GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATIONS

Programme	Master of Computer Applications	**Branch/Spec.**	Computer Application
Semester	III	**Version**	1.0.0.0
Effective from Academic Year	2023-24	**Effective for the batch Admitted in**	June 2022
Subject Code	P13A4IOS	**Subject Name**	IOS APPLICATION DEVELOPMENT

Teaching scheme						**Examination scheme (Marks)**			
(Per week)	**Lecture (DT)**		**Practical (Lab.)**		**Total**		**CE**	**SEE**	**Total**
	L	TU	P	TW					
Credit	2	0	2	0	4	Theory	40	60	100
Hours	2	0	4	0	6	Practical	20	30	50

Objective:

- The students will be able to develop iOS applications using the swift programming language.

Pre-requisites:

- Knowledge of High-Level Programming Languages and Object-Oriented Programming Concepts

Course Outcomes :

- **1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High); "-" = No Correlation**

Name of CO	**Description**
CO1	Apply Swift programming constructs and iOS fundamentals using Xcode, Playground, and Interface Builder to develop basic iOS applications.
CO2	Design and implement interactive iOS user interfaces using OOP principles, UIKit framework, Auto Layout, and iOS application lifecycle.
CO3	Develop feature-rich iOS applications by integrating advanced views, gesture recognizers, notifications, file handling, and JSON parsing.
CO4	Implement and evaluate data persistence techniques in iOS applications using Core Data, SQLite, plist, User Defaults, and Keychain.
	Mapping of CO and PO

CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	3	2	1	2	–	–	–	2
CO2	2	2	3	2	2	–	–	2
CO3	2	2	3	3	2	–	–	2
CO4	2	2	3	3	–	–	1	2

Content:

Unit	**SECTION-I**	**Hrs**

1	**iOS Fundamentals and Swift Basics** Basics of iOS, Understanding the playground, xcode ,simulator and IB interface, NIB file and Storyboard Swift features, Variable, Constant, Swift Data type, Operators, ,Optional , Collection type and Tuple, Flow control [if and switch], Loops [for-in, for , while and repeat-while], Control transfer statements ,Trying out swift in playground, Enum, Type Casting ,	5
2	**OOPs Concepts and Introduction to UIKit Framework** Class, Object, Extensions, Protocols, Access Control, ARC, Understand iOS memory management, Design Pattern, Delegate Pattern, App Delegate, iOSApp life cycle, UI Elements, Connecting View and Controller, Auto Layout , Size class, Stack view, Interface Development, TableView,	10
	SECTION-II	
3	**Working with Views, Bar, Map and File manipulation** Collection View and various view controllers, Working with tab bar and tool bar, UIGesture Recognizer- Swipe, Pinch, Pan, Long Press, Notification – push and local notification, Accessing File and Directories, JSON Parsing	9
4	**Data Persistence** Core Data, SQLite database, plist , User defaults, Keychain	6

Practical Content:

List of programs specified by the subject teacher based on above mentioned topics.

Text Books:

1	Swift Cookbook by Cecil Costa Packt Publishing Limited (30 April 2015).

Reference Books:

1	Beginning Swift Programming (WROX) by Wei-Meng Lee 1st edition (20 February 2015).
2	iOS Programming Fundamentals with Swift By Matt Neuburg Publisher: O'Reilly Media (19 November 2019).
3	The Core iOS Developer's Cookbook by Erica Sadun and Rich Wardwell,Addison Wesley; 5th edition (9 March 2014).

MOOC/Certification Courses:

1	https://developer.apple.com/
2	https://nptel.ac.in/
3	https://www.edx.org/

Question Paper Scheme:

University Examination Duration: 3 Hours

Note for Examiner: -

(I) Questions 1 and 4 are compulsory with no options.

(II) Internal options should be given in questions 2, 3, 5 and 6.

SECTION – I

Q.1 –8 Marks

Q.2 –11 Marks

Q.3 –11 Marks

SECTION - II

Q.4 –8 Marks

Q.5 –11 Marks

Q.6 –11 Marks