

**Introduction to C++ for DSA**

# **Module 4: Mid Term Exam**

**Deadline 100 marks**: 26th May 11.59 PM.

**Deadline 90 marks**: 27th May 11.59 PM.

**Deadline 80 marks**: Anytime after that.

**Answer sheet:** [Answer Script](https://docs.google.com/document/d/1OzaM-U_yqzgmHaeWpZGUTWfJ2SDdICuBcHoG9gWTYPM/edit?usp=sharing)

| **Question No** |  | **Question** | **Marks** |
| --- | --- | --- | --- |
| **1** | **a** | Explain Stack and Heap memory. | **5** |
| **b** | Why do we need dynamic memory allocation? Explain with examples. | **5+5** |
| **c** | How to create a dynamic array? What are the benefits of it? | **5+10** |
| **2** | **a** | How does class and object work? How to declare an object? | **5+5** |
| **b** | What is a constructor and why do we need this? How to create a constructor show with an example. | **10+5** |
| **c** | Create a class named **Person** where the class will have properties name(string), height(float) and age(int). Make a constructor and create a dynamic object of that class and finally pass proper values using the constructor. | **15** |
| **3** | **a** | What is the size that an object allocates to the memory? | **5** |
| **b** | Can you return a static object from a function? If yes, show with an example. | **10** |
| **c** | Why do we need -> (arrow sign)? | **5** |
| **d** | Create two objects of the **Person** class from question **2-c** and initialize them with proper value. Now compare whose age is greater, and print his/her name. | **10** |