



UGANDA BUSINESS AND TECHNICAL EXAMINATIONS BOARD

Business and Humanities Certificate Examinations

NOV-DEC 2022 SERIES

PROGRAMME

PROFESSIONAL CERTIFICATE IN SOFTWARE ENGINEERING

PAPER NAME

FUNDAMENTALS OF PROGRAMMING IN C#

PAPER CODE

PCSE124

YEAR I, SEMESTER II

2½ HOURS

MONDAY, 12TH DECEMBER, 2022

INSTRUCTIONS TO CANDIDATES

1. This paper consists of **seven** questions. Answer only **five** questions
2. All questions carry equal marks.
3. **Do not** write anywhere on this question paper.
4. All rough work should be done in the official answer booklet provided.
5. Use of relevant examples where necessary will attract an additional mark
6. All questions carry equal marks.
7. Read other instructions in the answer booklet.

Question One

(a) Explain these terms as used in C# Programming.

- (i) Parsing (02 marks)
- (ii) Datatype (02 marks)
- (iii) Reserved keyword (02 marks)
- (iv) Inheritance (02 marks)

(b) Mention **three** examples of reserve words and when they are used. (06 marks)

(c) Describe **three** errors that can be encountered in C# programming. (06 marks)

Question Two

(a) Distinguish between an **array** and an **array list**. (04 marks)

(b) With examples, explain the purpose of the following;

- (i) Int32 (04 marks)
- (ii) UInt32 (04 marks)
- (iii) Convert.ToInt64 () (04 marks)
- (iv) DateTime.Parse () (04 marks)

Question Three

(a) Explain the importance of the **Try** and **Catch** exception handling. (04 marks)

(b) The following piece of code from a Timer application is generating errors. Using your knowledge of C# programming, complete the missing parts (****) after declaring the variables. (06 marks)

```
TimerSeconds = ****(TimeTextBox1.Text);  
TimerHours = ****(TimerTextBox2.Text);  
TimerMinutes=****(timerMins.Text);  
timeLeft = TimerSeconds + 3600 * TimerHours + TimerMinutes * 60;  
Messagelabel1.Text =****(timeLeft);
```

(c) Use the **Try** and **Catch** to handle the completed program above 3(b). Let the exception handling name be "TimerException" with an error message box showing "Error generated, review your code". (10 marks)

• Question Four

- (a) Define the term **loop** as applied in C# programming. (02 marks)
- (b) Give the purpose of the following in loops. (02 marks)
 - (i) Iterator (02 marks)
 - (ii) Comparison operator (02 marks)
- (c) Differentiate between a **for** loop and **while** loop. (04 marks)
- (d) Write a **for** loop that counts numbers from 0 to 200 and displays the result of the loop in "Label1". (10 marks)

• Question Five

Shedrack is an upcoming musician who has taken his music to YouTube for marketing. He has so far got 3200 subscribers, and his newest music video 'Steamy Rice' has reached 4200 views.

- (a) Provided that YouTube pays Shedrack \$ 0.18 per view, write a program statement that calculates how much he will receive from YouTube. (06 marks)
- (b) From the above money, Shedrack has to deduct the following charges (Internet services 25%, video marketing 30% and personal investment 15%). Write a new program that finds the money he takes home after deduction of all the charges. (10 marks)
- (c) With the exchange rate of USD – UGX averaging at 4000, write a program that converts the results of 5(b) above to UGX. (04 marks)

• Question Six

- (a) State the parts that makeup the basic structure of a C# program. (04 marks)
- (b) Explain **three** features of C# programming Language. (06 marks)
- (c) Discuss **five** reasons that make C# a widely used professional programming language. (10 marks)

• Question Seven

- (a) Describe a **class** as used in C# programming. (02 marks)
- (b) Using an example, explain the following as used in a class; (04 marks)
 - (i) Method (04 marks)
 - (ii) Constructor (04 marks)
 - (iii) Destructor (04 marks)
- (c) Explain **three** types of C# access modifiers with their accessibility scope. (06 marks)

END