AP Midsem Set-2 Rubric (20)

Question	Criteria	Description	Marks
Q1 (8)	Vector Class-1	To be awarded for declaring private attributes, parametrized constructor, and getter methods.	1
	Vector Class-2	Check for 3 methods, add, dot product, and cross product. Award 1 mark for each method if it works correctly, is declared 'static', and takes 2 vector objects as arguments in its definition. Consider giving partial marks if some requirements are met.	3 (1+1+1)
	Function calls in Main method	When calling addition, dot product and cross product methods from main, they should be called as Vector.add(), Vector.dot() etc. Each of these methods would take the 2 vector objects as arguments. Calling the methods like v1.add(v2) or v2.add(v1) is not preferred, but half the marks can be given a if new vector is being returned and v1 and v2 remain unchanged.	1
	User Input	6 double values should be taken as user input, and should NOT be hardcoded.	1
	Correct Implementation	Code should give correct output for given test case. Binary marking to be followed. No marks to be awarded for partially correct outputs. The results can be displayed in the main method, or in the methods in which they were calculated. Award marks either way.	2
Q2 (12)	Classes created	There should be a Fraction class and a **Generic** Complex class which should have two child classes - ComplexInteger and ComplexFraction and both child classes should override / implement functions of parent Complex class (add, multiply etc)	2 (1 for all classes, 1 for child classes overriding / implementing parent methods)
	Encapsulation / correct use of modifiers	data members must have private access unless it's absolutely necessary to grant them public/default access.	1
		getters/setters should be used for accessing/modifying the private members.	1
	Class methods	correct implementation of all given methods for fraction class, complex integer class, complex fraction class with emphasis on following methods - multiplication of fractions (check that final output should be in reduced form), multiplication of complex numbers of integer, multiplication of complex numbers of fraction types	6 (binary marking if code does not run)
	Correct output on test case	binary marking - give full marks if all the outputs are correct as shown in the test case (calculate by hand to verify, here check all the other methods based on the output)	2 (binary marking if output is not completely correct)
		Total	**20**