

Parvatibai Chowgule College of Arts & Science
Autonomous

BSc Semester End Examination, January / February 2022

Semester: I

Subject: Computer Science

Title: Introduction to Programming (Core)

Duration: 2 Hours

Max. Marks: 45

Instructions to the candidates :

1. All Questions are compulsory
 2. Figures to the right indicate marks
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QI. Answer ANY THREE of the following :

[3 * 3 = 9]

- A) Draw a flowchart to generate first 20 terms in a Fibonacci series, which is generated as 0, 1, 1, 2, 3, 5,...
- B) Write a program in C to find the maximum age in an array of 'N' persons.
- C) What are the operations that can be done on pointers? Give an example.
- D) Write a note on nested structure in C. Give an example.

QII. Answer ANY TWO of the following :

[2 * 6 = 12]

- A) Write a note on the following :
 - 1) Explain the concept of infinite loop by giving a suitable example using flowchart.
 - 2) Relational operators in C language
- B) What is nested if statement in C?. Write a C program to read temperature in centigrade and display a message as follows :
Temp < 0, Freezing weather
Temp 0-10, Very cold weather
Temp 11-20, Cold weather
Temp 21-30, Normal weather
Temp >30, Hot weather

Test data : 25
Expected Output : Normal weather
- C) Write a program in C to accept a number and display the new reversed number after removing all zeros(Don't use arrays)
Sample Input : 30109
Sample Output : 913

QIII. Answer ANY TWO of the following :

[2 * 6 = 12]

- A) Answer the following in C :
- 1) Write a function in C to pass the entire array to a function and display the values of the array in the function
 - 2) Write a note on functions returning pointers in C by giving a suitable example.
- B) Write a program in C to compare any 2 strings (Don't use string functions)
- C) Write a note on the following in C :
- 1) register storage class
 - 2) operations on files

QIV. Answer ANY ONE of the following :

- A) Consider the following two dimensional array :

	ARIIA Ranking of Colleges	Star Rating of Colleges	Funds Allotted(in Lakhs) for Colleges
Chowgule College	15	4	10
Raj College	45	2	3
Gopi College	40	3	6
Sam College	30	3.5	8

- 1) Write a program in C to read and print the above array.
- 2) Write a program in C to display the Star rating and ARIIA ranking of Chowgule College and Sam College.
- 3) Write a program in C to calculate the average amount of funds allotted to all colleges.

[4 + 4 + 4 = 12]

(OR)

- B) Write a program in C for the following :

- 1) To create a data file "INTERNSHIP.DAT" for 'N' students to store the following data : **ROLL-NUMBER, NAME, CLASS(FY/SY/TY), INTERN_HOURS,COMPANY_NAME AND PRODUCT_DEVELOPED.**
- 2) Write a program in C to read the data from the file "INTERNSHIP.DAT" created in QIV.B.1), count and print names of students who have completed 120 internship hours.

[6 + 6 = 12]