

## Minor 1

Course Name: Computer Programming and Problem Solving

Course Code: CS100

Paper Code B

Full Marks: 25

Duration: 45 minutes

Date: 14.12.2022

**Note: It is mandatory to: A) Write the paper code at the start of your answer script.  
B) Only write the option number for Q1.  
C) Write comments explaining the purpose of an instruction/code block in your code.  
D) Write proper cues/prompts for user input and code output in your codes.**

1. Choose the correct option: (5)

- a) A pointer is
  - i. A keyword in C
  - ii. A variable that stores address of an instruction
  - iii. A variable that stores address of another variable
  - iv. All of the above
- b) The operator used to get address of a variable is
  - i. \*
  - ii. &
  - iii. &&
  - iv. ||
- c) Which header file should be included to use functions like printf() and scanf()?
  - i. input.h
  - ii. stdlib.h
  - iii. math.h
  - iv. stdio.h
- d) Which is not a primary datatype in C
  - i. int
  - ii. char
  - iii. pointer
  - iv. float
- e) What is the output of the below code snippet?

```
float a;  
a = 5.0 / 2;  
printf("%f", a);
```

- i. 2
- ii. 2.5000000
- iii. 2.5
- iv. 2.500000

2. Admission to a college depends on following conditions:

- a) Marks in maths is greater than equal to 60, and
  - b) Marks in physics is greater than equal to 50, and
  - c) Marks in chemistry is greater than equal to 40, and
  - d) Total marks in all three is greater than equal to 200
- OR
- a) Total in maths and physics is greater than equal to 150

Take user input for the marks of the three subjects and write a C program to output if the student can be admitted or not. (10)

3. Write a C program to implement two separate functions (funcA and funcB) to calculate the value of an integer raised to the power of another integer. Do not use math.h. Take user input and print results from main(). Do NOT use recursion. (10)

- a) Use call by value in funcA
- b. Use call by reference in funcB