



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Integrated MSc, 9th Semester

Branch: Information Technology

Subject Name: Game Development Technology

Subject Code: 1390507

Teaching and Examination Scheme

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE(E)	PA (M)	PA (I)	ESE(V)		
3	0	2	4	70	30	20	30	150

Content:

Sr. No.	Content	Teaching Hours	Module Weightage (%)
1.	Introduction of Unity: Engine Concepts, Development Tools, Introducing Unity, IDE Basics, Unity Concepts, Sprites	6	10
2.	Concepts of Scripting: C# Language Concepts, Creating Scripts, Data Types and Variables, Operations, Variable Scope and Access, Flow Control – Logical Expressions, if/else Statements, switch Statements, Game Loops and Functions, Object-Oriented Concepts - Defining Classes, Creating and Using Classes, Defining Functions, Accessing Game Objects, Constructor and Property Functions	10	25
3.	Managing Game Object: Prefabs, Creating and Destroying Objects, Activating and Deactivating Objects, Controlling Object Lifespans with Invoke, Exceptions and Debugging - Run-Time Exceptions, Finding Run-time Errors, Using the Debugger	7	15
4.	Game Design Strategies and Animation Game Requirements, Game Mechanics, Storytelling and Progression, Design Documents, Simple Unity Animation, Animator States, Scripting Animations,	7	20
5.	Advanced Game Physics and Sound Effects: Applying Forces, Unity Physics Joints, Unity 2D Effectors, Sound Files, Adding Sounds to Game Objects, Scripting Sounds, Publishing Games - Publishing to Smartphones, Publishing to PC	10	30

Reference Books:

1. Learning C# by Developing Games with Unity 5.x.
2. Mastering Unity 2D Game Development. Paperback – Illustrated by Simon Jackson (Author).
3. Unity UI Cookbook. Paperback – Import by Francesco Sapio (Author)
4. Unity 5.x Cookbook. Paperback by Matt Smith (Author, Contributor)



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Course Outcome:

After learning the course, the students should be able to:

No.	CO statement
CO-1	Understand the concept of Unity Engine.
CO-2	Understand the basic concepts of C# and how it can be used in Unity
CO-3	Use various Object oriented concepts for Game Development.
CO-4	To be able to understand the Strategies and Animation for game development.
CO-5	Understand the physics and to perform Game in various devices.