**TABLE OF SPECIFICATIONS FOR EXAM QUESTIONS**

**University of Liberal Arts Bangladesh**

**Department: Computer Science and Engineering (CSE)**

**Midterm Examinations, Semester: Fall 2020**

**Program: B.Sc. in CSE**

**Course Code: CSE201 Course Title: Object Oriented Programming C++ Credit Hr: 3**

**Time: 1 Hours Total Marks: 25**

**Name & Designation of the Examiner: Satyaki Das, Lecturer**

**Learning Outcomes (LO):**

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| 1. **Describe** the principles and concept of OOP |
| 1. **Explain** important features of object-oriented programming that are important to design and develop OOP |
| 1. **Solve** a wide range of practical problems using C++ computer programming language. |
| 1. **Understand** a real-life problem and **be able** to design and code a small system using C++ language |

***Levels in Bloom’s Cognitive Domain:***

***C1: Remember C2: Understand C3: Apply C4: Analyze C5: Evaluate C6: Create***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Question No.** | **Learning Outcomes (CO)** | **Level in Bloom’s Cognitive Domain along with Allocation of Marks** | | | | | |
|  |  | **C1** | **C2** | **C3** | **C4** | **C5** | **C6** |
| 1 |  |  | 5 |  |  |  |  |
| 2 |  |  | 5 |  |  |  |  |
| 3 |  |  |  | 10 |  |  |  |
| 4 |  |  | 5 |  |  |  |  |
| **Total Allocation of Marks** | **25** |  | 15 | 10 |  |  |  |
|  |  |  |  |  |  |  |  |
| **Question No.** |  | **Learning Outcome** | | | | | |
|  |  | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
| 1 |  | 5 |  |  |  |  |  |
| 2 |  | 5 |  |  |  |  |  |
| 3 |  |  |  | 10 |  |  |  |
| 4 |  |  | 5 |  |  |  |  |
| **Total Allocation of Marks** | **25** | 10 | 5 | 10 |  |  |  |

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**Signature of the Examiner Date: 23.11.2020**

**Department of Computer Science and Engineering**

**University of Liberal Arts Bangladesh**

**Mid-Term Examination (Fall 2020)**

**Course: Object Oriented Programming C++ (CSE 201)**

**Section: 2 --- Duration: 1 Hour**

**Name & Designation of the Examiner: Satyaki Das, Lecturer**

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**PLEASE ANSWER ALL QUESTIONS. Total 25 Marks**

**QUESTION 1**

What is encapsulation and how can you achieve it using C++? What is the goal of abstraction? How do you implement abstraction in C++? **(2+1+2=5 Marks)**

**QUESTION 2**

Define the terms “class” and “object”. Why do you think they are important in OOP? **(5 Marks)**

**QUESTION 3**

A program needs a class to represent the time. You are the hired programmer to write the class. Suppose you are naming the class CustomTime. Here is a list of your responsibilities:

* Define the class CustomTime with three integer attributes for hour, minute and second. The class must also have the following methods:
  + void init(int hour, int minute, int second);

takes three parameters and sets the value of each attribute to the value of the parameter with the corresponding name.

* + void init();

writes the current time to the corresponding attribute.

* + void print();

outputs time using the the format hour:minute:second.

* Assume a 24-hour format for the class and write a main function where a CustomTime is created using both init functions. Display the time for both objects.
* To get current time, include the library ctime and then add the following code:

time\_t now = time(0);

tm \*ltm = localtime(&now);

hour = ltm->tm\_hour;

minute = ltm->tm\_min;

second = ltm->tm\_sec;

Implement the code. **(10 Marks)**

**QUESTION 4**

Describe the usage of setprecision, setw and setfixed in C++ with proper examples. **(5 Marks)**

**\*\*END OF QUESTIONS\*\***