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Name of Examination : **Winter 2020** - (Preview)Course Code & Course Name : **CO201U - Object Oriented Programming**Generated At : **19-04-2022 11:08:37**Maximum Marks : **60**Duration : **3 Hrs**[Edit](#)[Print](#)[Close](#)**Answer Key Submission Type:** No marking scheme and solution

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

1) Attempt all of the following

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- a. How data and functions organized in an object-oriented program? Explain with example. [4]
- b. List few areas of applications of OOP technology. [4]
- c. What is the class? How does it accomplish data hiding? Explain with example [4]

2) Attempt any two of the following

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- a. Write a program to declare a class 'motorbike' having data member as brand_name, an average distance for one liter offered. Accept and display this data for 50 bikes. [6]
- b. One interesting use of static member variable to keep track of a number of objects of a class that is in existence at any given instance of time. The way to do this is to increment a static member variable each time when an object is created & decremented when an object is destroyed. Write a program to implement such schemes [6]
- c. What is the friend function? How it differs from member function. Explain with a suitable example(program). [6]

3) Attempt the following

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- a. Define a class product with data members product_id, product_name, and price. Write a program using the constructor with the default value for product_id. Accept this data for 5 objects of the class and calculate the total price of the product [6]
- b. What is operation overloading? Overload the operator so that two strings can be concatenated eg. "abc"+"xyz". The output will be "abcxyz" [6]

4) Attempt any two of the following

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- a.