Syllabus for MSE –I (AUG- DEC 2019)

SEMESTER: 1
SUBJECT: ENGLISH FOR RESEARCH PAPER WRITING
SUBJECT CODE: MAC 101
SUBJECT INCHARGE: HANIT KARWAL

SR NO	TITLE	DETAILS
1	**Module 1**	Planning and preparation, word order, breaking up long sentences, structuring paragraphs and sentences, being concise and removing redundancy, avoiding ambiguity and vagueness
2	**Module 2**	Clarifying who did what, highlighting your findings, hedging and criticizing, paraphrasing and plagiarism, sections of a paper, abstracts, and introduction
3	**Module 3**	Review of the literature, methods, result, discussion, conclusions, and the final check

Syllabus for MSE-I

Semester: 1st
Subject Title: Soft Computing
Subject Code: MIT-102
Subject Incharge: Dr. Manpreet Singh

S.No.	Title	Details
1	INTRODUCTION TO SOFT COMPUTING AND NEURAL NETWORKS	Evolution of Computing: Soft Computing Constituents, From Conventional AI to Computational Intelligence: Machine Learning Basics.
2	FUZZY LOGIC	Fuzzy Sets, Operations on Fuzzy Sets, Fuzzy Relations, Membership Functions: Features of Membership Functions, Methods of Membership Value Assignments, Fuzzy Rules and Fuzzy Reasoning, Fuzzy Inference Systems, Fuzzy Expert Systems, Fuzzy Decision Making.

Syllabus for MST-I (July-Nov 2019)

Semester: - 1st

Subject Title: - . Data warehousing and Data Mining
Subject Code: - MIT-104

Subject In charge: - Dr. Kiran Jyoti

Sr. No.	Title	Details
1	**Data Warehousing**	Data Warehouse Concepts, Benefits, comparison OLTP and Data warehouse, Problems in DWH, Architectures of DWH, Data Mart, Reasons for creating Data Mart. Data warehouse design: Dimension Modelling, Fact Table, Schemas for data warehouse, Steps to create data warehouse, Data Warehouse Design Practices and Methodologies, Data Integration Concepts, Details of Data Integration Tools. OLAP: Online Analytical Processing, OLAP cube, OLAP operations types of OLAP: ROLAP, MOLAP, Hybrid OLAP, Advantages & Disadvantages, OLTP vs OLAP.

Syllabus for MST-I (Aug-Dec 2019)

Semester: - 1st

Subject Title: - . Machine Learning

Subject Code: - MIT-106

Subject In charge: - Prof. Sachin Bagga

Sr. No.	**Title**	**Details**
1	Introduction to Machine Learning	Introduction to Machine Learning, Difference between Machine Learning and traditional programming, Applications of Machine Learning, Why Machine Learning is the Future.
2.	Basic of Regression, Classification, Clustering,	Regression: Simple Linear Regression, Multiple Linear Regression, Polynomial Regression, Support Vector Regression, Decision Tree Regression, Classification: K-Nearest Neighbors (K-NN), Naive Bayes, Decision Tree Classification, Clustering: K-Means Clustering,
3		
4.		

Guru Nanak Dev Engineering College
Department of IT
EVS (MCIT-101)
Semester: 3rd
Subject Incharge: Harjot Kaur
Syllabus (1st sessional)

Natural Resources: Renewable and non renewable resources: Natural resources and associated problems: Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction, mining, dams and their effects on forests and tribal people.

Relational Model: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems, Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers-pesticides problems, water logging, salinity, case studies, Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, and desertification.

Guru Nanak Dev Engineering College
Department of IT
Data Structures (PCIT-101)
Syllabus (1st sessional)
Semester: 3rd
Subject Incharge: Parminder Kaur Wadhwa

Introduction to Algorithms: Definition and brief description of various data structures,operations on data structures, Algorithm development, Complexity analysis, Big O notation,Time space trade-off.

Arrays, Stacks and Queues: Linear and Multi-dimensional arrays and their representation,operations on arrays, Linear Search, Binary Search, Sparse matrices and their storage. Stacks: Array Representation and Implementation of Stacks, Operations on Stacks, Application of stacks: Conversion of Infix to Prefix and Postfix Expressions, Evaluation of postfix expression using stack, Balanced parenthesis checking. Recursion, Tower of Hanoi Problem. Queues: Sequential representation of queue, linear queue, circular queue, operations on linear andcircular queue, dequeue, priority queue.

Linked Lists: Linear linked list, operations on linear linked list, doubly linked list, operationson doubly linked list, Circular Linked list, Garbage collection and Compaction, linked representation of Stack, Linked representation of a Queue, Skip List, Operation done in skip list, Implementing the skip list.

Semester: 3rd

Subject Title: Data Communication and Computer Networks

Subject Code: PCIT-103

Subject Incharge: Manpreet Singh and Pankaj Bhambri

Sr. No.	Title	Details
1.	**Introduction to Computer Networks**	Introduction to Computer Networks, Data Communication Systems and its Components, Data Flow, Computer Network and its Goals, Types of Computer Networks: LAN, MAN, WAN, Wireless and Wired Networks, Broadcast and Point to Point Networks, Network Topologies, Network Software: Concept of Layers, Protocols, Interfaces and Services, ISO-OSI Reference Model, TCP/IP Reference Model
2.	**Physical Layer**	Concept of Analog and Digital Signal, Bandwidth, Transmission Impairments: Attenuation, Distortion, Noise, Data Rate Limits: Nyquist Formula, Shannon Formula, Multiplexing: Frequency Division, Time Division, Wavelength Division, Introduction to Transmission Media: Twisted Pair, Coaxial Cable, Fibre Optics, Wireless Transmission (Radio, Microwave, Infrared), Switching: Circuit Switching, Packet Switching, Message Switching and their Comparisons
3	**Data Link Layer**	Design Issues, Framing, Error Detection and Correction Codes: Checksum, CRC, Hamming Code, Data Link Protocol for Noisy and Noiseless Channels, Sliding Window Protocol: Stop and Wait ARQ, G0 back N ARQ, Selective Repeat ARQ, Data Link Protocols: HDLC and PPP

Syllabus for the MSE-1 (Aug-Dec 2019)

Semester: 3rd
Group: A and B
Subject Title: Object Oriented Programming using C++
Subject Code: PCIT-102
Subject Incharge: Sandeep Kumar Singla

Sr. No.	Title	Details
1	**Fundamental Concepts of a Programming Language**	basic structure of a program, character set, tokens, keywords and identifiers, constant and variables, data types and sizes, operators and expressions, operator precedence, promotion and type conversion, Control flow (if, if-else, nested if-else, for, while, do-while, break, switch, continue and goto statements), arrays and strings
2	**Object Oriented Paradigm**	need of object oriented programming, comparison of structured and object oriented development, elements of object oriented programming, encapsulation and data abstraction, inheritance, polymorphism, inheritance, dynamic binding and message communication
3	**Classes and Objects**	introduction to classes and objects, class specification, defining member functions, reference and instance variables, scope resolution operator, objects as arguments and returning object
4	**Object Initialization and Cleanup**	access specifiers, pass by reference, need for constructors and destructors, parameterized constructors, copy constructor, dynamic constructor, destructors, static data and member functions
5	**Overloading and Inheritance**	unary and binary operator overloading, function overloading. Inheritance – need of inheritance, forms of inheritance, inheritance and member accessibility, generalization and aggregation

Syllabus for MSE-I

Semester: 3rd
Subject Title: Data Communication and Computer Networks
Subject Code: PCIT-103
Subject Incharge: Dr. Manpreet Singh/Dr. Pankaj Bhambri

S.No.	Title	Details
1	Introduction to Computer Networks	Introduction to Computer Networks Data Communication System and its components, Data Flow, Computer network and its goals, Types of computer networks: LAN, MAN, WAN, Wireless and wired networks, broadcast and point to point networks, Network topologies, Network software: concept of layers, protocols, interfaces and services, ISO-OSI reference model, TCP/IP reference model
2	Physical Layer	Concept of Analog & Digital Signal, Bandwidth, Transmission Impairments: Attenuation, Distortion, Noise, Data rate limits : Nyquist formula, Shannon Formula, Multiplexing : Frequency Division, Time Division, Wavelength Division, Introduction to Transmission Media : Twisted pair, Coaxial cable, Fiber optics, Wireless transmission (radio, microwave, infrared), Switching: Circuit Switching, Message Switching ,Packet Switching & their comparisons
3	Data Link Layer	Design issues, Framing, Error detection and correction codes: checksum, CRC, hamming code, Data link protocols for noisy and noiseless channels, Sliding Window Protocols: Stop & Wait ARQ, Go-back-N ARQ, Selective repeat ARQ, Data link protocols: HDLC and PPP.

Syllabus foe MSE-1 Aug- Dec 2019-09-10
Semester: D2ITB, 3rd
Subject Title: Digital Circuits and Logic Design
Subject Code: ESIT-101
Subject Incharge: Dr. Amit Kamra

Sr.No	Title	Details
1.	Number Systems:	Binary, Octal, Decimal, and Hexadecimal. Number base conversions, 1's, 2's, n's complements, signed Binary numbers. Binary Arithmetic, Binary codes: Weighted BCD, Gray code, Excess 3 code, ASCII – conversion from one code to another.
2.	Boolean Algebra:	Boolean postulates and laws – De-Morgan's Theorem, Principle of Duality, Boolean expression – Boolean function, Minimization of Boolean expressions – Sum of Products (SOP), Product of Sums (POS), Minterm, Maxterm, Canonical forms, Conversion between canonical forms, Karnaugh map Minimization, Quine-McCluskey method - Don't care conditions
3.	Logic Gates and Combinational Circuits	Logic GATES: AND, OR, NOT, NAND, NOR, Exclusive-OR and Exclusive-NOR. Implementations of Logic Functions using gates, NAND-NOR implementations, Design procedure – Adders, Subtractors, Serial adder/Subtractor, Parallel adder/ Subtractor Carry look ahead adder

Syllabus for MST 1(Aug –Dec,2019):

Semester: 3rd
Subject Title: Professional Practice, Laws and Ethics for IT Engineers
Subject Code: HSIMT-101
Subject Incharge : Mohanjit Kaur Kang

Sr.No.	Title	Details
1.	**Professional Practice**	Definition of Professional practice, What constitutes a profession, Professional relationships, Principles of professional practice, Nature of Professionalism and its place in the field of Information Technology, are IT workers professionals, Industry code of Professional Practice: Definition of Professional practice, What constitutes a profession, Professional relationships, Principles of professional practice, Nature of Professionalism and its place in the field of Information Technology, are IT workers professionals, Industry code of practice, Benefits of an industry code of practice, Writing a code of conduct, Implementing and review of code of conduct.
2.	**Teamwork and conflict management**	Skills required for functioning of effectively in a team environment, Methods how industry approaches towards a common goal, Methods for conflict management in building stronger teams
3.	**Professional Ethics:**	Definition of Ethics, Business Ethics, Corporate Ethics, Engineering Ethics, Personal Ethics; Importance of Integrity, Difference between moral ethics and laws, Ethics in Business world, Contrast ethical and legal issues as related to Information Technology, How IT uses or benefits from social and professional issues.
4.	**Ethics for IT workers and Green IT:**	Significance of social context of IT and adherence to ethical code of conduct, IT, IEEE Code of Ethics, Developing green IT policies, Standards and learn to identify green IT, Evaluate green computing perforce metrics, recycling practice, energy uses , Incentives at workplace for implementing green computing, management of computer hazardous material

Semester: 3rd
Subject title: Digital Circuits and Logic Design
Subject code: ESIT-101
Subject incharge: Dr. Amit Kamra, Harpreet Kaur

Sr. no.	Title	Details
1	Number Systems	Binary, Octal, Decimal, and Hexadecimal. Number base conversions, 1's, 2's, n's complements, signed Binary numbers. Binary Arithmetic, Binary codes: Weighted BCD, Gray code, Excess 3 code, ASCII – conversion from one code to another.
2	Boolean Algebra	Boolean postulates and laws – De-Morgan's Theorem, Principle of Duality, Boolean expression – Boolean function, Minimization of Boolean expressions – Sum of Products (SOP), Product of Sums (POS), Minterm, Maxterm, Canonical forms, Conversion between canonical forms, Karnaugh map Minimization, Quine-McCluskey method - Don't care conditions
3	Logic GATES	AND, OR, NOT, NAND, NOR, Exclusive-OR and Exclusive-NOR. Implementations of Logic Functions using gates, NAND-NOR implementations. Study of logic families like RTL, DTL, DCTL, TTL, MOS, CMOS, ECL and their characteristics.
4	Combinational Circuits	Design procedure – Adders, Subtractors, Serial adder/Subtractor,

Syllabus for MST-I (July-Nov 2019)

Semester: - 5th

Subject Title: - . Human Computer Interaction
Subject Code: - IT-14504

Subject In charge: - Dr. Pradeep Jaswal, KS Mann

Sr. No.	Title	Details
1	**Human and Interactive Systems:**	Human memory, reasoning and problem solving, emotion and psychology, effects of affect, measuring user affect, human information processing and perceptual-motor behavior, attention in information processing, human based design of interactive systems, models of interaction, ergonomics, HCI in the software process.
	Cognitive and Interaction Models for HCI	Cognitive neuroscience, mental models, Cognitive architectures, The Model Human Processor (MHP), GOMS, Cognitive Complexity Theory, Task loading and stress in Human Computer Interaction, Relationship between stress and cognitive workload, mitigation of stress, Human error Identification in HCI, Interactions models, Statusevent analysis, sensor-based interaction

Syllabus for Mid Semester Examination – I

(August – December, 2019)

Semester: 5th

Subject: Theory of Computation

Subject Code: IT-14503

Subject In charge: Rupinder Kaur

Sr. No.	Title	Details
1.	**Strings, Alphabets**	Basics of strings, alphabets and languages, Operations on languages, Chomsky Classification of Languages
2.	**Finite Automata**	Introduction- Basic Mathematical Notation and techniques, Finite State systems, Basic Definitions – Finite Automaton – DFA & NDFA, Finite Automaton with €- moves, Regular Languages and Regular Expression, Equivalence of NFA and DFA , Minimization of DFA, Moore and Mealy Machines.
3.	**Regular grammar**	Introduction- Types of Grammar, regular expressions, equivalence between regular languages, properties of regular languages and pumping lemma
4.	**Context Free Languages**	Introduction of CFG

Syllabus for MSE –I (AUG- DEC 2019)

SEMESTER: 5
SUBJECT: DISCRETE MATHS
SUBJECT CODE: IT-14501
SUBJECT INCHARGE: HANIT KARWAL

SR NO	TITLE	DETAILS
1	Fundamentals of Sets, Relations and Functions	**Sets** – Operations on sets, Subsets, Types of sets, Ordered pairs, Proofs of general identities of sets, Classes of sets and partitions, Inclusion and exclusion principle **Relations** – Properties of relations, Types of relations, Composition of relations, Closure properties of relations, Equivalence relations, Compatibility relations, Partial order relations. **Functions** – Introduction and types of functions, Composition of functions, Invertible function, Hashing functions, Recursively defined functions
2	Prepositional and Predicate Logic	Propositional logic, Truth tables, Normal forms (conjunctive and disjunctive), Validity of well-formed formula, Propositional inference rules, Predicate logic, Universal and existential quantifiers
3	Combinatorial Mathematics	Basic counting principles, Permutations and combinations, Pigeonhole principle, Recurrence relations – Solving homogeneous and non-homogeneous recurrence relations, Generating function

Syllabus for MSE-1 (Aug-Dec, 2019)

Semester:- 5th
Subject Title:- Business Intelligence and its Applications (Elective-I)
Subject Code:- DEIT-14510
Subject Incharge:- Kamaljit Kaur

Sr.No.	Title	Details
1	Introduction	Introduction to the multidisciplinary field of data mining,. Discussion on the evolution of database technology that has led to the need for data warehousing and data mining. Applications of Data Mining.
2	Data Warehousing And OLAP	Evolution of Data Warehousing, Data warehousing Concepts, Benefits of Data Warehousing, Data Warehouse Queries, Problems of Data Warehousing, Architecture of Data Warehouse, Data Warehouse Tools and Technologies, Data Mart, Reasons for creating Data Mart, Issues in Data Mart, Designing Data Warehouse, Dimensionality Modeling, Star Schema, Introduction to Online Analytical Processing (OLAP), OLAP Applications, Benefits of OLAP, Representation of Multidimensional Data, OLAP Tools , MOLAP, ROLAP, HOLAP, DOLAP
3	Data Mining Primitives	Data preprocessing including data cleaning, data integration, data transformation. Definition and Specification of a generic data mining task. Description of Data mining query language with few example queries. Relationship between data warehouse and data mining.[5]

Syllabus for MSE-1 (Aug-Dec, 2019)

Semester:- 5th
Subject Title:- .NET Technologies (Elective-I)
Subject Code:- DEIT-14514
Subject Incharge:- Yadvir Kaur

Sr.No.	Title	Details
1	Introduction	.Net Framework and Fundamentals, Building Blocks of the .NET Platform(CLR, CTS, CLS), Managed Code, Microsoft Intermediate Language (MSIL), Just In Time Compiler (JIT) , Assembly, Types of Assembly, Garbage Collection, Strong Name, Global Assembly Cache (GAC), .Net Framework Development Goals, Overview of Dot Net Technologies(WPF, ASP.NET, WCF, LINQ, EF, MVC4).
2	Basic .NET Programming using C#	Structure of a C# Program, Data Types, Basic Control Structures, classes and objects, Arrays, Introduction to debugging, this keyword, Static, Properties and Indexer, Inheritance Overloading (Compile Time Polymorphism), Overriding and Runtime Polymorphism, Abstract, Interface, Namespaces, Structures, System.Object, Boxing and Unboxing, Typecasting, Memory Management, Exception Handling, Collection, Basic Windows Controls, Delegates, Events and Event Handling, Assembly, Attributes, File Handling, Serialization.

Semester: 5th
Subject title: Programming in JAVA
Subject code: IT-14502
Subject incharge: Dr. Akshay Girdhar, Harpreet Kaur

Sr. no.	Title	Details
1	Overview of Java	History and evolution, byte code, buzzwords, object oriented programming two paradigms, abstraction, the three OOP principles, structure of Java program, Java typical environment, lexical issues.
2	Date Types, Variables and Arrays	Primitive data types - integers, floating-point types, characters, booleans; literals, variable, type casting, arrays- 1D and 2D.
3	Operators and Control Statements	Arithmetic operators, bitwise operators, relational operators, boolean logical operators, the conditional operator, operator precedence, selection statements, iteration statements, jump statements, compare various control statements, recursion v/s iteration.
4	Introduction to Classes and Methods	Class fundamentals, declaring object, assigning object reference variable, introducing methods, constructors ,overloading methods, objects as parameters, returning objects, overloading constructors, this keyword, garbage collection, the finalize () method, introduction to access various control, static , final, command line arguments
5	Inheritance	Inheritance basics, using super, method overriding, dynamic method dispatch, using abstract classes, using final with inheritance, constructor in derived class, object class.
6	Package and Interfaces	Introducing package, package access protection, importing packages, interfaces - defining, implementing, nesting, extending, default interface methods.

Semester: 5th
Subject Title: Advanced Web Technologies (Elective-I)
Subject Code: DEIT-14516
Subject Incharge: Pf. Sidharath Jain

S No.	Title	Details
1	**HTML5 Framework:**	Bootstrap: Introduction to Bootstrap, Basic HTML Template, Default Grid System, Fluid Grid system, Bootstrap CSS: Typography, Code, Tables, Forms, Buttons, Images, Icons, Bootstrap Layout Components: Dropdown menus, Button Groups, Navigation Elements, Navbar, Pagination, Alert Bars, Bootstrap Javascript Plugins: Overview, Transitions, Modal, Scrollspy, Toggleable Tabs, Tooltips, Popover, Alerts, Buttons, Collapse, Carousel, Typeahead, Affix
2	**MVC Approach for Web Applications:**	Introduction to MVC: Introduction, Popular MVC Framework, Design Patterns, Foundation: Autoloading, Exceptions, Type Methods, Base Class, Configuration of MVC, Caching: Performance Bottlenecks, Routing, PHP Framework Codeigniter: Model, Views, Controllers and related functions, Creation of simple application using Codeigniter.

Semester: 5th
Subject Title: Advanced Computer Networks
Subject Code: DEIT -14508
Subject Incharge : Mohanjit Kaur Kang

Syllabus for MST 1(Aug –Dec,2019):

Inter Networking: Duplex, Ethernet at various layers, Ethernet cabling, Data Encapsulation,3 layer hierarchical model.

TCP Protocols: Internet Layer protocols, Host to Host layer protocols, Application layer Protocols.

Switching: Overview of switch, unmanaged and managed switches, and Switch Administrative configurations.

Syllabus for MST-1 (Aug-Dec 2019)

Semester:- 7th

Subject Title:- Mobile Development Application

Subject Code:- **DEIT-14711**

Subject Incharge:- Ranjodh Kaur

Sr. No.	Title	Details
1	**Introduction to Mobile Development**	Brief History of Mobile ,Beginning and evolution, Mobile ecosystem, Operator, Network, Devices, Platforms, Operating System, Application, Frameworks, Types of Mobile applications, Seven rules for developing mobile strategy
2	**Android User Interface Design**	XML Naming scheme, XML syntax, XML Referencing, XML constants, XML Styles,XML Colors, View Group Class, View Class, Activity Class,UI Design from scratch: Checkbox,TextView,Button element to interface,Error elimination using XML Editor,Working with Relative,Linear Table and Grid Layouts, Understanding Activity Life Cycle.
3	**Android Development Environment**	Introduction to android, Advantage of Android over other development environment, Android execution environment, Components of android application, Android activity and service lifecycle, Android 7.0 nougat and comparison with older version, Assembling android 7 development workstation, Downloading and installing Android Studio2, Introduction to Android Studio IDE.

Guru Nanak Dev Engineering College
Department of IT
DEIT-14721 Corporate IT Management (Elective-IV)
Semester: 7th
Subject Incharge: Dr. K. S. Mann
Syllabus (1st sessional)

Basic concepts: Understanding information systems - data and information, creating information, quality of information, categorization of corporate information systems.

IT management: Overview, IT infrastructure, IT management disciplines, IT managers, disadvantages of IT management.

Ethical, legal and moral constraints on information systems: Management issues, Professionalism, ethics and morality, code of conduct, social issues, moral issues, legal issues, software piracy.

Semester: 7th
Subject Title: ICT in Agriculture and Rural Development
Subject Code: IT-14702
Subject Incharge: Pf. Sidharath Jain

S No.	Title	Details
1	**Introduction:**	Introduction to ICT, ICT in Agricultural and Rural Development.
2	**ICT Infrastructure, Appliances and Services:**	Making ICTs Affordable in Rural Areas, Mobile Money Moves to Rural Areas, M-PESA's: Pioneering Money Transfer Service, Delivering Content for Mobile Agricultural Services.
3	**Impact of Mobile Devices on Agriculture and Rural Development:**	Key Benefits and Challenges Related to Mobile Phones and Agricultural Livelihoods, General Principles for Using Mobile Phones in Agricultural Projects.
4	**Increasing Productivity through ICT:**	Increasing Crop, Livestock, Fishery, Dairy Productivity through ICT, Preventing Yield Losses through Proper Planning and Early Warning Systems . IT Tools for India's with applications in Dairy Industry.
5	**Agricultural Marketing with ICT:**	Mobile Phones as a Marketing Tool, Improvement of Logistics through ICT, Facilitation of Market Research, Access to and Delivery of Inputs.

Syllabus for Mid Semester Examination – I

(July – December, 2019)

Semester: 7th

Subject Title: Computer Forensics

Subject Code: DEIT-14718

Subject Incharge: Pankaj Bhambri

Sr. No.	Title	Details
1.	**Computer Forensics**	Computer Forensics Fundamentals – Introduction to Computer Forensics, Use of Computer Forensics in Law Enforcement, Computer Forensics Assistance to Human Resources/ Employment Proceedings, Computer Forensics Services, Benefits of Professional Forensics Methodology, Steps taken by Computer Forensics Specialists
2.	**Computer Forensics Technologies**	Types of Military Computer Forensics Technology, Types of Law Enforcement: Computer Forensics Technology, Types of Business Computer Forensics Technology, Specialized Forensic Techniques, Hidden Data, Spyware and Adware, Encryption Methods and Vulnerability, Protecting Data from being Compromised, Internet Tracing Methods, Security and Wireless Technologies, Avoiding Pitfalls with Firewalls, Biometric Security Systems
3.	**Computer Forensics Systems**	Internet Security Systems, Intrusion Detection Systems, Firewall Security Systems, Storage Area Network Security Systems, Network Disaster Recovery Systems, Public Key Infrastructure Systems, Wireless Network Security Systems, Satellite Encryption Security Systems, Instant Messaging Security Systems, Net Privacy Systems, Identity Management Security Systems, Identity Theft, Biometric Security Systems, Homeland Security Systems

Syllabus for Mid Semester Examination – I (July-Nov. 2019)

Semester:- 7th

Subject Title:- Business Enterprise Application

Subject Code:- IT-14701

Subject Incharge:- Kiran Jyoti

Sr. No.	Title	Details
1	**Introduction to enterprise applications**	Introduction to enterprise applications and their types, integration with legacy systems, life cycle of raising an enterprise application, integration with partners, heterogeneous environment, introduction to skills required to build an enterprise application, key determinants of successful enterprise applications, and measuring the success of enterprise applications, ETL, direct data integration, middleware requirements
2	**Inception of enterprise applications**	Inception of enterprise applications, enterprise analysis, business modeling, requirements elicitation, use case modeling, prototyping, non functional requirements, requirements validation, planning and estimation
3	**Concept of architecture**	Concept of architecture, views and viewpoints, enterprise architecture, logical architecture, technical architecture - design, different technical layers, best practices, data architecture and design – relational, XML, and other structured data representations, Infrastructure architecture and design elements - Networking, Internetworking, and Communication Protocols, IT Hardware and Software, Middleware, Policies for Infrastructure Management, Deployment Strategy, Documentation of application architecture and design

Syllabus for MSE-I (Aug-Dec 2019)

Semester: - 7th

Subject Title: - **Cloud Infrastructure and Services (Elective-III)**

Subject Code: - **DEIT-14713**

Subject In charge: - Prof. Sachin Bagga

Sr. No.	**Title**	**Details**
1	**Computing Paradigm**:	Recent trends in Computing: Grid Computing, Cluster Computing, Distributed Computing, Utility Computing, Cloud Computing, Roots of cloud computing, Business driver for adopting Cloud Computing, Cloud Computing vs. Cluster computing vs. Grid computing.
2.	**Cloud Computing**	Cloud Types: The NIST Model, The Cloud Cube Model, Deployment models, Service Models, Benefits of Cloud Computing, Disadvantages of Cloud Computing, Role of Open Standards
3	**Virtualization**	Definition, Characteristics and benefits of virtualization
4.	**Cloud service models**	Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).