

**Q1 marks 10**

Either explain what the code does and add a line or two of code. Give output given input.

Or

Write code for QDialog, processing and QMessageBox based on scenario.

**Q2 marks 10 Based on Assignment 1 Q2 and Q3**

Big 3 constructs (destructor, copy constructor, copy assignment operator)

Either:

Given code state when each is called. Shallow vs deep copy and how its represented in code.

Or

Give implementations of the big 3 given definition.

**Q3 marks 20 Based on Assignment 2 Q1,3 and 5 directly or similar type Qs**

Given UML answer questions involving Abstract classes, virtual and pure virtual functions, UML, static, const, implicit sharing, polymorphism and polymorphic assignment.

As well as define and implement certain functions(specifically virtual , pure virtual and functions such as toString(), add...() ect ect. Take note of which functions require the const, static and virtual keywords.

Implementations of constructor and destructor.

**Q4 marks 20 Based on GUI Assignment 1 Q6, Assignment 2 Q2 and Q7, Assignment 3 Q1 and Q3 (Emphasis on QMenuBar and QToolBar)**

Either:

Given the code – draw the GUI and then add code to make it work (signals and slots as well as coding for objects such as buttons, edits, labels) and explain separating model and view

Or

Given a GUI- explain what classes can be used, code the constructor , connect statements given the information stipulated, design patterns used ,layouts and adding a menubar or toolbar with items on them. Explain model and view

**Q5 marks 15 Based on Assignment 3 Q2 and Q5 (QMap vs QList)**

Theory questions (differences and similarities) defiantly important.

Given code list model and view classes, explain code.

Design patterns

(since QActionGroup was not covered I assume Paper 1 and 2 of june 2017 Q5 is unimportant)