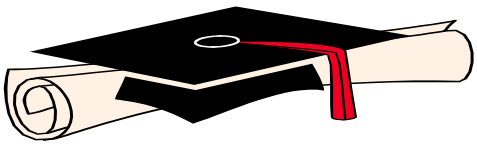
EPC

Elementary Programming with C

Semester: 1	**The Exam Code:** 15
Duration: 90 minutes	**Total Marks:** 20



Practical Examination Paper

Do not write on this question paper and return it to the Invigilator after the examination.

C Programming Exam

Total Points: 20
Duration: 90 minutes

Instructions:

- Read each question carefully and provide your answer.
- Write your code in the space provided or as instructed.
- Make sure your code is correct and free of syntax errors.
- Partial points may be awarded for partially correct answers.
- Good luck!

Question 1: (2 points)

Declare a struct named `Painting` with the following fields:

- `title` (string)
- `artist` (string)
- `price` (float)

Question 2: (2 points)

Write a C program to declare an array of 10 `Painting` structs named `gallery`.

Question 3: (2 points)

Write a function in C named `displayPainting` that takes a `Painting` struct parameter (or struct's pointer) and displays its title, artist, and price.

Question 4: (2 points)

Write a C program that implements a menu with the following options using a switch-case statement:

1. Add a new painting
2. Display painting information
3. Update painting price
4. Quit

For option 1, prompt the user to enter the title, artist, and price of the painting and add it to the array. For option 2, display all paintings' information. For option 3, prompt the user to enter the title and the new price to update the painting accordingly.

Question 5: (2 points)

Write a C function named `findMostExpensivePainting` that takes the array of paintings as a parameter and returns a pointer to the `Painting` struct with the highest price.

Question 6: (2 points)

Write a C program that prompts the user to enter the title of a painting and searches for it in the array. If found, display the painting's information. If not found, display a message indicating that the painting was not found.

Question 7: (2 points)

Write a C program to calculate the total value of the paintings in the gallery. The total value is calculated by summing up the prices of all paintings.

Question 8: (2 points)

Write a C program to find the painting with the lowest price in the gallery and display its information.

Question 9: (2 points)

Write a C program to sort the array of paintings based on their price in descending order using any sorting algorithm of your choice.

Question 10: (2 points)

Write a C program that calculates and displays the average price of all the paintings in the gallery.