

| Subject Name | Description |
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| Reasoning & Thinking | It is the objective of the students to introduce to the students, concepts like Reasoning and thinking which are very important for any individual. In every aspect and walk of life and assists them in taking the right decisions, approach every problem with diligence and perform action accordingly. |
| Computer Networks | It is important for networking professionals to have a sound grounding in the basics of networking and with the networking technology being developed thick and fast, the professionals need to be updated of them at all times. The focus of this unit is providing a background to the basics of networking and its underlying principles. The learners taking this unit will explore the fundamentals of networking, the principle and purpose behind layered models, devices used in networks and their wireless connectivity and the ways to troubleshoot network related issues. The unit underpins the principles of networking and enables the learners to work towards taking up vendor certifications in the networking domain. This course enables learners to understand computer networking concepts, how they work, how they operate and the protocols, standards and the models associated with networking technology and their troubleshooting mechanisms. |
| Programming in Java | Object oriented programming is the most proven technique for developing reliable programs. It helps in increased productivity, reusability of code, decreases in the development time, and reduces cost of production to an extent. The cost of maintaining such systems have also considerably decreased. There are many languages which used the object oriented concepts and techniques. Some of them are C++, Java, Smalltalk, Objective-C, etc. Java is a purely object oriented language. Systems/applications created using java programming language reduces the need for developing and maintain complex and space consuming applications. Java has a lot of advantages of being simple, robust, platform independent, etc. Nowadays java is also found in the mobile phones. This unit focuses on the concepts of object oriented programming language and the different constructs for creating applications in java. This course provides students with an understanding of the object oriented concepts which help in the field of programming, management of data, etc. and of Java programming which helps to explore the object oriented nature of the language and the multi-platform versatility offered by it. |

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| RDBMS | <p>As database is the integral part of Information Management Systems therefore students should have knowledge about the various Data Models and database. The main Objective of this course is to give students in detail knowledge of architecture, structure, concepts and constructs of Relational Database Management System (RDBMS). This course give the in depth knowledge about Relational Model, Database Design, Transactions.</p> |
| Software Engineering | <p>Software engineering incorporates various accepted methodologies to design software. This course gives a detailed description of the entire process of developing a software project and also the issues associated after development. This course covers the introductory concepts of software engineering and its design, development and maintenance.</p> |
| Information Security Fundamentals | <p>The course primarily covers the Types of Threats, Vulnerabilities, Risks and various terminologies in Information Security. It explains the formation of Security policy at various levels inside the Organization and provides the definition Procedures, Standard and Guidelines. The units emphasize the need of Performing Asset Classification and Declassification, Retention and Disposal of Information Asset also it identifies the various levels of Authorization for access Viz., Owner, Custodian and User. The course covers the different types of Access Controls and Physical security measures to safeguard the Assets and conclusively, it deals with the Digital Rights Management also covering the concepts of Common Authentication protocols and Real world Protocols. This course enables the students to understand the concepts of IT security, Threats, Vulnerabilities, Impact and control measures. And also to get familiarized with Asset management along with the objective to create awareness in Digital Rights management.</p> |
| Cryptography | <p>Security is ubiquitous. With the advent of e-commerce and electronic transactions, the need for development of secured systems has grown tremendously. Cryptography is the study of building ciphers to ensure the confidentiality and integrity of information. Along with it is the activity of analyzing the strength of a cipher by subjecting it to several forms attack. This course covers the basic concepts of Cryptography, certain cryptographic algorithms and its applications.</p> |

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| Installation and configuration server | <p>Windows Server 2012 R2 Foundation is an operating system that enables core IT resources, such as file and print sharing, remote access, and security. It provides a network foundation from which you can centrally manage settings on your computers that are based on the Windows® operating system, and upon which you can run the most popular business applications. This course explores the method to install, upgrade, and deploy the Windows Server. Also, the learners will have the functional knowledge of configuring core network services and the active directory of Windows Server. This course provides the knowledge and skills necessary to plan and implement a Windows Server 2012 and Windows Server 2012 R2 environment. It incorporates both the planning of the server infrastructure and key aspects of the implementation, management and maintenance of Active Directory and Network Infrastructure. It covers the most important job tasks for Server Administrators who are responsible for the planning, operations, and day-to-day maintenance of Windows Server 2012 and Windows Server 2012 R2 servers in the enterprise.</p> |
| Network Security | <p>The power of computers can be witnessed when multiple computers are connected to form a network and start sharing information amongst them. But when this happens, the entire network becomes an open source and exposed to threats due to many users who log into these networks and their environments. Therefore it becomes important to learn about Network Security, in order to safeguard our networks from hackers and damages. Learning network concepts therefore becomes significant and no study of computers is complete without them.</p> |
| Departmental Elective-Network Administration | <p>This course introduces the architecture, functions, and components of the Internet and computer networks, the principles and structure of IP addressing and subnetting, the fundamentals of Ethernet, the architecture, components and operations of routers, routing protocols and switches in a network. Topics include TCP/IP, Ethernet, IPv4, routers, switches. As we cover these topics, the students will learn how the internals of the Internet work to support the Web and other networked applications. After completing the course the students will develop a detailed understanding of how to configure, implement and troubleshoot widely-used networking technologies.</p> |

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| Departmental Elective - Network and Security Protocols | The power of computers can be witnessed when multiple computers are connected to form a network and start sharing information amongst them. But when this happens, the entire network becomes an open source and exposed to threats due to many users who log into these networks and their environments. The objective of this course is to provide in depth knowledge of various Network Security Protocols to handle security threats at different levels of Network layers. |
| Departmental Elective - Principles of Virtualization | Virtualization is the single most effective way to reduce IT expenses while boosting efficiency and agility in organizations. This unit explores the implementation and usage of VMWare Virtualization, its installation process and the working of Windows Server hyper V. |
| Departmental Elective - Fundamental Storage | Data is all around us, in different forms and amounts. As we are stepping into revolutionizing world of advanced computing like cloud computing, data storage has also undergone many transformations in terms of techniques and hardware used for the same. This makes it significant for a computer student to learn different aspects of data storage. In this course, students will learn fundamentals of data storage, covering topics like demands on data, how storage techniques have evolved over a period of time and vital information about storage topologies like DAS, NAS and SAN, along with their comparison features. The second unit deals with different hardware required for storage like adapters, connectors, cables and their individual features. Different storage protocols used like ATA, SATA, SPI and its sub-categories will be taught to students in the following units. Topics storage security and storage infrastructure are addressed in the final unit. |
| Departmental Elective - Mobile Wireless and VOIP Security | Basic understanding of security in wireless world is very important for any IT Security Professional. As organizations are increasingly adapting VoIP for converged messaging, call centres and interactive multimedia collaboration, implementing security principles is vital for maintaining confidentiality and privacy. This course covers the basics of mobile communication, security in wireless communication, VoIP security and mobile forensics. |

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| Open Elective - Employability Skills | To be qualified for employment and to work in a corporate sector demands not only the technical knowledge and experience but interpersonal skills like speaking skills, professional etiquettes and so on. In this course, students will be taught how to develop these skills and apply them in our everyday interactions with people, both in our personal and professional lives. |
| Open Elective - Computer Fundamentals and Organization | The basic knowledge of how a computer works is very important for any fresh networking or operating system professional. The functional knowledge of a computers working and its main building parts are paramount. The computers of today may come with variety of features but the basic working principles remain the same. Students will explore the fundamentals of organization of a computer and the principles and building units of a computer (its hardware). Also, they will be introduced to the basics of networking and MS Office. |
| Open Elective- Programming in C | Even with the introduction of several high level languages and frameworks, the development of procedural codes is important in several commercial app developments. The object oriented platforms and event driven systems use procedural languages for coding integral command content. C is an important procedural language and was developed initially to write the UNIX operating system. UNIX operating system, C compiler and all UNIX application programs are written in C. C is popular because, it is easy to learn, produces efficient programs, can handle low-level activities, and can be compiled on a variety of platforms. This course focuses on all the basic concepts, syntax and constructs of the C language. For students, who are new to programming, this unit can be considered as the starting point before taking up any other programming oriented units. The students will be implementing the concepts explained here to create simple to complex programs. |