COMSATS University Islamabad, Lahore Campus

Assignment 1 – Spring 2021

Course Title:	Object Oriented Programming				Course	CSC241	Credit	4(3,1)
Course Instructor/s:	Muhammad Ali Khan				Programme	Software Engineering		
Semester:	2nd	Batch:	FA20	Section:		Due Date:	14/03/2021	
Time Allowed:					**Maximum Marks:**		**25**	
Student's Name:					Reg. No.	CUI/SDP-	/LHR	

Important Instructions / Guidelines:

a) Attempt all the questions.
b) Draw diagrams where necessary.
c) Assignment must be submitted in .doc, .docx format
d) Assignments are not accepted after 11:00 PM on 14th March 2021
e) Use Turnitin for assignment submission
f) No submission via email is accepted

Q1. Is it always necessary to implement data hiding and encapsulation in a program? Explain with the help of an example in case yes or no. [6]

Q2. Class Citizen holds two states i.e., "cnic" of type integer and "name" of type String, and a setter and getter method of type void and integer respectively that sets and returns the name state. An object of class Citizen is created in another class that holds main method. Explain what size is reserved for both classes in the memory. [7]

Q3. Why we need multiple constructors and multiple methods of the same name in a class? Provide an example to justify your answer. [6]

Q4. There are four states in a class Pen. These states are "color" of type String, "ink" of color String, "manufacturer" of type String, and "inkThickness" of type double. How many setter and getter methods you need in this class and why? Which states can be made private and why? [6]