

School of Computing Science and Engineering

Bachelor of Technology in Computer Science and Engineering
Semester End Examination - Jun 2024

Duration : 180 Minutes
Max Marks : 100

Sem VI - R1UC612C - Swift App Development

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) List the types of literals available in the Swift programming language, emphasizing their role in representing data and simplifying code construction. K1(2)
- 2) Imagine your app has a list of movements to track. Utilize a for-in loop to iterate through the movements array and print each movement. The array is defined as let movements: [String] = ["Walking", "Running", "Swimming", "Cycling", "Skiing", "Climbing"]. K2(4)
- 3) Illustrate the object-oriented paradigm by creating three classes – Person, Employee, and Accountant – with data members, and explore the inheritance hierarchy where the Person class is inherited by the Employee class and the Employee class by the Accountant class. K2(6)
- 4) Imagine you are coordinating a community charity event and maintaining a registration list. Create a variable, registrationList, initially empty. Record your friend Sara as the first registrant using the append(:) method. Display the contents of the collection. Add four more names to the array using the += operator in a single step. Print the updated contents. Employ the insert(:at:) method to include Charlie as the second element in the array. Display the contents of the collection. K3(9)
- 5) Outline the design of a straightforward photo-sharing app to track key metrics for each post: Number of likes, Number of comments, Year created, Month created (represented by a number between 1 and 12), and Day created. Declare constants or variables for each metric and assign hypothetical values, adhering to proper naming conventions. K3(9)
- 6) Develop a Swift program that emulates a simple guessing game utilizing a "while" loop. K5(10)

- 7) When developing a social media app with user profiles, elaborate on how you would utilize the view controller life cycle to manage user data updates and handle user interactions. K4(12)
- 8) Develop code snippets for Fitness based on step counts in Swift to deploy conditional statements decision-making, underscoring the finesse and rigor of control flow mechanisms. K5(15)
- 9) Create a Swift application for a bookstore that organizes books according to their genres. Establish a Swift Enumeration called BookGenre, encompassing cases for genres like Mystery, Science Fiction, Romance, Fantasy, and Non-Fiction. Assign raw values to each case to denote the respective genre codes. Illustrate an example of applying this Enumeration to classify a book under the Science Fiction genre. K5(15)
- 10) Create a Swift program that defines and calls a custom function to calculate the monthly payment for a loan based on the principal amount, interest rate, and loan term. Provide sample loan details for testing. K6(18)