

KABARAK



UNIVERSITY

UNIVERSITY EXAMINATIONS
MAIN CAMPUS

FIRST SEMESTER, 2018/2019 ACADEMIC YEAR

EXAMINATION FOR THE DEGREE OF BSC CS/BMIT/BIT

COMP/INTE 215-OBJECT ORIENTED PROGRAMMING WITH C++

STREAM: [Y2S1]
EXAMINATION SESSION: DEC

TIME: 11:00-1:00PM
DATE: 6/12/2018

INSTRUCTIONS

- Instructions to candidates: Answer **QUESTION ONE** and any other **TWO** questions

QUESTION 1 **(30 Marks)**

- | | |
|---|------------------|
| a. Highlight any FOUR rules of naming identifiers | [4 Marks] |
| b. Explain the application of continue program using an example program | [5 Marks] |
| c. Using an example program, discuss briefly about local variables | [5 Marks] |
| d. Identify the errors in the program below and correct those | [6 Marks] |

```
#include <iostream>
```

```
int main()
```

```
{
```

```
int sum=0;
```

```
for (x=0, x<=10, x++)
```

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Jesus as Lord. (1 Peter 3:15)*



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```

{
    Sum =sum+x;

    cout<<"sum"<<"="<<sum<<endl

}

return 0;

}

```

- e. Differentiate between a base class and derived class in inheritance. [4 Marks]
- f. Using an example program, explain the concept of function overloading [6 Marks]

QUESTION 2 (20 Marks)

- a. Explain any **TWO** advantages of polymorphism [4 Marks]
- b. Write a C++ program to fetch two numbers from the keyboard and test the relationship between the two numbers using relational operators [6 Marks]
- c. Given two numbers A and B. Perform addition, subtraction, division and multiplication on these two numbers and display result in a new line using the switch statement [4 marks]
- d. Discuss the **THREE** Access modifiers used by C++ to facilitate the encapsulation of components [6 Marks]

QUESTION 3 (20 Marks)

- a. Write a program that demonstrates how members of a class are accessed. [5 Marks]
- b. Write a C++ program to find the largest among three numbers using the nested **IF---ELSE IF** statement [4 Marks]
- c. Write a C++ program to fetch students' marks in a particular unit from the console input and compute the students' average score using arrays [5 Marks]
- d. Discuss any **THREE** silent features of Object Oriented Programming [6 Marks]

QUESTION 4 (20 Marks)

- a. Explain how **ONE** and **TWO** dimensional arrays are initialized in C++ [4 Marks]
- b. Explain how a class is defined in C++. [4 Marks]
- c. Using a program, explain how array elements are accessed. [6 Marks]
- d. Using an example program, explain the difference between entry controlled and exit controlled looping statements [6 Marks]

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- a. Explain how a variable is initialized in C++ **[4 Marks]**
- b. Explain any **THREE** advantages of user defined functions in C++ **[6 Marks]**
- c. Explain in details the basic structure of any C++ program. **[5 Marks]**
- d. Write a C++ program to compute the simple interest of an employee **[5 Marks]**



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UNIVERSITY EXAMINATIONS

MAIN CAMPUS

SECOND SEMESTER, 2017/2018 ACADEMIC YEAR

EXAMINATION FOR THE BACHOLER OF BUSINESS MANAGEMENT

INFORMATION TECHNOLOGY/BACHOLER OF SCIENCE IN INFORMATION

TECHNOLOGY/BACHOLER OF SCIENCE IN COMPUTER SECURITY/BACHOLER

OF SCIENCE IN COMPUTER SCIENCE/BACHOLER OF SCIENCE IN ACTUARIAL

SCIENCE/BACHOLER OF BUSINESS INFORMATION TECHNOLOGY.

COMP 215/INTE 215/COMP 211: OBJECT ORIENTED PROGRAMMING WITH C++

STREAM: (CS, BSCF, IT, BMIT, BBIT, ACTS, ES, EM)

TIME: 2.00-4.00 P.M

EXAMINATION SESSION: AUGUST

DATE: 8/8/18

INSTRUCTIONS

- (i) Answer question ONE (Compulsory) and any other TWO**
- (ii) Do not write on the question paper**
- (iii) Show your working clearly**

QUESTION ONE (30 MARKS)

- a) Describe ENCAPSULATION as used in programming. **(2marks)**
- b) Define a LIBRARY FUNCTIONS in programming **(1marks)**
- c) Write a Program will allow the user to enter the values of A, B and C as float and find the largest among those values **(5marks)**
- d) Discuss the difference between a class and an object as used in object oriented programming. **(3marks)**

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- e) A farm is 50*100 meters, a farmer want to plant maize where the distance from one seed to another is 20cm and on either sides, write a program that will calculate the amount of seeds required to fill the farm completely **(5marks)**
- f) (i) Define message passing **(2marks)**
 (ii) With help of a simple program discuss the **goto** statement in C++ programming **(4marks)**
- g) (i) Define a POINTER **(2marks)**
 (ii) Write a program to swap two numbers in C++ programming **(4marks)**
- h) Explain briefly how a FOR loop works **(2marks)**

QUESTION TWO (20 MARKS)

- a) Define a CONSTRUCTOR in C++ object oriented programming. **(2marks)**
- b) Write a C program that find the sum of all natural number from 200 to 600 in and find their sum **(4marks)**
- c) Write a program that will find the discount given to a customer for shopping if the discount is calculate at 5% of the total cost of the products purchased. **(4marks)**
- d) Write a program to find FACTORIAL of a number entered by the user USING a function. **(6marks)**
- e) Briefly describe the difference between a STRING CONSTANT and CHARACTER constant, give an example in C++. **(4marks)**

QUESTION THREE (20 MARKS)

Study the code extract below and answer the question that follows

```

{
    int x,y,z;
    cout<<Enter the two values<<endl;
    cin>>x>>y;
    z = (x>y)? x: y;
    cout << c;
}

```

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What do you think will be the output of the above program? Explain. (4marks)

- a) Give and explain an ARRAY declaration with initialization in C++. (4marks)
- b) Using the conditional operator write a program to accept two numbers from you and display the smallest. (4marks)
- c) Discuss the difference between entry controlled loop and exit controlled loop as used in C++ programming (4marks)
- d) Write a program to determine to check whether the number is divisible by 3 and 6. (4marks)

QUESTION FOUR (20 MARKS)

- a) Write C++ program to check whether the number entered is a palindrome or not (6marks)
- b) Write a program that reads the diameter of a circle then calculate the area of this circle in meters. (4marks)
- c) Write a C++ program to implement function calling (4marks)
- d) Write C++ program to handle exceptions using throw ,catch and try (6marks)

QUESTION FIVE (20 MARKS)

- a) Differentiate CALL BY VALUE and CALL BY REFERENCE (4marks)
- b) With the help of a IF...ELSE statement write a program that will display days of the week (6marks)
- c) A Motorcycle is travelling at a speed of 5 kilometers per minute to place 100 kilometers away. Write a program to calculate how long it will take to arrive there. (4marks)
- d) By using ARRAYS write a program that will accept marks from five different units and find the total marks and the average scored by a student. (6marks)

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UNIVERSITY EXAMINATIONS
MAIN CAMPUS

FIRST SEMESTER, 2017/2018 ACADEMIC YEAR

EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS
MANAGEMENT INFORMATION TECHNOLOGY/BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY/ BACHELOR OF SCIENCE IN COMPUTER
SECURITY/ BACHELOR OF SCIENCE IN COMPUTER SCIENCE/ BACHELOR OF
SCIENCE IN ACTUARIAL SCIENCE/BACHELOR OF BUSINESS INFORMATION
TECHNOLOGY.

COMP 215/INTE 215/COMP 211: OBJECT ORIENTED PROGRAMMING WITH C++

STREAM: (Y2)

TIME: 9.00-11.00 AM

EXAMINATION SESSION: DECEMBER

YEAR: 6/12/2017

**VENUE: AUDIT
INSTRUCTIONS**

COPIES: 90

- (i) Answer question ONE (Compulsory) and any other TWO**
- (ii) Do not write on the question paper**
- (iii) Show your working clearly**

QUESTION ONE (30 MARKS)

- a) Describe INHERITANCE as used in programming. **(2marks)**
- b) EXPLAIN the purpose of USING NAMESPACE STD in programming **(2marks)**
- c) Write a Program to find the SMALLEST number in three numbers entered by the user **(5marks)**
- d) Discuss how to initialize a string S1 as HELLO WORLD **(3marks)**

- e) A swimming in a swimming pool at 1 meter per second, the length is 100meters how long will he take to cross it? Write a program to calculate this. **(4marks)**
- f) (i) Define DYNAMIC BINDING **(2marks)**
- (ii) Write a C++ program to implement Multiple inheritances **(4marks)**
- a) (i) Define function **(2marks)**
- (ii) Write a program to swap two numbers using A function **(4marks)**
- b) Explain briefly how to EXIT controlled loop works **(2marks)**

QUESTION TWO (20 MARKS)

- a) Explain character set in C++. **(4marks)**
- b) Write a C program that will generate natural numbers from 100 to 200 in descending order and find their sum **(4marks)**
- c) Write a program that will find the simple interest. **(4marks)**
- d) Write a program to find FACTORIAL of a number entered by the user using functions. **(4marks)**
- e) Explain the difference between a STRING CONSTANT and A CHARACTER CONSTANT in C++ **(4marks)**

QUESTION THREE (20 MARKS)

- a) Study the code extract below and answer the question that follows

```

int NUM = 2;
while(NUM < 100)
{
    cout<<NUM<<endl;
    NUM= NUM* 2;
}

```

Explain the output that the code will produce. **(4Marks)**
- b) Give and explain the difference between a FUNCTION definition and FUNCTION declaration in C++. **(4Marks)**
- c) Explain how a Two dimensional array is initialized and declaration with an example **(4Marks)**
- d) Write a program to find the **Minimum** value among the three supplied by the user **(4marks)**

- e) Write a program to determine to check whether the number is divisible by 5 and 10. (4marks)

QUESTION FOUR (20 MARKS)

- a) Write C++ program to check whether the year entered is a leap year (4marks)
- b) Write a program that reads values for the length and width of a rectangle and returns the perimeter and area of the rectangle. (6marks)
- c) Write a C++ program to implement function calling (4marks)
- d) Write C++ program to handle exceptions using throw ,catch and try (6marks)

QUESTION FIVE (20 MARKS)

- a) Differentiate CALL BY VALUE and CALL BY REFERENCE (2marks)
- b) With the help of a SWITCH statement write a program that will display days of the week (6marks)
- c) A JET is travelling at a speed of 20 kilometers per second to place 400 kilometers away. Write a program to calculate how long it will take to arrive there. (4marks)
- d) A student scored the following marks as provided below. Use the data to write a program fine the total marks and the average of the student. (4marks)

SUBJECT	MARKS
UNIT1	60
UNIT2	78
UNIT3	50
UNIT4	80
UNIT5	63

- e) Discuss the FOR LOOP as used in C programming language (4marks)

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UNIVERSITY EXAMINATIONS
SECOND SEMESTER, 2018/2019 ACADEMIC YEAR

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY

COMP 215/INTE 215: OBJECT ORIENTED PROGRAMMING WITH C++

STREAM: Y2S1

TIME: 11.00-1.00PM

EXAMINATION SESSION: JAN- APRIL

DATE: 11/04/2019

INSTRUCTIONS:

Answer Question 1 and any other 2 Questions

QUESTION ONE [30 MARKS]

- a) Briefly explain the following C++ programming terms: (3 Marks)
 - i. Abstraction
 - ii. Exception Handling
 - iii. Polymorphism
- b) Differentiate between an object and a class in C++ programming (3 marks)
- c) What is a function? (2 Marks)
- d) Briefly discuss how declare a function in C++ (3 marks)
- e) Briefly explain the structure of a C++ program (4 marks)
- f) What are comments and how are comments written in C++? (3 marks)
- g) Highlight **FOUR** main features that makes an OOP a popular software for many computer programmers today (4 Marks)
- h) Explain the **THREE** major access specifiers for accessing members of a class in C++ programming (2 marks)
- i) Briefly explain the standard input stream used in C++ (3 marks)
- j) Discuss how a programmer can jump out of a loop in C++ (3 Marks)



SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION TWO [20 MARKS]

- a) Briefly explain two ways that are used to achieve type conversion in C++ (4 marks)
- b) Write a C++ program to demonstrate the implementation of DO...WHILE Loop (4 marks)
- c) Explain **FOUR** factors that a programmer should consider while using static member functions (4 marks)
- d) Distinguish between local and global variables (4 marks)
- e) State any four advantages of polymorphism in C++ to a developer (4 marks)

QUESTION THREE [20 MARKS]

- a) Explain the **TWO** main function calls used in C++ (4 Marks)
- b) Write a C++ program that takes an arithmetic operator (+, -, *, /) and two operands from a user and performs the operation on those two operands depending upon the operator entered by user (5 Marks)
- c) Define an operator overloading in C++ (2 Marks)
- d) Briefly explain the concept of multiple inheritance applied in C++ (4 marks)
- e) With an appropriate flowchart diagram, explain the execution logic of a **LOOP** (5 Marks)

QUESTION FOUR [20 MARKS]

- a) Differentiate between constructors and destructors in C++ programming (4 Marks)
- b) Using an **IF...ELSE** statements write a program to check whether an integer is even or odd (5 Marks)
- c) Briefly explain how structures are declared in C++ (4 marks)
- d) Explain why inheritance is a useful concept in programming (2 Marks)
- e) With an appropriate flowchart diagram, explain the execution logic of a decision making statement in C++ programming (5 Marks)

QUESTION FIVE [20 MARKS]

- a) Define an argument in C++ (2 Marks)
- b) Write a C++ Program that asks user to enter a year and the program checks whether the year entered by user is leap year or not (5 Marks)
- c) With examples, explain logical and relational operators used in C++ (4 marks)



- d) Write a C++ program to display integer from 1 to 10 except 6 and 9 (5 Marks)
- e) State **FOUR** restrictions to be kept in mind while implementing operator overloading (4 Marks)

