**

[B] Write a note on CPU Organization (Vonn Neumann machine) **[04]**

Que: 5 [A] Explain pipelining machine through diagram **[05]**

[B] Explain array processor with diagram **[05]**

OR

Que: 5 [A] Explain Hard Disk with diagram. **[05]**

[B] Write a note on Registers **[05]**

Que: 6 List all addressing techniques and explain any three of them in detail **[10]**

OR

Que: 6 Explain Printer in detail with all its types **[10]**

Best ☺f Luck

— X —

(10) Seat No.:_____ Total No of Pages: 02

SARDAR PATEL UNIVERSITY

BCA I[ST] SEMESTER (NC)

US01CBCA03 || PC SOFTWARE

Date:21[st] MARCH, 2017 (TUES DAY)

Time: 2:00 P.M. to 05:00 P.M. Marks: 70

Q-1 Multiple Choice Questions. [10]

1 Which is the shortcut key to Print MS WORD Documents?
A. Ctrl+p B. Ctrl+I C. Ctrl+o D. None of this

2 Header and Footer option is under_____Menu.
A. file B. view C. insert D. format

3 Which of the following is example of programming language?
A. DOS B. UNIX C. COBOL D. Windows

4 The default direction for Search is _____.
A. Above B. Below c. Left D. All

5 Page margins can be changed in _____ option of File Menu.
A. page setup B. Format Font C. Format Paragraph D. File

6 _____ key move the cursor to the next cell in the table.
A. Alt + Tab B. Tab C. Shift + Tab D. Ctrl + Tab

7 Excel displays the address of the active cell in the _____.
A. status bar B. tool bar C. formula bar D. worksheet

8 A formula always begins with _____.
A. + B. & C. % D. =

9 Material consisting of text and numbers is best presented as
A. A table slide B. A bullet slide C. A title slide D. All of the above

10 To protect a worksheet, you can choose Protection and the Protect Sheet from the .....menu
A. Edit B. Tools C. Format D. Data

Q-2 Answer the following questions (Any Ten). [20]

1 What is Operating system? give 5 examples of Operating System.
2 What is Personal Computer?
3 Explain the Find, Replace Operations.
4 What is Drop Cap effect?
5 What is a Column Break?
6 What is Page Break?
7 What is Sorting?
8 What is Filtering facility
9 What is the use of Chart in Excel
10 How you can create the presentation?
11 What is the meaning of formatting slides?
12 write any two use of excel spreadsheet

[P.T.O]

Q-3	[A]	What is WORD? Write down the features of word processor.	[5]
	[B]	Explain Editors in detail with more than one example.	[5]
		OR	
Q-3	[A]	What is word processing? Write the advantage of word processing.	[5]
	[B]	Write short note on: Classification of PC software.	[5]
Q-4	[A]	Explain Page Setup Dialog Box MS Word.	[5]
	[B]	Explain options available in Table menu of MS Word.	[5]
		OR	
Q-4	[A]	Explain the advantages of a spreadsheet package.	[5]
	[B]	What is Mail Merge? Explain each step in detail.	[5]
Q-5	[A]	Explain Excel Screen.	[5]
	[B]	Explain Date Functions with example.	[5]
		OR	
Q-5	[A]	Explain the filter facility of excel in detail	[5]
	[B]	Explain any three types of simple chart in detail	[5]
Q-6	[A]	How you can insert picture , sounds, and charts in power point slides	[10]
		OR	
Q-6	[A]	What is power point? Describe the views available in power point.	[10]

~~~~ Best of Luck ~~~~

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SARDAR PATEL UNIVERSITY

B.C.A. (I Semester) (NC) Examination

2017

Wednesday, 22nd March

2.00 p.m. to 5.00 p.m.

US01CBCA04 : Web Designing Fundamentals Total: 70

Q-1 Select the correct option for each of the followings: **10**

1 Internet is a collection of _____.

(a) Networks of Computers (b) Networks of Networks

(c) Networks of Server (d) Networks of Stand Alone PCs

2 Web information is stored in documents which are called_____.

(a) Web client (b) Web server (c) Web pages (d) None

3 What is the short - cut key to perform the find operation?

(a) Ctrl + F (b) Ctrl + G (c) Ctrl + N (d) Ctrl + E

4 _____ and _____ are different types of tags.

(a) double, single (b) on, off (c) singular, paired (d) None

5 _____tag is used to create line break.

(a) <brk> (b)
 (c) <break> (d) None

6 _____ is used to display © symbol.

(a) © (b) copy (c) &cpy (d) None

7 _____property is used to combine two columns in a table.

(a) colspan (b) rowspan (c) rowcmb (d) colcmb

8 _____tag will create row in a table.

(a) <row> (b) <tr> (c) <td> (d) <th>

9 To convert a drop-down list into List box, ___ attribute is used with <select>.

(a) name (b) multiple (c) size (d) value

10 The _____ attribute is used to show a label on the button.

a) label (b) msg (c) text (d) value

Q-2 Do as directed (Attempt any 10): **20**

1 What is Internet?

2 Explain Internet Addressing in brief.

3 Define Modulation.

4 Explain
 tag with example.

5 How we can display special characters in a web page?

6	Explain <font> tag with an example.	
7	Discuss <td> tag.	
8	Explain <a> tag in short.	
9	List the attributes of <image> tag.	
10	Explain radio button.	
11	Explain checkbox control.	
12	Explain text box control.	
Q-3	List and explain the components of a web browser.	10
	OR	
Q-3	Write a note on services provided by the Internet.	10
Q-4	**Do as directed.**	
A	Explain structure of HTML.	5
B	Explain an ordered list in detail.	5
	OR	
Q-4	**Do as directed.**	
A	Explain <body> tag in detail.	5
B	Explain an unordered list in detail.	5
Q-5	**Do as directed.**	
A	Explain table creation in HTML.	5
B	Explain internal and external link in HTML.	5
	OR	
Q-5	**Do as directed.**	
A	Explain <img> tag in detail.	5
B	Explain <frameset> tag with all associated tag and attributes.	5
Q-6	**Do as directed.**	
A	Explain <form> tag with all associated attributes.	5
B	Explain submit and reset button.	5
	OR	
Q-6	**Do as directed.**	
A	Explain <select> tag with example.	5
B	Explain the different views in MS FrontPage.	5

ALL THE BEST

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SARDAR PATEL UNIVERSITY
FYBCA First Semester (CBCS) (NC) EXAMINATION
2017
Tuesday, 21st March
2.00 p.m. to 5.00 p.m.
US01CBCA06 (w.e.f. June 2016)
Personal Computer and Software Packages

Total Marks: 70

Q:1 Select most appropriate single answer: **[10]**

1) Assembly language uses certain predefined symbolic codes which are called as _____.
   A. Mnemonics B. Instruction C. Statement D. Variable
2) The _____ is a type of software program that allows users to create and/or manipulate computer files.
   A. Operating System B. Computer System C. Editor D. None of these
3) Portrait and Landscape are _____.
   A. Page orientation B. Paper size
   C. Page layout D. All of above
4) Which of the following function key activates the spelling and grammer?
   A. F5 B. F7 C. F9 D. Shift + F7
5) Calc sheet have maximum of _____ columns.
   A. 1034 B. 1045 C. 1025 D. 1024
6) Which functions used for returns the factorial of a number?
   A. FACT B. EVEN C. ODD D. EXP
7) Which types of charts can calc produce?
   A. Line graphs and pie charts only
   B. Only line graphs
   C. Bar charts, line graphs and pie charts
   D. Bar charts and line graphs only
8) To select one hyperlink after another during a slide presentation, what do you press?
   A. Tab B. Ctrl + K C. Ctrl + H D. All of above
9) The spacing between the two lines can be set using _____ option.
   A. format - text B. format - line
   C. format - paragraph D. format - character
10) Which of the following is not one of Impress's views?
   A. Slide show view B. Slide view
   C. Presentation view D. Outline view

Q:2 Write Answers in short. Attempt Any Ten. **[20]**

1) Explain classification of Personal Computer Software.
2) Explain Bold, Underline and Italicize of text.
3) How can we insert special characters?
4) What are header and footer?
5) What is template?
6) Explain drop caps effect with example.
7) Explain ROUND function by taking appropriate example.
8) Explain SIGN function by taking appropriate example.
9) What is Sorting?
10) What is Impress? Describe the views available in Libre Impress.
11) Explain usage of Libre Impress.
12) What is the meaning of formatting slides?

1 (P.T.O.)

Q:3	**(A)**	Explain Bullets and Numbering in Writer.	**[6]**
	(B)	Explain Editors in detail with more than one example.	**[4]**
		OR	
Q:3	**(A)**	Draw and Explain parts of the main Writer window.	**[6]**
	(B)	Explain LibreOffice Writer with its features.	**[4]**
Q:4	**(A)**	Explain mail merge in detail.	**[6]**
	(B)	Explain page size and margin in writer.	**[4]**
		OR	
Q:4	**(A)**	Explain the Find and Replace Operations.	**[6]**
	(B)	What is table? Write steps to create table in writer.	**[4]**
Q:5	**(A)**	List and explain any five Date functions with examples.	**[10]**
		OR	
Q:5	**(A)**	Explain the filter facility of Calc in details. Explain the What IF Function.	**[10]**
Q:6	**(A)**	How you can insert picture, sounds, and charts in Libre Impress slides.	**[6]**
	(B)	Explain usage of Libre Impress.	**[4]**
		OR	
Q:6	**(A)**	Write down the steps for slide transition and give special effects to Libre Impress slide.	**[6]**
	(B)	What is macro? Discuss the procedure to create and execute a macro with example.	**[4]**

**** Best of Luck ****

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SARDAR PATEL UNIVERSITY

B.C.A. (I Semester) (NC) Examination

2017

Wednesday, 22nd March

2.00 p.m. to 5.00 p.m.

US01CBCA07 : Fundamentals of Web Designing

Total Marks: 70

Note: **1.** All questions are compulsory. **2.** Figures to the right indicate marks.
3. Start a new question from a new page.

Q.1 **Answer the Following:** **[10]**

A. Full form of HTTP is _____.
1. Hypertext Transition Protocol 2. Hypertext Transition Portability
3. Hypertext Transfer Protocol 4. None of these

B. Full form of SMTP is _____.
1. Same Mail Transfer Protocol 2. Simple Mail Transfer Protocol
3. Simple Message Transfer Protocol 4. Simple Message Transport Protocol

C. Which command is used to copy the content from web-page?
1. Ctrl+C 2. Ctrl+X 3. Ctrl+F 4. Ctrl+N

D. HTML stands for _____
1. Hyper Tags Markup Language 2. Hyper Text Markup Language
3. High Tags Markup Language 4. None of these

E. <tt> is used for TELETYPE FONT.
1. TRUE 2. FALSE

F. _____ used to get © symbol
1. &cp; 2. &cpy; 3. © 4. None of these

G. <th> is used for creating Table Header.
1. TRUE 2. FALSE

H. Click will link to anchor named **bca** in same page.
1. TRUE 2. FALSE

I. To allow a user to enter only 10 character long string, _____ attribute is used with a textbox.
1. value 2. maxlength 3. type 4. size

J. _____declaration is written at the top of the page before the <html> tag
1. <!DOCTYPE> 2. <Meta> 3. <header> 4. <footer>

Q.2 **Answer the Following: [ANY TEN]** **[20]**

A. Define Modulation.
B. What is HTML?
C. Define Search Engine.
D. How you create Paragraph in HTML? Explain with its attribute and an example.
E. Explain <B>, <I> and <U> with an example.
F. Explain the use of **TYPE** and **START** attributes in Ordered List with an example.
G. Explain <A> tag in short.
H. Explain the <CAPTION> with its attribute and an example.
I. Explain the <FRAMESET> with its attribute.
J. Explain the submit button control.
K. What is a semantic element? List out.
L. Explain the Number element and its attributes with example.

Q.3

a. Write a note on E-Mail service of the Internet. [05]
b. Write a note on TELNET service of the Internet. [05]

OR

a. Write a note on FTP service of the Internet. [05]
b. Write a note on WWW service of the Internet. [05]

Q.4

a. How can you create a Ordered List? Explain. [05]
b. Write a short note on <HR> giving its attributes and an example. [05]

OR

a. How can you create a Bulleted List? Explain. [05]
b. Write a note on <BODY> with its attributes and proper example. [05]

Q.5

a. Write a note on <TD> tag giving all its attributes with an example. [05]
b. Write a note on <FRAME> giving its attributes with a proper example. [05]

OR

a. Write a note on <TR> giving its attributes with a proper example. [05]
b. Write a note on <IMG> giving its attributes with a proper example. [05]

Q.6

a. Write a note on CHECKBOX form control in HTML with associated attributes. [05]
b. Write a note on PASSWORD form control in HTML with associated attributes. [05]

OR

a. Write a note on HTML5 features. [10]

********Best Of Luck********

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SARDAR PATEL UNIVERSITY

BCA SEM-I EXAMINATION 2017 (NC)

Digital Computer Electronics (US01EBCA01)

Time: 2:00 p.m. to 4:00 p.m.
Date: 17/02/2017, Friday Total Marks: 70

Q.1 Multiple Choice Questions [10]

1 The _____ gate has two or more input signals. All inputs must be high to get a high output.
[A. AND B. OR C. NAND D. NOR]

2 De Morgan's first theorem says that a NOR gate is equivalent to a _____.
[A. bubbled OR B. bubbled NOR C. bubbled AND D. AND bubbled]

3 A _____ is a combinational circuit that converts binary information from the 2n coded inputs to an n outputs.
[A. Half Adder B. Decoder C. Encoder D. Comparator]

4 **In k-map, pair eliminates _____ variable.**
[A. one B. two C. three D. four

5 In Comparator, _____ gate is use for comparing bits in word.
[A. AND B. XOR C. NOR D. XNOR]

6 A combinational circuit that performs the arithmetic addition of two bits is called_____.
[A. Full Adder B. Binary Adder C. Half Adder D. Decoder]

7 Half adder consist of_____ & _____ Gates.
[A. XOR, AND B. XOR, OR C. XNOR, AND D. XNOR,OR]

8 In D flip-flop, when CLK is low then input is _____.
[A. high B. Don't care C. low D. Not change]

9 A register is a group of _____ that work together as a unit.
[A. multiplexer B. decoder C. flip-flop D. gates]

10 A multiplexer is also called a _____.
[A. data multiplier B. data selector C. data inverter D. data remover]

Q.2 **Write Short Questions. [Any 10]** **[20]**

1 Prepare truth table for: $\overline{A}B + \overline{B}C$
2 Write **Distributive Law** for addition and multiplication.
3 Prove that **NAND Gate** is equivalent to **Bubbled OR Gate** using Truth table.
4 Draw **K-Map for 3 variables** and randomly show **pair and quade** in same.
5 Draw circuit of **Comparator**.
6 Explain **Sum of Product**.
7 Draw circuit of **Half Adder**.
8 Draw Truth table for 3 input **Full Adder** showing carry and sum.
9 Write a note on **Multiplexer** without circuit.
10 Draw circuit and truth table for **unclocked D Flip-Flop**.
11 Differentiate between **Shift Left** and **Shift Right Register** with proper example.
12 Write a note on **Controlled Buffer Register**.

Q.3(A) Write a detail note on following gates: **AND, NAND, Bubbled AND** **[06]**
(B) Prove that **$AB\overline{C}+ABC=AB$** using truth table. **[04]**

OR

Q.3(A) Write a detail note **De'Morgans Theorem**. **[06]**
(B) Simplify Boolean expression and draw circuit. **A.B+C.D+A.B+C.D** **[04]**

Q.4(A) Explain **8X3 Encoder**. **[06]**
(B) Define **K-Map**. Explain with proper example how it is used to reduced equation. **[04]**

OR

Q.4(A) Explain **3X8 Decoder**. **[06]**
(B) Define **K-Map**. Also explain **PAIR** in context of same. **[04]**

Q.5(A) Write a detail note on **4-bit Binary Adder** with Circuit Diagram. **[06]**
(B) Explain working of **Half Adder.** **[04]**

OR

Q.5(A) Write a detail note on **4-bit Binary Substractor** with Circuit Diagram. **[06]**
(B) Explain working of **Full Adder.** **[04]**

Q.6 Write a detail note on **Shift Registers**. Also discuss **Counters.** **[10]**

OR

Q.6 Define **FlipFlop**. Also discuss **D Latches (clocked and unclocked).** **[10]**

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SARDAR PATEL UNIVERSITY

F.Y.B.C.A. (1st Semester) (CBCS) EXAMINATION – 2017 (NC)

US01EBCA03 : Desktop Publishing

Date:17/03/2017, Friday **Time: 2:00 to 4:00 PM** **Total Marks : 70**

Q.1 Multiple choice questions: [10]

1. _____ displays the page at the next higher magnification.

(a) Ctrl - (b) Ctrl + (c) Ctrl+1 (d) Ctrl+0

2. _____ window is used for making precise changes to text and graphics.

(a) Control Palette (b) Plug-in Palette (c) Tools Palette (d) All of the above

3. DTP is used to create documents with a complex layout of _____.

(a) Text and Chart (b) Text and Images (c) Text and Graphics (d) All of the above

4. To place larger amounts of text in the PageMaker document _____option is used.

(a)Autodraw (b)Autosize (c) Autoflow (d) None

5. _____ drawn through frame distinguish frame from the drawing icons.

(a) Y (b) Z (c) X (d) None

6. File created in pagemaker has _____ extension.

(a) .pmd (b) .xls (c) .doc (d) .pop

7. For editing and proofing of documents PageMaker provides the _____

(a) story editor (b) text editor (c) graphic editor (d) None

8. _____ are similar to transparent sheets, placed one on top of the other.

(a)threads (b)links (c) parts (d) layers

9. _____ is a publication with a prebuilt page design that you can use immediately.

(a) Customize doc (b) Template (c) New page (d) Book

10. When the layer is locked, a _____icon with a line through it appears.

(a)arrow (b)red (c) pencil (d) blue

Q.2 Attempt any ten out of twelve. [20]

1. Write steps to create text using drag and drop.
2. Explain meaning of publishing.
3. Why we are using PageMaker?
4. List popular desktop publishing software.
5. Write steps to duplicate an object.
6. List any five tools available in PageMaker tool palette.
7. List the types of frame in PageMaker.
8. How can we set margins for document?
9. Explain master page.

(P.T.O.)

10. Write steps to open story editor.

11. Explain PageMaker template.

12. List the part of PageMaker page for which we can define a style.

Q.3 (a) Explain the need of Desktop Publishing. [6]

(b) Write a note on "Key features of PageMaker 7. [4]

OR

(a) Explain Advantages of PageMaker. [6]

(b) Explain Graphics and Desktop Publishing. [4]

Q.4 (a) Explain all modes of Control Palette. [7]

(b) Describe Print Dialog box of PageMaker 7. [3]

OR

(a) Write steps to specify text wrap options. [7]

(b) Write steps to place in-line graphic. [3]

Q.5 (a) Explain numbering page in PageMaker. [5]

(b) Write a difference between frame and graphics. [5]

OR

(a) Write steps to apply different master pages to different pages in the document. [5]

(b) Write steps to create a Table from within a PageMaker. [5]

Q.6 Discuss layer palette and character formatting in detail. [10]

OR

Q.6 Describe style palette and story editor in detail. [10]

(10) Seat No: _____

No. of printed pages: 03

SARDAR PATEL UNIVERSITY
B.C.A. (SEMESTER – I) EXAMINATION
Thursday, 16th May. 2017 16/3/17
2.00 o.m. to 4.00 p.m.
MATHEMATICS-I (US01FBCA02)

Total Marks: 70

Q.1 Fill in the blanks: 10

1. Let U = {1,2,.....10}, A = {1,2,3,4} and B = {3,4,5,6}.Then $(A \cap B)^c$ = _____
   (a) A (b) B (c) {1, 2, 5, 6, 7, 8, 9, 10} (d) None
2. De Morgan's Law : _____
   (a) $(A \cup B)^c = A^c \cap B^c$ (b) $(A \cap B)^c = (A \cup B)^c$ (c) $(A \cup B)^c = A \cap B$ (d) None
3. If $u = (3,7,2), v = (-3,0,3)$ then $u \cdot v$ = _____
   (a) -3 (b) (6, -7, 0) (c) -5 (d) None
4. $4(1, 2, 1) + 2(1, 3, 3)$ = _____
   (a) (6 , 12 , 10) (b) (6 , 10 , 14) (c) (6 , 14 , 10) (d) None
5. A Square matrix A is said to be symmetric if ____
   (a) $A \neq A^T$ (b) $A = -A^T$ (c) $A = A^T$ (d) None
6. The inverse of -3 in $(Z_7, +_7)$ is _____
   (a) 1 (b) 0 (c) 4 (d) None
7. An operation $*$ on a set S is said to be commutative if $a * b$ _____ $b * a$
   (a) = (b) ≠ (c) < (d) >
8. Mode of 3, 7, 11, 9, 13, 1, 7, 12, 7, 6 is _____
   (a) 6 (b) 7 (c) 8.5 (d) None
9. The mean of first 9 natural numbers is _____
   (a) 5 (b) 4.5 (c) 5.5 (d) None
10. Geometric mean of x, y, z, w is given by _____
    (a) $\sqrt{xyzw}$ (b) $\sqrt{x+y+z+w}$ (c) $\sqrt[4]{xyzw}$ (d) None

Q.2 Attempt any Ten. 20

1. If $A = \{m, f, w, s\}$ and $B = \{m, t, w, f, th\}$. Then Find $A \cup B$ and $A \cap B$.
2. Explain: (a) Subset. (b) Intersection of two sets
3. If $f(x) = x + 5$ and $g(x) = 3x + 2$ then find fog.
4. Let B = {0, 1}. Is B closed under: (a) Multiplication? (b) Addition?
5. Define Group with example.
6. In Z_8 find all roots of $f(t) = t^2 + 6t$.

(1) (P.T.O)

7. Find x & y if $x(1,1) + y(2,-1) = (1,4)$

8. If $A = \begin{bmatrix} 1 & 2 \\ 7 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & -2 \\ 5 & 1 \end{bmatrix}$ then find $A + B$ and $A - B$.

9. Determine the value of k for which $\begin{vmatrix} 2k & k \\ 4 & k \end{vmatrix} = 0$.

10. Find median of the following data;

    (1) 8, 12, 20, 40, 8, 7, 5

    (2) 7, 7, 8, 6, 5, 8, 3, 2, 2, 9, 7

11. The I.Q. of 10 students is given below:

    95, 98, 107, 100, 101, 110, 70, 120, 88, 83. Find the Arithmetic mean of I.Q.

12. Write down various measures of central tendency. Explain one of them with example.

Q.3

(a) Prove that $1^2 + 2^2 + 3^2 + \ldots\ldots + n^2 = \frac{n(n+1)(2n+1)}{6}$. 05

(b) If A = {1,2,5,6,8}, B = $\{x: x \text{ is even}, x \leq 10, x \in N\}$ and C = {1,2,3,5,6,11,12}. Then verify 05

1. A ∩ (B ∪ C) = (A ∩ B) ∪ (A ∩ C)
2. A ∪ (B ∩ C) = (A ∪ B) ∩ (A ∪ C)

Q.3 OR

(a) Let a and b denote positive integers. Suppose a function Q is defined recursively as: 04

$$Q(a, b) = \begin{cases} 0 & \text{, if } a < b \\ Q(a - b, b) + 1 & \text{, if } b \leq a \end{cases}$$

1. Find the value of Q (2, 4), Q (15, 3), Q (17, 4).
2. Find Q (2143, 9).

(b) If $f(x) = x^2 + 5x$ and $g(x) = 3x + 2$ then find $gof(x)$ 03

(c) Find 5! Using recursive definition. 03

Q.4

(a) Consider the group G = {1, 2, 3, 4} under the multiplication modulo 5.Find multiplication table of G. Also find 2^{-1} and 4^{-1}. 04

(b) Show that f: G →G' defined by f(a) = 2^a is a homomorphism where G is a group of real numbers under addition and G' is a group of positive real numbers under multiplication. 03

(c) Let A = {1, 3, 5, 7, ...} then check whether A is closed under 03

1. Multiplication?
2. Addition?

(2)

Q.4

OR

(a) Consider the set N of the natural numbers and let $*$ be the operation of least common multiple (l.c.m) on N. 04

(1) Find $4 * 5, 6 * 8, 1 * 8$ and $7 * 14$.

(2) Is $(N,*)$ a semi group? Is it commutative?

(b) If S is a nonempty set with the operation $a * b = a$. 03

Is the operation: (i) associative? (ii) Commutative?

(c) In Z_{10}, find $-3, -8, 3^{-1}$. 03

Q.5

(a) Consider the vectors $u = (1, -1, 2, -5), v = (-2, 3, -4, 5)$. 05
Find $u + 3v$, $2u - v$ and $u \cdot v$. Also find $\|u\|$ and $\|v\|$.

(b) Using Cremer's rule solve the simultaneous equations $5x - 3y = 1$, $6x - y = 9$. 05

Q.5

OR

(a) Define following matrices: 05

1. Symmetric matrix
2. Square matrix
3. Orthogonal Matrix.

(b) If $A = \begin{bmatrix} 1 & -2 & 3 \\ 6 & 0 & 9 \\ 5 & -7 & 11 \end{bmatrix}$ then find $A + A^T, A - A^T$ and $A A^T$. 05

Q.6 Find mean, median, mode, harmonic mean and Geometric mean for following data 10

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of Students	2	5	8	16	9	5

Q.6

OR

(a) Following data is regarding the number of letters in a word of a paragraph with 30 words: 05

3,5,3,6,7,3,5,4,6,7,4,4,5,2,3,2,4,5,1,2,4,2,3,5,6,2,1,3,6,7

(i) Form a discrete frequency distribution

(ii) Find mean

(b) Find the missing frequency for the following frequency distribution. Given that Median = 24. 05

Class	0-10	10-20	20-30	30-40	40-50
Frequency	5	25	?	18	7

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— X —

(3)