M. Sc (Information Technology)		Semester – IV	
Course Name: Blockchain Practical		**Course Code: PSIT4P1**	
Periods per week (1 Period is 60 minutes)		4	
Credits		2	
		Hours	**Marks**
Evaluation System	**Practical Examination**	2	50
	Internal	--	--

List of Practical:	
1.	Write the following programs for Blockchain in Python:
a.	A simple client class that generates the private and public keys by using the built-in Python RSA algorithm and test it.
b.	A transaction class to send and receive money and test it.
c.	Create multiple transactions and display them.
d.	Create a blockchain, a genesis block and execute it.
e.	Create a mining function and test it.
f.	Add blocks to the miner and dump the blockchain.
2.	Install and configure Go Ethereum and the Mist browser. Develop and test a sample application.
3.	Implement and demonstrate the use of the following in Solidity:
a.	Variable, Operators, Loops, Decision Making, Strings, Arrays, Enums, Structs, Mappings, Conversions, Ether Units, Special Variables.
b.	Functions, Function Modifiers, View functions, Pure Functions, Fallback Function, Function Overloading, Mathematical functions, Cryptographic functions.
4.	Implement and demonstrate the use of the following in Solidity:
a.	Withdrawal Pattern, Restricted Access.
b.	Contracts, Inheritance, Constructors, Abstract Contracts, Interfaces.
c.	Libraries, Assembly, Events, Error handling.
5.	Install hyperledger fabric and composer. Deploy and execute the application.
6.	Write a program to demonstrate mining of Ether.
7.	Demonstrate the running of the blockchain node.
8.	Demonstrate the use of Bitcoin Core API.
9.	Create your own blockchain and demonstrate its use.
10.	Build Dapps with angular.