

Sardar Patel University
S Y BSc.
Computer Science – CS-201
Introduction to Programming Language
Effective from July-2002

2 Practicals per week

External marks :80

Internal Marks : 40

Total Marks :120

University examination duration 3 hours

Unit-I	Concept of Algorithm and Flow chart development <ul style="list-style-type: none">- Requirement (Needs) of algorithm and flow chart definition- Symbols used to draw flowchart- Typical (Primitive) examples of flow chart and algorithms
Unit-II	Language Fundamentals <ul style="list-style-type: none">- Generation of computer languages- High- low level languages- Translators, Machine language- Editors and detail about one of the editor
Unit-III	Logic development <ul style="list-style-type: none">- Problem Analysis- Variables, Expressions & its manipulation- Data types in High Level language operators- I/O statements, Assignment Operators
Unit-IV	Structured Programming and Advance Computing <ul style="list-style-type: none">- Control Strategies, Condition & Loop Statements- Method of Structured Programming Subroutines
Unit-V	Complex Data Types & Functions <ul style="list-style-type: none">- Functions- Arrays, String handling- Structure, Union
Unit-VI	File Handling <ul style="list-style-type: none">- register References, Command Line arguments- File, I/O Statements related to file

Reference Books

1. Cooper H. & Mullish H: The Spirit of C, Jaico Publication House, New Delhi
2. Balaguruswami: Programming in ANSIC, Tata McGraw Hill Publication.

Sardar Patel University
S Y BSc.
Computer Science – CS-202
Structured Computer Organization
Effective from June-2006

2 Practicals per week

External marks :80

Internal Marks : 40

Total Marks :120

University examination duration 3 hours

Unit-I	Number Systems <ul style="list-style-type: none"> - Representation of numbers - Binary, Octal, Hexadecimal numbers and its arithmetic - Character Codes (ASCII, EBCDIC) - Representation of integers - Representations of fractions - Binary multiplication and division using Register Method - Conversion of number system - Concept of Error Detection and correction codes
Unit-II	Digital Logic Circuit-I <ul style="list-style-type: none"> - Basic gates and its applications - De-morgans law, XOR, NOR, NAND, SNOR using gates and its application (Word comparator, Odd & Even Parity generator, inverter) - Multiplexer (8 to 1, 10 to 1, word nibble)
Unit-III	Digital Circuit-II <ul style="list-style-type: none"> - Half adder, full adder, Binary adder, 2's complement adder subtractor - RS-latch (NOR, NAND) , D-latchwith time diagram - Boolean algebra (rules, properties and equations)
Unit-IV	Memory & I/O Devices <ul style="list-style-type: none"> - RAM, ROM, PROM, EPROM, EEPROM - Floppy Disk & Hard disk - VDU, KB, Mouse - CD-ROM - Printers(Line, Dot-Matrix, Inkjet, Laser)
Unit-V	Processor & its functions <ul style="list-style-type: none"> - Processor, Function & Components - Instruction Execution Cycle - Parallel Instruction execution (Multi-user, Multi-functional, Array Processor, Pipelining) - Immediate addressing, direct addressing, indirect addressing, register addressing, index addressing, stack addressing - Introduction to operating system and its functions - Different types of operating system (Real-time , Multiuser, Distributed, time sharing) - Disk Operating System (Internal and External Command)

Unit-VI	<p>Windows and Microsoft Word, Excel and Powerpoint</p> <ul style="list-style-type: none"> - Windows 98: Operating & its basic Components - Usage of word processor - Formatting of Text & Paragraph, Fonts Styles, Bullets and numbering, borders and shading, drawing objects - Option of Print windows, Page setup dialogue box - Table <ul style="list-style-type: none"> - Creation, Insertion, Deletions of rows - Cells split and merge, sorting of data - Mail-merge features <ul style="list-style-type: none"> - What is mail merge? - Main document and data file - Creation of data file at the time of creating a mail merge document using already created data file Editing in data file through mail-merge toolbar Query option - Introduction to MS-Excel and Powerpoint
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Reference Books:

1. Computer Fundamentals by V. Rajaraman, PHI
2. Structured Computer Organization By A. S. Tanenbaum, PHI
3. Digital Computer Electronics By Malvino, TMH
4. Operating System Design & Implementation by A. S. Tanenbaum
5. PC Software for Windows Made Simple by R. K. Taxali

Sardar Patel University
S Y BSc.
Computer Science – CS-203
(Practicals)
Effective from July-1997
3 hours 80 marks.

Following are the list of sample programmes definition for practicals:

- To find maximum / minimum from three numbers.
- Find simple interest or compound interest according to the code.
- Read 3 sides of a triangle and print whether it will form a triangle or not.
- Find out the solution of a quadratic equation.
- To accept a upper case character through keyboard and print it's equivalent lowercase character .
- Find out N!.
- Find out maximum / minimum from N numbers.
- Find whether given no. is prime or no.
- Sum of N terms of Fibonacci series.
- Find out sum of digits of a integer number.
- To print Armstrong numbers.
- Read a number. Check whether it is palindrome or no.
- Read 2 integers and find multiplication without * operator.
- Find out value of ${}^n C_r$.
- Check whether inputed no. is binary or not.
- Read a decimal number and convert it into it's equivalent binary number and octal number.
- Read an octal number and find out it's equivalent decimal number.
- Read 2 binary numbers and find sum.
- Find out sum of positive numbers upto 1000 which are divisible by 5 and 7.
- Sum of the following series.
 1. Sum = $1! - 2! + 3! - 4! + \dots$ upto N terms.
 2. Sum = $1^2 + 3^2 + 5^2 + 7^2 \dots$ upto N terms.
 3. Sum = $X - X^3/3! + X^5/5! - X^7/7! \dots$ upto N terms.
 4. Sum = $1+1+2+3+5+8+13 \dots$ Upto N terms.
- Read N real numbers , store them in an array , print the array in reverse form.
- Read a number and check whether it is present or not in the array.
- Read N numbers, store them in array. Interchange 1st & Nth , 2nd and (N-1)th....Print original and new array.
- Find sum and product of two one dimensional array of N elements.

- Read N observations of X and Y discrete data. Find and print Mean, Mode, Median, Standard deviation and coefficient of variance for each set and at the end also print which set is consistent.
- Arrange and print elements of an array in ascending order.
- Find and print total no. of zeroes, negative and positive number of an array of N elements.
- Find out the difference between maximum and minimum number of an array of N elements.
- Find out the frequency of each number from array of N numbers.
- Find maximum and minimum of a matrix M*N. Interchange them, print original and new matrix.
- Read a matrix of order M*N Check it is identity or not.
- Find out trace of matrix.
- Transpose, addition, multiplication of matrices.
- Read length, breadth of a rectangle. Also read process code. If process code is equal to one then print out area of rectangle and if process code is 2 print out perimeter of rectangle.
- Read length, breadth of a rectangle. Also read process code. If process code is equal to one then print out area of rectangle and if process code is 2 print out perimeter of rectangle else print the information "You have enter invalid process code".
- Read following information of SYBSc. Student of Sardar Patel University 1) Roll No. 2) Marks of CS-201, 3) Marks of CS-202, 4)Marks of CS-203. Then print Roll no, Marks of CS-201,CS-202, CS-203, Total Marks obtained by the student, percentage and result. If the student passes in all 3 papers then declare result as pass, else declare result as fail. Maximum marks of each paper is 120. Passing standard for each paper is 35%.
- Read the following information of salesman. A) Salesman No. , b) Total sale amount. Calculate the commission using following rules. If the total amount is upto 1000 then commission is 10% of total amount sold. If total amount is upto 2000 then commission is 15% of total amount sold. If total amount is upto 3000 then commission is 20% of the total amount sold and else 25%.
- Read the following information for N fix depositors of the bank of baroda, anand branch. A)Depositor No., b) Amount, c) No. of year. Calculate simple interest using the following rules.
 If No. of Years = 1, rate of interest = 13%
 If No. of Years = 2 rate of interest = 13.5%
 If No. of Years = 3rate of interest = 14%
 If No. of Years = 4 rate of interest = 14.5%
 If No. of Years = 5 rate of interest = 15%
- Read a integer no. N. Display the menu on the screen as follows.
 MENU
 1. For finding N!.
 2. For finding N is odd / even.
 3. For finding sum of first N integers.
 4. End

Enter your choice: (1 – 4)

Write a program and procedure according to given choice.