



education

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TO: HEADS OF PROVINCIAL DEPARTMENTS
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SOUTH AFRICAN COLLEGE PRINCIPALS ORGANISATION (SACPO)

EXAMINATION INSTRUCTION NO. 10 OF 2009

NC (V) QUESTION PAPER FORMAT FOR SUBJECTS WITHIN THE INFORMATION TECHNOLOGY AND COMPUTER SCIENCE PROGRAMME

Please note the changes in the format of question papers for IT and Computer Science Levels 2, 3 and 4

1. INTRODUCTION TO SYSTEMS DEVELOPMENT L2 NOVEMBER 2009

During the November 2009 the students will write 2 papers.

PAPER	TOPICS	TIME	MARKS
Paper 1(Theory)	1 to 5	2 hours	100
Paper 2	1, 2, 4 and 5	4 hours	150

Paper 1 (Theory) will consist of theory questions and will be of 2 hours duration for 100 marks. This paper will be similar to previous question papers and will cover Topic 1 to 5. Program segments can be given, and students have to calculate output of segments.

Paper 2 will consist of 3 practical questions and will be of 4 hours duration for 100 marks.

Question 1:

A program user interface is provided on the CD, and students have to complete the program. Fewer marks are allocated for the user interface, the interface is given to students, and students may be expected to enhance the interface to make the program more user-friendly. The focus is on completing the program and the logic.

Question 2.

Debugging a program. A full program is loaded on the hard drive of the student (The program is provided on a CD). This program contains errors and bugs. The student has to debug the program and use the given test data to make sure that it is working.

Question 3.

Design a program. This part includes the Flowchart, Pseudo code and source code in VB.NET 2005. Students are given a scenario and have to solve this using the above tools.

The range of VB.NET controls is:

- TextBox,
- RadioButton.Checked,
- CheckBox.Checked,
- Label.
- Use the ToString("C") to display currency
- GroupBox

Only a single Form would be used. The program logic includes **IF .. THEN.. ELSE, FOR.. NEXT** and String Manipulation: eg,

- 'The Price is R200.50' or
- 'The Average is 20%'

In all the above questions, students have to be able to print the source code of the solutions, and also print the user interface, making use of Print Screen (Screen Dumb).

A student has to add his/ her Examination number to the code as a comment, and to the form as part of the Form-name.

2. PRINCIPLES OF COMPUTER PROGRAMMING L3 NOVEMBER 2009

During the November 2009 the students will write 2 papers.

PAPER	TOPICS	TIME	MARKS
Paper 1 (Theory)	1 to 7	2 hours	100
Paper 2 (Practical)	2 to 7	4 hours	150

Paper 1 (Theory) will consist of theory questions and will be of 3 hours duration for 100 marks.

This paper will be similar to previous question papers and will cover Topic 1 to 7. Program segments can be given, and students have to calculate output of segments.

Paper 2 will consist of 4 practical questions.

Section A Question 1:

A program user interface is provided on the CD, and students have to complete the program. Fewer marks are allocated for the user interface; the interface is given to students, and students may be expected to enhance the interface to make the program more user-friendly. The focus is on completing the program and the logic.

The range of VB.NET controls is:

- TextBox,
- ListBox – using the ListBox.Sorted method
- RadioButton.Checked,
- CheckBox.Checked,
- Label.
- Use the ToString("C") to display currency
- GroupBox – with RadioButtons
- PictureBox – Filling a PictureBox with picture from a directory.
- TabControl – with a maximum of 2 tabs
- Controls have to be Enabled or Disabled.

Variables used:

- Array's (2 dimensional)
- Public
- Constants
- Numeric – decimal, double, single
- String
- Filling array's by means of Counter variables or loops
- Reading from array's with Counter variables or loops

Validation checks and error messages making use of the MessageBox function.

Only a single Form would be used. The program logic includes **IF .. THEN.. ELSE** – nested IF statements can be expected, **FOR.. NEXT** - nested loops - and String Manipulation: eg,

- 'The Price is R200.50' or
- 'The Average is 20%'

In all the above questions, students have to be able to print the source code of the solutions, and also print the user interface, making use of Print Screen (Screen Dumb).

Section B Question 2 and 3

Debugging a program. A full program is loaded on the hard drive of the student (The program is provided on a CD). This program contains errors and bugs. The student has to debug the program and use the given test data to make sure that it is working. Program has to be enhanced to make it more user-friendly. Interface has to be changed, making use of the guidelines for good interface design.

A student has to add his/ her Examination number to the code as a comment, and to the form as part of the Form-name.

Section C Question 4

Access Database:

Students have to be able to:

- Design a database and table(s) making use of given data
- Set up relations between two or more tables
- Print the structure of a Database + Relationship
- Create a Form(s) for data input
- Modify the reports to contain – Headers, Footers , Pictures and Examination numbers of students
- Create a Query, save it and print the data
- Create a Report making use of query, and modify the report
- Make printouts by means of a screen dump
- All printed answers must be have the students Examination number on it

3. COMPUTER PROGRAMMING L4 NOVEMBER 2009

During the November 2009 the students will write 2 papers.

PAPER	TOPICS	TIME	MARKS
PAPER 1(Theory)	1 to 5	2 hours	100
PAPER 2	1, 2, 4 and 5	4 hours	150

Paper 1 (Theory) will consist of theory questions, covering topic 1 to topic 5.

Paper 2 will consist of 6 practical questions.

Section A Question 1: (Topic 5)

Students are expected to design a story- board from a given scenario, using power point and graphics provided on the folder called CP LEVEL 4 NOVEMBER PRACTICAL\GRAPHICS.

A student has to add his/ her Examination number as footer to each slide.

A student is expected to print the slides as handouts, 6 per page, portrait.

Section B Question 2 (Topic 4)

For this question students must use a text editor program like notepad. A Student is expected to design a web page using HTML and CSS(cascading style sheet) the following elements are important:

Div elements (pixels sizes will be provided)

Links

Images

Tables

Font family, font size and colour.

Question 3

Using JavaScript a student is expected to code an input dialog box (prompt box) use a function to add the two number and get the average.

The average and the image from the graphics folder should be on the document.

Question 4

A student is expected to create a Form.

Use JavaScript to create a function that will display date and time when the form loads.

Section C**Question 5 (Topic 1)**

A student is expected to code super classes and subclasses using VB.net.

User interface will be provided and students are expected to code to override the super class method().

Section D**Question 6 (Topic 2)**

A student is expected to use a given database on the folder called CP LEVEL 4 NOVEMBER PRACTICAL\GRAPHICS. to connect the database using the OLEDB, and bind some information to the text and display the information on the grid box.

A student must use VB.net to design user interface.


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