INSTITUTE OF TECHNOLOGY BLANCHARDSTOWN



Year	Year 2
Semester	Semester 1
Date of Examination	
	Thursday 12 January 2012
Time of Examination	12.30pm – 2.30pm

Prog Code	BN002	Prog Title	Higher Certificate in Science in Computing in Information Technology	Module Code	COMP H2011
Prog Code	BN013	Prog Title	Bachelor of Science in Computing in Information Technology	Module Code	COMP H2011
Prog Code	BN104	Prog Title	Bachelor of Science (Honours) in Computing	Module Code	COMP H2011

Module Title	GUI Programming

Internal Examiner(s): Dr. Luke Raeside

External Examiner(s): Dr. Richard Studdert

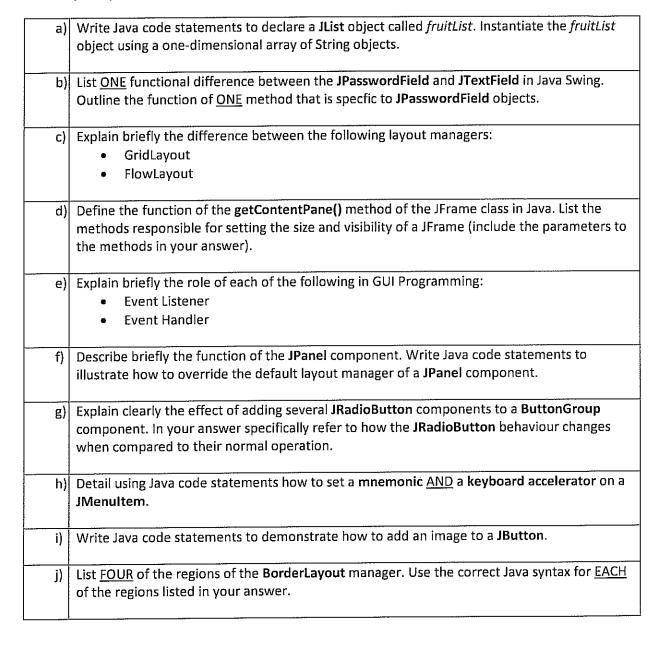
Instructions to candidates:

- 1) To ensure that you take the correct examination, please check that the module and programme which you are following is listed in the tables above
- 2) Answer Question 1 and TWO other questions
- 3) Question 1 is worth 40 marks. Questions 2, 3 and 4 are worth 30 marks each.

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Question 1

Attempt any 8 parts of this question. (5 marks each)



Candidates should attempt any 2 of the following 3 questions

Question 2

a) Clearly define the function of the MVC pattern.

(4 marks)

b) Use an intuitive example and appropriate diagrams to describe how the MVC pattern achieves its goals.

(10 marks)

- c) Outline the function of <u>EACH</u> of the following Swing components:
 - JOptionPane
 - JScrollPane
 - JFileChooser
 - JCheckBoxMenuItem

(8 marks)

d) Write Java code statements to declare and instantiate any <u>TWO</u> of the components listed in part (c) above.

(8 marks)

[Total 30 marks]

Question 3

Write a Java JFrame application to achieve the following:

a) Create a menu bar and add to the JFrame

(5 marks)

b) Add TWO menus to the menubar above called File and Edit

(5 marks)

c) Add TWO menu items to <u>EACH</u> of the menus created in section (b) above. Set the name of the menu items to any value you wish.

(6 marks)

d) Add an **image** to <u>ONE</u> of the menu items created in part (c) above (assume an image called *image.gif* is available)

(4 marks)

- e) Add an appropriate keyboard accelerator to <u>ONE</u> of the menu items created above (5 marks
- f) Outline the steps remaining to allow the menu items to respond to user interactions using event handling

(5 marks)

[Total 30 marks]

Question 4

- a) Write Java code statements to achieve the following GUI JFrame implementation:
 - Create a JFrame window with the title set to "GUI Exam Frame"
 - Set the size of the window to 300 x 300 pixels
 - Add a JLabel component to the window with the Arial text size 15, the label should read: "This is my GUI Exam JFrame": add this to the top of the JFrame
 - Add a JList to the first grid section; add three items to the list
 - Add a JTextArea with a JScrollPane to the center of the frame
 - Add a <u>THREE</u> JCheckBox components (in a JPanel <u>AND</u> ButtonGroup) to bottom of the frame

(20 marks)

b) Briefly outline TWO differences between Java SWING and Java AWT.

(4 marks)

c) Describe briefly the function of a **JinternalFrame**. Write a Java code statement to declare and instantiate an internal frame.

(6 marks)

[Total 30 marks]