B. Sc. IT Learning Objectives & Learning Outcomes

T.Y.B.Sc. (IT) (Sem V)

SN	LEARNING OBJECTIVES	LEARNING OUTCOMES
Software Project Management		
1.	To enable students to produce specific sections of the plan used to manage the software development and maintenance efforts.	Students will be able to understand various software project management techniques which enable them to start project planning phase for software development.
2.	To make students evaluate software project management practices within an organization and recommend practical improvements	Students will be able to distinguish among SCM and SQA and classify different testing strategies and tactics and compare them.
Internet of Things		
1.	Students will be taught to assess the vision and introduction of IoT.	Students will be able to learn different applications in IOT.
2.	Students will be taught to Understand IoT Market perspective.	Students will be able to analyze the data in IOT
3.	Students will be taught the Data and Knowledge Management and use of Devices in IoT Technology.	Students will be able to understand and implement Data and Knowledge Management and use of Devices in IoT Technology
Advanced Web Programming		
1.	To help students to develop working knowledge of C# programming constructs and the .NET Framework.	Students will be able to Acquire an ability to design, configure and deploy web applications using various controls
2.	To help students to build a web application using different server controls.	Students will be able to access and display dynamic data from data sources using ADO.NET model and data binding in web application
3.	To help students to learn the use ADO.NET in a web application to read, insert, and update data in a database	Students will be able to use ADO.NET in a web application to read, insert, and update data in a database.
Linux System Administration		
1.	To make students understand the role and responsibilities of a Unix system administrator	Students will be able to carry the duties of a Unix system administrator
2.	To help students to install and configure the Linux operating system on virtual machine.	Students will be able to use programs and utilities to administer a Linux machine.
3.	To enable students to make effective use of Unix utilities, and scripting languages	Students will be able to analyze the need for security measures for a Linux environment.
Next Generation Technologies		

1.	To make students understand the concept of next generation technologies like big data, NoSQL with the concepts and implementation of MongoDB, jQuery and JSON.	Students will be able to understand the concept of next generation technologies like big data, NoSQL with the concepts and implementation of MongoDB, jQuery and JSON.
Project Dissertation		
1.	To enable students to develop deeper knowledge, understanding, capabilities and attitudes in the context of the programme of study.	Students will be able to develop different types of allocations on different platforms in different areas.
2.	To make students learn to create documentation using word processing software.	Students will be able to create documentation using word processing software.
3.	To make students learn to create different UML diagrams by using Start UML and Online software.	Students will be able to Understandand create different UML diagrams by using Start UML and Online software.
Internet of Things Practical		
1.	To make students understand the concepts of Internet of Things and able to build IoT applications.	Students will be able analyze and evaluate the data received through sensors in IOT.
2.	To make students learn the use of Internet in Mobile Devices, Cloud & Sensor Networks.	Students will be able to understand the revolution of Internet in Mobile Devices, Cloud & Sensor Networks.
	Advanced Web Programming Practical	
1.	To assist students to design and deploy a dynamic data driven web applications in ASP.NET.	Students will be able to create multi-page web applications that involve and demonstrate features such as flow control, the use of style sheets, state management, data access, data binding, security, and data verification and validation.
2.	To make students understand the debugging techniques using traces for faster application development.	Students will be able to understand web application configuration and demonstrate the ability to manage basic configuration issues.
	Linux Administration Practical	
1.	To enable students to install the Linux operating system and configure peripherals.	Students will be able to administer, configure and upgrade Linux systems running one of the three major Linux distribution families: Red Hat
2.	To enable students to configure and maintain basic networking services.	Students will be able to write efficient and effective scripts with documentation.
	Next Generation Technologies Practical	

1.	To make students learn NoSQL with document-oriented database, MongoDB.	Students will be able to learn NoSQL with document oriented database, MongoDB.
2.	To make students understand jQuery and JSON features to efficiently develop web pages and their functionality.	Students will be able to understand jQuery and JSON features to efficiently develop web pages and their functionality.

T.Y.B.Sc. (IT) (Sem VI)

SN	LEARNING OBJECTIVES	LEARNING OUTCOMES
	Software Quality Assurance	
1.	To make students understand quality management processes distinguish between the various activities of quality assurance, quality planning and quality control.	Students will be able to investigate the reason for bugs and analyze the principles in software testing to prevent and remove bugs.
2.	To make students understand the importance of standards in the quality management process and their impact on the final product.	Students will be able implement various test processes for quality improvement, Design test planning and manage the test process.
	Security in Computing	
1.	To make students understand and learn the basic concepts related to security in field of computers and networking	Students will be able identify information security goals, classical encryption and decryption techniques and acquire fundamental knowledge related to confidentiality, authentication and integrity of data.
2.	To enable students to analyze packets in a network to detect various security related attacks.	Students will be able apply network security basics, analyze different attacks on networks and evaluate the performance of firewalls and various security protocols.
	Business Intelligence	
1.	Students will be taught to identify the major frameworks decision support systems (DSS) and business intelligence (BI).	Students will be able identify the major frameworks decision support systems (DSS) and business intelligence (BI).
2.	Students will be taught to learn the foundations, definitions, architecture and capabilities of DSS and BI.	Students will be able to understand the foundations, definitions, architecture and capabilities of DSS and BI.
	Principles of Geographic Information Systems	
1.	Students will be taught knowledge and skills as well as the expertise and independence necessary for management of projects in Geographic Information Systems.	Students will be able to understand basic principles of GIS, techniques and real world applications.
2.	To enable students to acquire transferable and employable skills in GIS and remote sensing.	Students will be able to gain knowledge of basic concepts of geography that are used efficiently and accurately in GIS technology.
	IT Service Management	
1.	To enable students to understand how an integrated ITSM framework can be utilized to achieve IT business integration, cost	Students will be able to apply basic information technology service concepts to a current state of services using IT

	reductions and increased productivity.	Infrastructure library.
2.	To assist students to learn the relationship between Business Strategy, Operations Strategy, Process Type, and the impact of these on managerial decision making and choices.	Students will be able to understand the relationship between Business Strategy, Operations Strategy, Process Type, and the impact of these on managerial decision making and choices.
Project Implementation		
1.	Students will be taught to manage the scope, cost, timing, and quality of the project at all times focused on project success as defined by project stakeholders.	Students will be able to implement project code using frontend and backend.
2.	Students will be taught various test processes for improving quality, design.	Students will be able to implement various test processes for quality improvement, Design test planning and manage the test process.
3.	Students will be taught to prepare PERT chart using WBS software.	Students will be able to create project scheduling using Gantt chart and PERT chart.
4.	Students will be taught to execute test cases to find the errors in code and in an application or website.	Students will be able to execute project by writing test cases and generate test reports by inputting values.
Security in Computing Practical		
1.	Students will be taught to simulate the working of various security protocols on a given topology	Students will be able to simulate the working of various security protocols and security devices.
Business Intelligence Practical		
1.	To make students learn implementation of BI using various tools like SQL server, Power BI and R tool.	Students will be able to learn implementation of BI using various tools like SQL server, Power BI and R tool.
	Principles of Geographic Information Systems Practical	
1.	To help students to develop and implement GIS projects in QGIS.	Students will be able to demonstrate use of the data acquisition techniques, map making, data analysis functions.
2.	To enable students to acquire knowledge of map making skills, spatial data analysis capabilities, data visualization techniques etc	Students will be able to acquire knowledge of dealing data comes from different sources.
	Advanced Mobile Programming	
1.	Students will be taught the basics of Android platform and get to understand the application lifecycle	Students will be able to install and configure Android application development tools.
2.	Students will be taught to develop mobile applications using Android.	Students will be able to design and develop user Interfaces for the Android

		platform.
3.	Students will be taught to learn the basics Kotlin programming language.	Students will be able to apply Kotlin programming concepts to Android application development.