



## KOGI STATE UNIVERSITY, KABBA

FACULTY OF SCIENCE AND COMPUTING (Department of Computer Science)

CSC 202: Computer Programming II EXAM

UNIT: 2

Session: 2024/2025 Semester: SECOND

Date : 13/8/2025

Time allowed: 2hrs.

INSTRUCTIONS: Answer question one (1) and any other two (2) questions.

- 1a i. As a programmer, you are asked to design a complex, scalable software with high maintainability using OOP, enumerate and explain the principles you will use to execute the project. 8 marks.
- ii. List four (4) benefits of applying classes in programming 4 marks
- b i. Enumerate 3 (three) system/applications that use GUI and give 2 examples of the application. 6 marks.
- ii. Write a python program that takes a user's name and age, and prints a greeting like:  
Hello Dr. John! You are 22 years old. 6 marks.
- iii. Given  
Y = 12  
X = "8"  
Write the python code to output A. Addition of Y and X B. Multiplication of Y and X 6 marks
- 2a. write a recursive algorithm to calculate 5! and draw the recursive diagram of your solution. 10 marks.
- b. Kogi State University is a high citadel of learning that consists of various staffs both academic and non-academics which include burser, VC, registrar, Deans, H.O.Ds and Lecturers. Design a class hierarchy (Inheritance tree ) for the above university staff. 10 marks.
- 3ai. Given the following variables 3, 5, 8, 14, 17, 24, 38, 57,79, 94. Search for the value of 24 using a binary search. 6 marks.
- ii. Explain the following terms: i stack ii Queue. 4 marks.
- 3bi. Write a program with package/namespace in python to add up two numbers. 7 marks.
- ii. List any three (3) types of APIs. 3 marks.
- 4a. Explain five (5) visual elements used by users to interact with the computer system in GUI. 10 marks.
- b. Give detailed explanation of the following terms: (i) Software Program Organization (ii) Program Organization (iii) Graphical User Interface (iv) Modularity and decomposition (v) Readability and Maintainability. 10 marks.
- 5a i. List 5 (five) data types in python. 5 marks.
- ii. How do you insert COMMENTS in Python code? 2 marks.
- iii. What data type is X?  
X = "10". 2 marks.
- iv. Which operator is used to find the MODULUS of numbers? 2 marks.
- b i. What is the correct file extension for Python files? 2 marks.
- ii. What is a correct syntax to output "Hello World" in Python? 2 marks.
- iii. n = , j = -3  
if (n > j)  
print("N is greater than J")  
Identify the error in the codes and rewrite correctly? 5 marks.

**GOOD LUCK!**