(6)

SCHEME OF *MBA E-COMMERCE* COURSE

***MBA E-COMMERCE* FIRST SEMESTER:**

Paper Code	Comp/ optional	Paper name	Credit	Theory		Sessional		Practical		Total
				MAX	Min	Max	Min	max	Min	
101MECOM	C	Introduction to E-Commerce	3	60	21	40	14			100
102MECOM	C	Introduction to Information Technology	3	60	21	40	14			100
103MECOM	C	Programming in 'C'	3	60	21	40	14			100
104MECOM	C	Organizational Behavior	3	60	21	40	14			100
105MECOM	C	Information Systems Management	3	60	21	40	14			100
106MECOM	C	Web Technologies	3	60	21	40	14			100
107MECOM	C	Web Technologies (Lab)	2			40	14	60	21	100
108MECOM	C	Programming Laboratory in C language	4			40	14	60	21	100
109MECOM	AE&SD	Seminar	1			100	35			100
110MECOM	AE&SD	Assignment(Language/Yoga/Social work /Environment Science/Physical Education	1			100	35			100
111MECOM	C	Comprehensive Viva –voce	4					100	35	100

Total Credit : #26+4 (Virtual Crédit)

***MBA E-COMMERCE* SECOND SEMESTER**

Paper Code	Comp/ optional	Paper name	Credit	Theory		Sessional		Practical		Total
				MAX	Min	Max	Min	max	Min	
201MECOM	C	OOPs using 'C++'	3	60	21	40	14			100
202MECOM	C	Software Engineering and Software Project management	3	60	21	40	14			100
203MECOM	C	Database Management System	3	60	21	40	14			100
204MECOM	C	.Net Technologies	3	60	21	40	14			100
205MECOM	C	Managerial Economics	3	60	21	40	14			100
206MECOM	C	Principles of Management	3	60	21	40	14			100
207MECOM	C	OOPs using 'C++' (Lab)	2			40	14	60	21	100
208MECOM	C	Project work (.Net Technologies)	4			40	14	60	21	100
209MECOM	AE&SD	Seminar	1			100	35			100
210MECOM	AE&SD	Assignment(Language/Yoga/Social work /Environment Science /Physical Education	1			100	35			100
211MECOM	C	Comprehensive Viva –voce	4					100	35	100

Total Credit : #26+4 (Virtual Crédit)

***MBA E-COMMERCE* THIRD SEMESTER :**

Paper Code	Comp/ optional	Paper name	Credit	Theory		Sessional		Practical		Total
				MAX	Min	Max	Min	Max	Min	
301MECOM	C	E-Marketing	3	60	21	40	14			100
302MECOM	C	Data mining & Data warehousing	3	60	21	40	14			100
303MECOM	C	Business Communication	3	60	21	40	14			100
304MECOM	O	E1: Accounting & Management Control	3	60	21	40	14			100
	O	E2: Consumer Behavior and Brand Management								
305MECOM	C	Java Programming	3	60	21	40	14			100
306MECOM	C	Introduction to Oracle	3	60	21	40	14			100
307MECOM	C	Oracle Lab	2			40	14	60	21	100
308MECOM	C	Minor Project work (JAVA)	4			40	14	60	21	100
309MECOM	AE&SD	Seminar	1			100	35			100
310MECOM	AE&SD	Assignment(Language/Yoga/Social work /Environment Science /Physical Education	1			100	35			100
311MECOM	C	Comprehensive Viva –voce	4					100	35	100

Total Credit : #26+4 (Virtual Crédit)

***MBA E-COMMERCE* FOURTH SEMESTER :**

Paper Code	Comp/ optional	Paper name	Credit	Theory		Sessional		Practical		Total
				MAX	Min	Max	Min	max	Min	
401MECOM	C	ERP & BPR Allied concepts	3	60	21	40	14			100
402MECOM	O	E3: Software Testing	3	60	21	40	14			100
	O	E4: Fundamentals Of Python								
403MECOM	C	PHP	3	60	21	40	14			100
404MECOM	C	PHP(Lab)	2			40	14	60	21	100
405MECOM	C	Project Work	9			40	14	60	21	100
406MECOM	AE&SD	Seminar	1			100	35			100
407MECOM	AE&SD	Assignment(Language/Yoga/Social work /Environment Science /Physical Education	1			100	35			100
408MECOM	C	Comprehensive Viva –voce	4					100	35	100

Total Credit : #22+4 (Virtual Crédit)

Program Outcome : This curriculum of an E- commerce Master of Buisness Administration (M.B.A.) program is technology - driven. Courses are designed in such a way to prepare candidates as per the needs of Industries and it encourges to utilizé their technical skills in the field of I.T. and E – Marketing. This program aims to enable students to utilize their acquired knowledge and skills to pursue their career in the areas of Big Data Analytics, Logistics Management, Digital Marketing, Technology Management , Product Development, Web-Development and Maintenance, Internet Security, banking and Inventory Management.

101MECOM INTRODUCTION TO E- COMMERCE

UNIT 1 : *Introduction*
Brief history of e-com ,Types , Advantages & Disadvantages of e-com , Elements of e-com , Principles of e-com , Messaging and Information distribution , Messaging and information distribution , Common service infrastructure , other key support layers .

UNIT 2 : *EDI to e-com*
EDI - Origin , System approach and communication approach , Migration to open EDI-Approach , Benefits , Mechanics , E-com with WWW/Internet. E-Government- Concepts, Applications of G2C, G2B, G2G.
UNIT 3: *Electronic communication*
PC and networking , Network topologies and communication media , E-mail , OSI and TCP/IP Models , LAN, WAN, MAN Internetworking – Bridges and gateways , Internet Vs Online services, Open vs. Closed Architecture , Controlled contained Vs Uncontrolled contained , Metered Pricing Vs Flat pricing , Innovation Vs Control.

UNIT 4: *WWW & Electronic Payment System*:
Applications – what is web , Why is the Web such a hit , The Web and E-Com ,Concepts & Technology –Key concepts , Web Software development Tools. Electronic payment system – Overview , Electronic or digital cash , Electronic Checks , Online credit card based system , other Engineering financial instruments ,Consumer legal and Business issues .

UNIT 5: *Security and Application*
Need of computer security, Specific intruder approaches, Security strategies,
Cryptography, Public key encryption, Private key encryption, Digital signatures,Advertising on the internet,Marketing,Creating a website.Electronic publishing issues,EP architecture,EP tools,Web page EP-Baseline issues,Application tools and publishing on the internet.

REFERENCE BOOKS:

1."Electronic Commerce" By Ravi Kalakota and Andrew B. Whinston.
2."Web Commerce Technologies Handbok"By Daniel Minoli & Emma Minoli
3."E-Commerce" By Dr.Varinder Bhatia
4. "Promise Of E-Governance" By M P Gupta

Course Outcome: This Course introduces the students the fundamentals of E – Commerce and its process. It also facilitates the students in understanding the role of E- commerce in the present scenario along with the concepts of security and its application.

102MECOM -- INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT 1-INTRODUCTION: Basic concepts of information technology, Application of IT in business, education, industry, home and training , entertainment, science and engineering and medicine, multimedia data types(graphics, images, audio, video), virtual reality applications, History of computers , Classification of computers, Organization of computers, Input /Output Devices, Storage Devices, File organization, System software, application software.

UNIT 2-COMPUTER ORGANIZATION: Number systems, Boolean Algebra, Gates, Combinational Blocks: Adders-Half adder, Full adder, Multiplexer, Sequential Building Blocks: Flip-Flops, Registers,.

UNIT 3-COMPUTER LANGUAGES :- Machine Language, Assembly Language, High Level Language, Compiler, Interpreters, General Concepts of OOPS , General Concept of SQL.

UNIT 4-OPERATING SYSTEM :- Introduction to Operating System, Function Provided by O.S, Introduction to Multiprogramming , Timesharing, Real-time,Batchprocessing. DOS: Functions of DOS , structure booting, simple internal & external command. Introduction to WINDOWS O.S.

UNIT 5- Introduction to computer network, Desktop, Cluster, Grid, and Cloud computing, Concept of cloud computing, Challenges and opportunities, cloud computing three basic services- SAAS,PAAS,IAAS. Concept of Big Data , Difference Between Big Data and Small Data , 3V Characteristics - Volume , Velocity , Variety. Different Types of Big Data. -Structured Big Data, Un Structured Big Data, Semi Structured Big Data , Hadoop and Its Different Parts.

References:

1. Computer Fundamentals by P.K. Sinha
2. Operating System by Silberschatz Galvin
3. Computer Network by A.S Tannenbaum
4. Computer Architecture by Morris mano
5 *Cloud Computing: Principles and Paradigms by* Rajkumar Buyya, James Broberg, Andrzej M. Goscinski-2011

Course Outcome: This course introduces the concept of Information Technology and its applications. It covers the fundamentals of Computer Organization, Computer languages, Computer networks and Operating system. It also provides insight into the concepts of Cloud computing and Big Data.

103MECOM : Programming In 'C'

UNIT 1-An Overview : Problem identification, analysis, design, coding, testing & debugging, implementation, modification & maintenance; algorithm & flowcharts; Characteristics of a good program - accuracy simplicity, robustness, portability, minimum resource & time requirement, modularization; Rules/conventions of coding, documentation, naming variables; Top down design ; Bottom up design.

UNIT 2-Fundamentals of C Programming : History of C; structure of a C program, Data types, Constants & Variables Operators & expressions; Control Constructs - if-else, for, while, do-while; Case statement; Arrays; Formatted and unformatted I/O; Type modifiers & storage classes; Ternary operator; Type conversion & type casting; Priority & associativity of operators.

UNIT 3-Modular Programming: functions; Arguments; Return value; Parameter passing -call by value, call by reference; Return statement; Scope visibility and life-time rules for various types of variable, static variable; Calling a function ; Recursion - basics, comparison with iteration, tail recursion, when to avoid recursion examples.

UNIT 4-Advanced Programming techniques : Special constructs- break, continue, exit , goto & level; pointers- & and * operator , pointer expression , pointer arithmetic, dynamic memory management functions like malloc(), calloc() , free() ;string() ; pointer v/s array ; array of pointer and its limitations ; function returning pointer , function as parameter ; structure-basic, declaration ,pointer to structure , referential operator, self referential structure , array of structure; Union -basic, declaration, enumerated data type; Typedef.

UNIT 5-Miscellaneous Features : File handling and related functions , printf and scanf family C preprocessor-basics, #include, #define, #undef.

References :

1. The C Programming Language - B.W. Kernighan & D.M. Ritchie
2. The Sprit of C - Cooper, Mullish
3. Kanetkar Y : Let us C
4. Kanetkar Y : Pointers in C
5. An introduction to C programming – Amit Saxena, Anamaya Publishers, New Delhi

Course Outcome: The course is designed to provide fundamental knowledge of programming. Candidates will be able to develop problem solving skills and logics. Learning the basic programming constructs will help them to easily switch over to any other language in future

104MECOM : Organizational Behavior

Unit -I

Concept, Nature, Characteristics, Conceptual Foundation, Importance, Models of Organizational Behaviour, Historical Development of OB, Relationship with Other Fields, Organisational Behaviour: Cognitive Framework, Behaviouristic Framework and Social Cognitive Framework.

Unit - II

Perception and Attribution: Concept, Nature, Process, Importance, Management and Behavioural Applications of Perception; **Attitude**: Concept, Process and Importance, Attitude Measurement. Attitudes and Workforce Diversity; **Personality**: Concept, Nature, Types and Theories of Personality Shaping, Determinants, Traits Major, Personality Attributes Influencing O.B.; **Learning**: Concept and Theories of Learning.

Unit -III

Motivation: Theories of Motivation: Early and Contemporary views, Three level Work Motivation Model, Motivating a Diverse Workforce. **Leadership:** Style and Theories of Leadership-Trait, Behavioural and Situational Theories, Leadership styles in Indian Organisations. **Analysis of Interpersonal Relationship, Group Dynamics**: Definition, Stages of Group Development, Group Cohesiveness, Formal and Informal Groups, Group processes and Decision Making, Dysfunctional Groups.

Unit - IV

Organisational Power and Politics: Concept, Sources of Power, Distinction Between power Authority and Influence, Approaches to Power, Political Implications of power: Dysfunctional Uses of Power.

Unit -V

Knowledge Management & Emotional Intelligence in Contemporary Business Organisation **Organisational Change** : Concept, Nature, Resistance to change, Managing resistance to change, Implementing Change, Kurt Lewin Theory of Change.

Conflict: Concept, Sources, Types, Functionality and Dysfunctionality Conflict, Classification of Conflict - Intra, Individual, Interpersonal, Intergroup and Organizational; Resolution of Conflict; Meaning and Types of Grievance and Process of Grievance Handling; Stress – Understanding Stress and its Consequences, Causes of Stress, Managing Stress.

References:

1. Newstrom, J. W., & Davis, K. (1986). *Human behavior at work*. New York. McGraw-Hill.
2. Luthans, F. (2005) Organisation Behaviour, *12/E*. McGraw Hill.
3. Robbins, S. P. (2001). *Organizational behavior, 14/E*. Pearson Education India.

Course Outcome: This course aims to enable students to improve and develop strategies about organizational change and development.

105MECOM : Information Systems Management

Unit -1

An **Overview** MIS – Definition of MIS, MIS as an evolving concept, MIS and other Academic Disciplines, Subsystems of an MIS, Operating Elements of an Information System, MIS Support for Decision Making,

Unit -II

Management Information System Structure Based on Management Activity – Hierarchy of Management Activity, Information Systems for Operation Control, Information Systems for Management Operation Control, Information systems for Strategic Planning.

Unit – III

Based on Organizational Function – Sales and Marketing Subsystems, Production Subsystem, Logistics Subsystem, Personnel Subsystem, Financial and Accounting Subsystem, Information Processing Subsystem, Top Management Subsystem, Synthesis of MIS Structure, Some Issues in MIS Structure.

Unit - IV

Concept of Information: Definition, Information Presentation, Quality Information, Value of Information in Decision Making and Other Value, Age of Information Human as an Information Processor – General Model, Newell Simon Model, Limits and Characteristic of on Human Information Processing Managers as Information Processors

Unit – V

System Concepts: Definition, General Model and Types of System, Subsystems, System Stress, System Change, Preventing System Entropy, System Concept and Organization, System Concept Applied to MIS,

Systems Analysis and Design: System Development Life Cycle Stages – Initiation/ Planning, System Analysis, Design, Coding and Testing Implementation and Training, Prototyping, Rapid application Development (RAD), End – User Computing, Object Oriented Programming.

REFERENCES :

1. Gordan B. Davis and Margrethe H. Olson, Management Information Systems – Conceptual Foundation, Structure and Development, McGraw Hill.
2. D. P. Goyal, Management Information Systems, McMillan. E. M. Awad, System
3. System Analysis and Design, E. M. Awad

Course Outcome: This course is designed to familiar students with basics of MIS , it's structure etc.and to understand the leadership role of Management Information Systems in achieving business competitive

advantage through informed decision making .

106MECOM: Web Technologies

UNIT I

Creating a Web Pages using HTML:

What is HTML , What can You Do with HTML , Creating , Saving and Viewing HTML documents , Applying Structure Tags , Applying Common Tags and Attributes, Images, Hyperlinks, Backgrounds and Color controls, Different HTML tags, Table layout and presentation, Use of font size & Attributes, List types and its tags. Use of Frames and Forms in web pages.

UNIT II

Introduction to CSS:

Introduction of CSS, Syntax for CSS, Properties of CSS : Colors, Backgrounds, Borders, Margins, Padding, Height, Width, Text, Fonts, links, lists, tables, Box Models, Outline, Display, Image, Cursors, Outline, Dimensions.

UNIT III

Advanced CSS:

CSS Visibility, Positioning, Layers, Pseudo Classes, Pseudo Elements, CSS Filters - Text and Image Effects: Motion Blur, Chroma Filter, Drop Shadow Effect, Flip Effect, Glow Effect, Grayscale Effect, Invert Effect, Mask Effect, Shadow Filter, Wave Effect., Media Types : Paged Media, Aural Media. Printing, Layouts, Validations.

UNIT IV

Dynamic HTML – inline styles, creating style sheets with the style element, conflicting styles, linking external style sheets, positioning elements, backgrounds, element dimensions, text flow and the CSS box model, user style sheets, Filter and Transitions, HTML DOM, Browser BOM Event model : introduction, event ON CLICK, event ON LOAD – error handling with ON ERROR, tracking the mouse with event, more DHTML events..

UNIT V

JavaScript Programming Fundamentals:

JavaScript language history and versions introduction, Syntax, Variables and Data Types, JavaScript output, Statements, Operators: Arithmetic Operators, Assignment Operators, String Operators, Comparison and Logical Operators, Type Operators. Scope, Arrays, Built in Objects, JavaScript debuggers.

References:

1. Robert. W. Sebesta, "programming the world wide web", Forth Edition Pearson Education 2007.
2. Deitel, Deitel, Goldberg, "Internet & World Wide Web How to Program", Third Edition, Pearson Education 2006.
3. Jeffrey C. Jackson, "Web Technologies- A Computer Science Perspective", Pearson Education 2006.
4. Ivan Bayross, "Web Enabled Commercial Application development using HTML , JAVA Script , DHTML" , BPB Publication.

Course Outcome: This course is designed to familiar students with basics of Internet and web design to acquire knowledge and skills for creation of web sites and enable them to Implement interactive web pages using HTML, DHTML , CSS. Java script.

201MECOM : OOPS USING C++

UNIT 1-OOPS Fundamental :- OOPS terminology, data abstraction, data hiding, encapsulation, class,object and methods, inheritence, polymorphism, merits & demerits of OO methodology.

UNIT 2-C++ Basic :- Structure of C++ character set, tokens-keywords, variables, constants, special characters, data types & sizes, operators- arithmetic, relational, logical, assignment, increment & decrement, conditional, bitwise, special-extraction & insertion operation, scope resolution,member derefrencing, memory management, operator manipulator, type cast, qualifiers, symbolic constant,operator precedence, refrence variable. statments- assignment, if-else,nested if-else, for loop, while, do while, break, switch, continue, goto.

UNIT 3-Functions in C++ :- the main function, function prototype, call by refrence, return by refrence, inline functions, default argument, friend & virtual functions, intorduction to pointers.

UNIT 4-Classes and Objests :- declaration of arrays & structure, specifying class and definition of class, class members, accessing class members,defining member +functions-within class & outside class. Array within class, memory allocating for objects, array of objects, pointer to members.
Constructors & Destructors :- Introduction to constructors, parameterized constructors, multiple constructors in a class, dynamic initialization of objects, copy constructors, destructors.

UNIT 5-Operator overloading & Inheritance :- Defining operator overloading, overloading- unary & binary operator, defining derived classes, inheritance type, this pointer, virtual functions.
File Input / Output : File handling in detail.

Reference :-

1. Object Oriented Programming -Robert Lafore (Galgotia Publication)
2. Object Orineted Programming- E. Balguruswami
3. Mastering in C++ - K.R. Venugopal, Ravishankar, Rajkumar (Tata McGraw Hill)

Course Outcome : The emphasis of this course is on techniques of program development within the object-oriented paradigm. It covers all the concepts of object oriented programming. This will help students to model a real-world concept using OOPs.

202ME-COM Software Engineering and Software Project management

Unit 1 –Introduction to Software Engineering: Definition to Software Engineering, Software Development life cycle, Project Categories, Software Project teams, Software Development process Models –Linear, Prototype, and Spiral.

Planning a Software Project: Project Plan, guidelines for Software planning, planning tasks, CPM/PERT, Gantt chart.

Unit 2-Software Design: Fundamental of design concept: Abstraction, structure. Concept of modularity, types of module. Coupling and cohesion , Coupling-content, common ,control ,stamp,data.Cohesion-coincidental,logical,temporal,procedural, communication, functional .Design notation: Bubble chart, structure chart,HIPO diagram. Design Techniques :Stepwise Refinement, structure Design, Integrated top-Down development.

UNIT 3-Software Quality Assurance and Testing: Software quality assurance. Factors of software quality. SQA activities,s/w review basics,Documentation & issues.Verification and validation: white box and black box testing, unit testing, acceptance testing, system testing, integration testing.

Software Configuration Management: Fundamental of software configuration management (SCM) & its major elements.

UNIT 4- Estimation of s/w Project Management & Reliability: Cost Estimation: Issue in software cost estimation, Introduction to Fuzzy-logic method, standard component method, function-point method, Delphi method, COCOMO.

Software Reliability: Definition and concept of software reliability,. software errors, faults, software reliability metrics, repair and availability.

UNIT 5 -Software Maintenance: Fundamental of software maintenance, types of software maintenance, strategies, and maintenance of object oriented system design.

CASE tools and Environment: Concept, scope of CASE, classification of CASE tools, categories of CASE environment.

Communication & Business technical reports : Role of communication in s/w project management & its types .Various Types of Reports according to different phases of SDLC.

Reference :

1. Software Engineering: A Practitioner's Approach, Pressman Roger, Tata Mcgraw hill.
2. An Integrated Approach to Software Engineering, Pankaj Jalote. Narosa Pub.
3. Software Engineering Concepts: Richard Fairly, Tata Mcgraw Hill.
4. Project Management -"Harold Kerznes"

Course Outcome: This course will provide an insight into the software development processes of models and software project management to gain the knowledge about Project Management, Software Maintenance, Software Quality Assurance, Testing and Software Configuration Management.

203MECOM- DATABASE MANAGEMENT SYSTEM

UNIT 1-Introduction: Database system concepts, Data base system, Advantages of database systems; Data Architecture of data system: View/Schema, logical, conceptual and physical and their interrelationship DDL, DML and data dictionary, Data base administrator. Entity Relationship Model as a tool of conceptual design : Entities &Entity set, Relationship & Relationship set, Attributes, Mapping Constraints, Keys, Entity-Relationship diagram (E-R diagram) : Strong & weak entities, Generalization, Specialization, Aggregation,Reducing ER diagram to tables.

UNIT 2- Relational, Hierarchical and Network Model their advantages and disadvantages, storage organization for Relations. Rational Model: Structure tupple Attributes, Normalization : First, Second, Third & BCNF Normal Forms, key, primary key, Candidate key, Integrity rules : Entity integrity, Referential integrity rule.

UNIT 3-RELATIONAL ALGEBRA: SELECT, PROJECT, CROSS PRODUCT, DIFFERENT TYPES OF JOINS I.E. THETA JOIN, EQUI JOIN, NATURAL JOIN, OUTER JOIN, SET OPERATIONS DEFINITION OF UNION, SET DIFFERENCE, CARTESIAN PRODUCT, SELECTION, INTERSECTION, RELATIONAL QUERY LANGUAGE.

UNIT 4- FUNCTIONAL PROTECTION AND CRASH RECOVERY: PROTECTION AGAINST CRASHES: DIFFERENT TYPES OF CRASHES; BACKUP, JOURNAL, ROLLBACK, COMMITTED AND UNCOMMITTED TRANSACTIONS, SECURITY ON DATABASE.

UNIT 5-Transaction concept, Transaction state, serializability security or Database: user identification. Physical Protection and maintenance, Transmitted of Rights. Integrity: Integrity violation, Implementation of check's in enforcing integrity; Concept of Distributed database.

Reference :

1. Database System Concepts : A.Silberschatz, H.F. Korth, S. Sudarshan (3rd Ed.)(MC Graw Hill Publication)
2. An Introduction to Database System : C.J. Date (6th Ed.) (Addison Wesley)
3. Fundamentals of Database Systems : Elmasri & Navathe (3rd Ed.)(A/W)
4. An Introduction to Database Systems : B.C. Desai (Galgotia Publishers)
5. Oracle 8 – PL/SQL programming by TMH/urman

Course Outcome: This course will help students to understand data base concepts, applications, structure and data modeling to demonstrate the principles behind systematic database design which will help candidates to enhance their back-end project management skills.

204MECOM--.NET Technologies

UNIT 1 - Introduction to .NET Framework: Programming Platform NET Framework, NET Architecture, CLR, the Just-in-Time Compiler, Garbage collection. .NET Framework class library.
C# - The Basics and Console Applications in C#: Introduction to C#.NET Development Environment, Visual development & event driven Programming -Methods and events. Data type, type conversion. Variables, constants, operators, Decision making, Loops, Class, Object, Methods. Arrays, String manipulation.

UNIT 2 - Overview of OOPs: encapsulation, inheritance, polymorphism, abstraction. Operator overloading. Creating and using Class Library, Creating user-Defined Classes. Understanding Constructors and instance Variables, Handling and Using Interfaces. Preprocessor directives, Exception handling, Understanding Delegates.
Windows Forms and Controls: The Windows Forms Model, Creating Windows Forms Windows Forms Properties and Events, Windows Form Controls, Menus - Dialogs – ToolTips.

UNIT 3 - Introduction to ASP.Net: Overview of ASP.NET framework, ASP.NET Application Life Cycle, page life cycle phases: Initialization, Instantiation of the controls on the page, Restoration and maintenance of the state. Understanding ASP.NET Controls, Applications Web servers, installation of IIS. Web forms, Web form controls - server controls, client controls, web forms & HTML.

UNIT 4 - Programming in ASP.Net Adding controls to a web form Buttons, Text Box. Labels, Checkbox. Radio Buttons, List Box etc. States of ASP.Net: View Stale, Control State, Session State, Application State. Creating a multiform web project, running a web Application, Event Handling- Application and Session Events, Page and Control Events. Validation controls: RequiredFieidvalidator, RangeValidator, CompareValidator, RegularExpressionValidator, CustomValidator, ValidationSummary.

UNIT 5 - Database connectivity in ASP.Net: Architecture of ADO.NE'I, Connected and Disconnected Database. Create Connection using ADO.NET Object Model, Connection Class, Command Class, Data Adapter Class, and Dataset Class. Display data on data bound Controls and Data Grid. Database Accessing on web applications: Data Binding concept with web, creating data grid, Binding standard web server controls. Display data on web form using Data bound controls.

References:

1. ASP .NET Unleashed C# programming – Wrox Publication
2. C# Programming Black Book by Matt Talles
3. Introduction to .NET - Unleashed

TEXT & REFERENCE BOOKS :
VB.NET Programming Black Book by steven holzner –dreamtech publications
Mastering VB.NET by Evangelos petroutsos- BPB publications
Introduction to .NET framework-Worx publication

Course Outcome: The emphasis of this course is to provide an overview of .net framework and to develop skills to create applications and Reports using . NET technologies

205MECOM : MANAGERIAL ECONOMICS

UNIT 1-Nature and scope of managerial economics. Objectives of the firm. Managerial and behavioral theories of the firm.

UNIT 2-Concepts of opportunity cost, incremental, time perspective. Principles of discounting and equimargins. Demand analysis - purposes and concepts. Elasticity of demand. Methods of demand forecasting.

UNIT 3-Product and cost analysis : short run and long run average cost curves.
Law of supply. Economies and diseconomies of scale. Law of variable proportions.

UNIT 4-Production function - single output isoquants.
Pricing prescriptive approach, Price determination under perfect competition. Monopoly, oligopoly and monopolistic competition. Full cost pricing, product line pricing. Pricing strategies.

UNIT 5-Profits: Nature and measurement policy. Break-even analysis. Case study.

References:

1. Dean.J., "Management Economics". Prentice Hall of India, New Delhi. 1982.
2. Mote, V.L., et. al. " Managerial Economics: concepts and Cases", Tata McGraw Hill. New Delhi. 1980.

Course Outcome: This course provides knowledge about Product, cost analysis, Profits, and market opportunities to understand the mechanisms of competition and business implications. It also helps candidates to anticipate future market trends and dynamics.

206ME-COM-Principles Of Management

UNIT-1

Management: Concept, Nature, Importance; Management: Art and Science, Management as a Profession, Management Skills, Levels of Management; Approaches to Management – Classical approach, Behavioural Approach, Quantitative Approach and Contemporary Approaches; . Social Responsibility of Managers and Ethics in Managing.

UNIT 2-

Introduction to Functions of Management

Planning and Decision Making: What and Why of Planning; Types of Plans; Planning Effectively; Techniques for Assessing Environment – Environmental Scanning, Forecasting, Benchmarking; Techniques for Allocating Resources – Budgeting, Scheduling, Break-Even Analysis, Linear Programming; Contemporary Planning Techniques – Project Management, Scenario Planning.

Decision Making - The Decision Making Process; Managers Making Decisions : Rationality, Bounded Rationality, Role of Intuition and Role of Evidence Based Management; Types of Decision ; Decision Making Condition – Certainty; Risk and Uncertainty; Decision Making Styles; Decision Making Biases & Errors; Effective Decision Making.

UNIT -3

Organizing: Designing Organisation Structure – Deparmentation, Chain of Command, Span of Control, Centralisation and Decentralization, Formalization; Mechanistic structures and Organic Structures; Contingency Factors Affecting Structural Choice; Traditional Organisation Designs; Contemporary Organisational Designs; Organising for Collaboration; Contingent Workforce; Today's Design Challenges; Learning Organizations.

UNIT 4

Controlling: Concept, Process; Controlling for Performance – Concept, Measures – Organisational Productivity, Organisational Effectiveness, Industry and Company Rankings;

UNIT 5-

Tools for Measuring Organisational Performance – Feedforward/Concurrent/Feedback Controls; Financial Control; Informational Control; Balanced Scorecard; Contemporary Issues in Control – Adjusting Controls for Cross Cultural Differences, Workplace Concerns, Workplace Violence, Corporate Governance.

References:

1. Stoner, F., & Freeman, R. E. (2001). Gilbert jr. *Management*, .
2. Weihrich, H., & Koontz, H. (2005). *Management: A global perspective*. Tata McGraw-Hill.
3. Robbins, S. P., & Coulter, M. (2010). Management Pearson.

Course Outcome: This course help candidates to get familiar with the basics of management and its principles which enables them to gain knowledge of industrial management environment.

301ME-C0M E-Marketing

UNIT 1- *Introduction to e- Marketing* : E- business, e- Marketing, e- Marketing challanges & Opportunities, marketing vs e- Marketing, e business models.

UNIT 2- *Marketing knowledge* : the electronic marketing information system, marketing knowledge, source 1: Internal records , Source 2 : Secondary data, Source 3 : Primary data, Marketing databases & warehouse, data analysis &distribution.

UNIT 3- *e Marketing strategies*: online benefits, online costs , new product strategies for e Marketing , new product trends : value chain automation, outsourcing , multimedia.
Pricing, price dispersion, factors putting upwards pressure on internet pricing. Pricing strategies.

UNIT 4- *e Marketing communication* : integrated marketing communication, marketing communication strategies ; internet advertising, public relation activities on net, sales promotion on the internet, CRM : CRM process, CRM-SCM integration, CRM Benefits.

UNIT 5- *Ethics & Laws:* Introduction, privacy, digital property ; copyright , trademarks, patents, licenses, trade secrets, data ownership. Emerging Issues: online governance & ICANN , jurisdiction , fraud.

References :

1." e- Marketing" by Judy Strauss & Raymond Frost { PHI publications).
2. " Marketing.com " by Lyndon Cerejo & Sonal Kotecha.

Course Outcome: This course introduces the significance of E – marketing to provide deep knowledge about search engine marketing, online advertising and online marketing strategies which will help candidates to formulate an integrated and comprehensive e-marketing plan in future.

302ME-COM Data Mining & Data Warehouse

UNIT 1- *Introduction to Data Mining* :Data Mining , features, business context, technical context, approaches to data mining. Types of Data Mining : Direct & Undirected, Virturous Cycle.

UNIT 2- *Data Mining Process & Technique* : Data Mining Techniques: automatic, cluster detaction, Decision trees, Neural Networks, Data Mining Methadologies: Conventional System Development :waterfall process,Rapid Prototyping.

UNIT 3-*Introduction to Datawarehouse* : Data warehousing concepts, Goals & objectives, Issues involved in Data Warehousing, The three C's of Data Warehousing : Commitment,Completeness & Connectivity, OLAP,Types of Data Warehous.

Contructing a Data Warehouse System:

UNIT 4- *Stages of the project* : Planning stage : Justifying the datawarehouse, obtaining user buy-in, overcoming Resistance to the Data Warehouse, Developing a project plan; Data Warehouse Design approaches. Architectural stage : Process architecture, Introduction, Load manager, Query manager, Detailed Information, Summary Information, Metadata, Data Marting.

UNIT 5- *Testing the Data Warehouse*: Introduction ,developing the test plan, testing backup recovery, testing the operational environment, testing the database, testing the application, Logistics of the text, Security : Requirements, performance, impact of security, security impact on design.

References:

1. "Data Warehousing" by Amitesh Sinha.
2. "Data Warehousin in the real world " by Sam Anahory & Dennis Murray.
3. " Decision Support System & Data Warehouse Systems " by Efrem G. Mallach.

Course Outcome: This course is designed to familiar students with the fundamentals of Data mining and to understand the data warehouse architecture & OLAP which enhances their skills for exploratory analysis of the data to be used for mining.

303MECOM : Business Communication

UNIT 1- Course Introduction & Communication Basics, Meaning and Significance of Communication in Business, Process of Communication, Channels and Media in Communication, Contents of Upward, Downward and Criss - Cross Communication, Barriers to communication

UNIT 2- Workshop-Jam Feedback and overcoming Glossophobia-Presentation–1 (Planning & Preparing)Presentation–2 (Visual Aids) Presentation–3 (Delivery).

UNIT 3- Graded Team Presentations-Group 1-Graded Team Presentations-Group 2-Reading, listening & Questioning. What is listening, barriers, strategies for effective listening, listening in business context?

UNIT 4- Writing Business Communication basics-Writing Reports, Proposals, Emails, Summaries, Communication Networks, Principles of Effective Communication, Barriers of Communication

UNIT 5- Graded Individual Presentations- Group 1Graded Individual Presentations- Group 2-Presentation feedback, Bios and Resumes. Group discussions and interviews.

References:

1 F.T. Wood : A Remedial English Grammar for Foreign Students.
2 W.S. Allen : Living English Structure
3 R.S. Sharma : Technical Writing.
4. Krishna Mohan & R.C. Sharma, Business Correspondence and Report Writing, Tata McGraw Hill, New Delhi.
5. Business Communication: T N Chab
6. Communication Skills by Prof. Nageshwar Rao & P.R. Das.

Course Outcome: This course aims to enable students to Identify key principles in business communication and to develop their business writing as well as presentation skills.

304MECOM E1 : ACCOUNTING AND MANAGEMENT CONTROL

UNIT 1-Meaning & Objects of Accounting Concepts & Conventions, Accounting Equation, Rules Of Journalizing.Cash Book, Ledger Posting , Preparation Of Trial Balance

UNIT 2-Trading And P/L Account,Balance Sheet With Adjustments Relating to Closing Stock, Out Standing Expenses, Prepaid Expenses, Accrued Income, Depreciation, Bad Debt, Provision For Bad Debt, Provision for Discount on Debtors & Creditors, Provision for Tax

UNIT 3- Inventory Pricing, FIFO & LIFO Methods.Simple Problem of Fund Flow Statements, Cost-Volume Profit Analysis

UNIT 4- Standard Costing, Computation of Material & Labor Variances, Budgetary Control, Preparation of Cash Budget & Flexible Budget.

UNIT 5-Management Control & its Characteristics, Goals and its Strategies, Structure and control. Responsibility Centres & Control Centres; Concept of Responsibility Centres, Revenue Center, Profit Center and Investment Center, Transfer Pricing & Responsibility Reporting.

References :

1. Bhattacharya S.K. And Dearden. John, Accounting for Management" Prentice Hall of India, New Delhi.
2.Chadwick."The Essence of Financial Accounting" Prentice Hall of India Pvt. New Delhi.
3. Chandwick "The Essence of Management Accounting" Prentice Hall of India Pvt. Ltd. New Delhi.
4. Horngren. Sundem and Selto (9th ed.). "Introduction to Management Accounting " Prentice Hall of India Pvt. Ltd.
5.Welch. Hilton and Gordon (5th ed.; "Budgeting; Profit Planning and Control" Prentice Hall of India Pvt. Ltd. New Delhi.
6. "Introduction to Book Keeping" Grewal.

Course Outcome: This course aims to enable students to acquire knowledge and understanding of management accounting and control. By using the acquired knowledge students are expected to develop the ability to analyze critically the Accounting system.

304MECOM E2 : Consumer Behavior and Brand Management

UNIT 1- Introduction to Consumer Behaviour: Consumer Behavior & Marketing Strategies. (Segmentation promotion and Positioning Strategies) Consumer Decision Making: Simple Model of Consumer decision making Models of Consumers; The Consumer Research Process

UNIT 2- Consumer Motivation; Consumer Perception: Purchase search, information processing and Consumer Involvement theory; Evaluative criteria & Decision Rules; Consumer attitude formation & attitude Change. Diffusion of Innovation

UNIT 3- Family Decision making, Social Class; Culture and its influence on Consumer Behavior; Cross - cultural consumer Behaviour; Personality and Consumer Behavior; Psychographics & life style; Consumer Behaviour Audits & Consumer Behaviour Studies in India

UNIT 4- Understanding Brand, Brand Hierarchy, Brand Personality, Brand Image, Brand Identity, Brand Positioning; Brand Equity, Value addition from Branding, Brand-Customer Relationships, Brand Loyalty

UNIT 5- Managing Brands; Brand Creation, Brand Extensions, Brand-Product Relationships, Brand Portfolio . Brand Assessment and Change; Brand Revitalization, Branding in Different Sectors: Customer, Industrial, Retail and Service.

References:

1 Assael, H. Consumer Behaviour and marketing Action. Ohio, South Western, 1995.
2. Engle, J. F. etc. Consumer Behaviour. Chicago, Dryden Press, 1993.
3. Howard, John A. etc. Consumer Behaviour in Marketing. Englewood Chliffs, New Jersey, Prentice Hall Inc.
4. Hawkins, D. I. etc. Consumer Behaviour: Implications for Marketing Strategy. Texas, Business 1995.
5 Cowley, Don. Understanding Brands
6. Moorthy, Y.L.R., Brand Management – The Indian Context, Vikas Publishing House Pvt. Ltd., New Delhi.

Course Outcome : This course aims to provide knowledge of consumer behavior and it enables students to identify the factors which influences consumer behavior along with the fundamentals of Brand management.

305MECOM -- JAVA PROGRAMMING

UNIT 1-Overview of JAVA Programming :
History of JAVA , features of java , how it is differ from C & C++ , java program structure , java Statements , JVM, command line arguments

Expression & Operator :
Data types , literals , variables , declaring a variable , dynamic initialization . Arrays, Operators - relational , Arithmetic, logical , assignment , increment & decrement , conditional operator , Bitwise operator , special operator, arithmetic expression , evaluation of expression .

Decision making & Branching :
Control Statements--IF , Switch ,Loops , Break , Continue , Return.

UNIT 2-Basic concept of OOPS :
Classes , methods , creating instance & class variable , accessing class member ,
Constructor , Methods overloading , Method overriding , Static member , final classes , finalizer method, Abstract method & classes , visibility control , Interfaces :Defining interfaces , extending interfaces , implementing interfaces , accessing interfaces ,Variables , Package - system package , using system package , creating package , accessing a package, adding a class to a package , Hiding classes .

UNIT 3-Exception Handling & Multithreaded Programming:
Exception Handling- Fundamental, types, uncaught exception, using try and catch, multiple catch, nested try, throw, throws,finally,**Java thread model**, creating threads, extending thread class, stopping & blocking a thread, Life cycle of thread, thread exception, thread priority, synchronization- implementing and runnable interface, inter thread communication, multithreading.

UNIT 4-Developing web-based program :-
What is an applet, applet architecture, applet life cycle, a simple applet program, AWT-Working with Graphics; line, rectangles, ellipses, circles, arcs, polygons Working with colors; Working with fonts.

UNIT 5 Advance Java
Stream and Files. JDBC: JDBC architecture, JDBC Basics, establishing a connection, JDBC Statements.

Reference:

1. **Programming with java . A preimer by " E. Balaguruswamy ".**
2. **"Advence programming in Java by V.K.Jain & Hemlata**
3. **JAVA 2 platform in 21 DAYS by "Lemay and Cadenhead" by Techmedia pub.**
4. **The complete reference JAVA 2 by " Patrick Naughton & Herbert Schidt" .**

Course Outcome : This course aims to provide deep insight of the core and advance concepts of Java to develop software in the Java programming language.

306 ME-COM--Oracle

UNIT-1 DIFFERENT DATA BASE MODEL ,RDBMS COMPONENTS – KERNEL, DATA DICTIONARY,CLIENT/SERVER COMPUTING AND ORACLE, OVERVIEW OF ORACLE ARCHITECTURE – ORACLE FILES, SYSTEM AND USER PROCESS, ORACLE MEMORY, ROLE OF DBA, SYSTEM DATA BASE OBJECT, PROTECTING DATA

UNIT 2- SQL Plus, Oracle data types, Creation, Insertion, Updation, Deletion of tables, Modification of structure of tables, Removing, Deleting, Dropping of Tables, Data Constraints, Column level & table Level Constraints.Null, Unique Key, Default key, Foreign key ,Check Integrity constraints. Defining different constraints on the table Defining Integrity Constraints in the ALTER TABLE Command, Select Command, Logical Operator, Range Searching, Pattern Matching,Oracle Function, Grouping data from Tables in SQL, Manipulation Data in SQL

UNIT 3- Joining Multiple Tables (Equi Joins),Joining a Table to itself (self Joins),Subqueries Union, interesect & Minus Clause,Creating view,Renaming the Column of a view,Granting Permissions, - Updation, Selection, Destroying view,Permission on the objects created by the user,GRANT statement,Object Privileges,Referencing a table belonging to another user,Revoking the permission given,Indexes

UNIT 4- PL/SQL, SQL & PL/SQL DIFFERENCES, BLOCK STRUCTURE, VARIABLES, CONSTANTS, DATATYPE, ASSIGNING DATABASE VALUES TO VARIABLES, SELECT ... INTO, CURSORS, USING FLOW CONTROL AND LOOP STATEMENT, GOTO STATEMENT, ERROR HANDLING, BUILT-IN EXCEPTIONS, USER DEFINED EXCEPTIONS, THE RAISE-APPLICATION-ERROR PROCEDURE, ORACLE TRANSACTION, LOCKS, IMPLICIT AND EXPLICIT LOCKING. 21

UNIT 5- Procedures & Functions - Concept, creation, execution, advantages, syntax, deletion,Triggers - Concept, use, how to apply database triggers, type of triggers, syntax, deleting,Import, Export,Oracle backup and recovery

Reference :

1. Ivan Bayross, "SQL, PL/SQL", BPB Publications"
2. Liebschuty, "The Oracle Cook Book", BPB Publication
3. Michael Abbey, Michael J.Corey, "Oracle a Beginners guide". TMH Publication
4. Oracle Unleashed (Chapter 1,2,3,4,5 and 9)

Course Outcome: On successful completion of this course students will be able to understand database creation and its management which helps them to gain knowledge of Data base Administration .

401MECOM -- ERP AND BPR ALLIED CONCEPTS

UNIT 1-*Introduction to ERP* :- Evolution of ERP, Growth of ERP Market , advantages of ERP, ERP & Related technologies : BPR ,MIS , DSS,EIS, Data Warehousing & Data Mining , OLAP, Supply Chain Management.

UNIT 2-*Business Functions, Processes, & Data Requirements*: - Functional Areas of operation: Marketing & sales, Production & Materials Management, Accounting & Finance , Human Resources.
Marketing Information System & Sales Order Process: - Sales Quotations & Orders, Order Filling, Accounting & Invoicing, Payment & Returns,Sales & Distribution in ERP: Pre-sales activities, sales order processing, Inventory Sourcing, Delivery, Billing, Payment, CRM (Customer Relationship Management).

UNIT 3-*Production & Materials Management Information System*: - Materials Requirement Planning (MRP), Manufacturing Resource Planning (MRP-II), Bill of Materials (BOM), JIT & Kanban, CAD/CAM, Product Data Management, Make-to-Order (MTO), Make-to-Stock (MTS), Assemble-to-Order (ATO), Engineer-to-Order (ETO), Configure-to-Order (CTO).
Accounting & Finance: - Accounting & finance activities: creating financial statements, Operational Decision Making Problem: Credit Management, Product Profitability Analysis, ERP & Inventory Cost Accounting Activity, Activity based costing & ERP.

UNIT 4-*ERP Implementation Life Cycle*: - Pre-evaluation screening, Package evaluation, Project Planning phase, Gap Analysis, Reengineering, Configuration, Implementation team training, Testing, Going live, End user training. Post- implementation, Role of vendors & consultants.

UNIT 5-*Business Process Reengineering (BPR) & its Implementation*:-BPR, five step methodology to implement BPR, Development process vision & determining process objectives, defining the processes to be reengineered, understanding & measuring the existing processes, identifying the IT levels, designing the prototype & implementing it.

BOOKS :

1. Concepts in Enterprise Resource Planning : Bready, Monk ,Wagner
2. Buisness Process Reengineering : Jayaraman Natarajan & Rangramanujan
3. ERP Concepts & Practice V.K Garg & Venkitakrishan.
4. Enterprise Resource Planning : Alexis Leon

Course Outcome: . This course aims to enable students to classify different processes of the organization and relationship among all processes. To examine systematically the planning mechanisms in an enterprise and learns to apply the concepts of BPR and Production & Materials Management Information System.

402MECOM E3 – Software Testing.

UNIT - I: Introduction: Testing as an Engineering Activity, Testing as a Process, testing axioms, Basic Definitions Software Testing Principles, The Tester's Role in a Software Development Organization, The Defect Repository and Test Design, Developer/Tester Support for Developing a Defect Repository, Defect Prevention Strategies.

UNIT - II: Test Case Design : Test Case Design Strategies, Using Black Box Approach to Test Case Design, Random Testing, Requirements based testing, Boundary Value Analysis, Decision tables, Equivalence Class Partitioning, State-based testing, Cause-effect graphing, Error guessing, Compatibility testing.
UNIT - III: Using White Box Approach to Test design, Test Adequacy Criteria, static testing vs. structural testing, code functional testing, Coverage and Control Flow Graphs, Covering Code Logic, Paths, Their Role in White–box Based Test Design, Evaluating Test Adequacy Criteria.

UNIT - IV: Levels Of Testing : The Need for Levels of Testing, Unit Test, Unit Test Planning, Designing the Unit Tests, The Test Harness, Running the Unit tests and Recording results, Integration tests, Designing Integration Tests, Integration Test Planning, Scenario testing, Defect bash elimination. System Testing, Acceptance testing, Performance testing, Regression Testing, testing OO systems, Testing the documentation.

UNIT V Introduction to automatic testing & tools: Drawback of manual testing, Benefits of automatic testing, demerits of automatic testing, functional testing tools, performance testing tolls. Overview of automatic tool QTP : history, benefits, anatomy, main parts of QTP.

Reference Books:

1. Srinivasan Desikan and Gopalaswamy Ramesh, "Software Testing – Principles and Practices", Pearson education, 2006.
2. Ilene Burnstein, "Practical Software Testing", Springer International Edition, 2003.
3. Ron Patton, " Software Testing", Second Edition, Sams Publishing, Pearson education, 2007
4. Renu Rajani, Pradeep Oak, "Software Testing – Effective Methods, Tools and Techniques", Tata McGraw Hill, 2004.
5. Edward Kit, "Software Testing in the Real World – Improving the Process", Pearson Education, 1995.
6. Boris Beizer, "Software Testing Techniques" – 2nd Edition, Van Nostrand Reinhold New York, 1990.

Course Outcome: On successful completion of this course students will be able to understand basics of software testing and about Testing software which helps them to understand software development environment.

402MECOM E4: Fundamentals of Python

Unit I Introduction: The Process of Computational Problem Solving, Python Programming Language, Python Data Types: Expressions, Variables and Assignments, Strings, List, Objects and Classes, Python Standard Library, Imperative Programming: Python programs, Execution Control Structures, User-Defined Functions, Python Variables and Assignments, Parameter Passing.

Unit II Text Files: Strings, Formatted Output, Files, Errors and Exception Handling, Execution and Control Structures: if Statement, for Loop, Two Dimensional Lists, while Loop, More Loop Patterns, Additional Iteration Control Statements, Containers and Randomness: Dictionaries, Other Built-in Container Types, Character Encoding and Strings, Module random, Set Data Type.

Unit III Object Oriented Programming: Fundamental Concepts, Defining a New Python Class, User-Defined Classes, Designing New Container Classes, Overloaded Operators, Inheritance, User-Defined Exceptions, Namespaces: Encapsulation in Functions, Global versus Local Namespaces, Exception Control Flow, Modules and Namespaces

Unit IV Objects and Their Use: Software Objects, Turtle Graphics, Modular Design: Modules, Top-Down Design, Python Modules, Recursion: Introduction to Recursion, Examples of Recursion, Run Time Analysis, Searching, Iteration Vs Recursion, Recursive Problem Solving, Functional Language Approach

Unit V Numerical Computing in Python: NumPy, Vectorized Algorithms, Graphical User Interfaces: Basics of tkinter GUI Development, Event-Based tkinter Widgets, Designing GUIs, OOP for GUI, The Web and Search: The World Wide Web, Python WWW API, String Pattern Matching, Database Programming in Python.

Reference Books:

1. Introduction to Computer Science Using Python: A Computational Problem-Solving Focus", Charles Dierbach, Wiley, 2013.
2. Introduction to Computer Programming using Python, John V Guttag
3. Beginning Python: Using python 2.6 and Python 3.1, James Paynelives, Wiley Private limited 2014.
4. Learning Python, Fabrizio Romano, Packt publishing, 2nd Edition, 2014
5. Core Python Programming, R. Nageswara Rao
6. Data Structures and Algorithmic Thinking with Python, N. Karumanchi

Course Outcome: This course is designed to provide Basic knowledge of Python and on successful completion of this course students will be able to apply appropriate techniques, resources and IT tools including prediction and modeling

403 MECOM : PHP

Unit- I

Introduction to php : What is PHP, basic PHP Syntax, Comments in PHP, PHP Case Sensitivity. Variables : Creating (Declaring) PHP Variables PHP Variables Scope. PHP Data Types, PHP echo and print Statements, constant, Differences between constants and variables Operators : Arithmetic Operators Comparison Operators Logical (or Relational) Operators Assignment Operators Conditional (or ternary) Operators.

Unit- II

Arrays : Numeric array , Associative array , Multidimensional array . String : String Concatenation Operator , Using strlen() function , the Using strpos() function. PHP Conditional Statements : if statement , if...else statement , if...elseif....else statement , switch statement. Loops :while , do...while, for , for each.

Unit- III

Object Oriented Concepts in PHP : Class , Object , Member Variable , Member function , Inheritance : Parent class , Child Class. Polymorphism , Overloading , Data Abstraction , Encapsulation , Constructor Destructor , Interfaces , Abstract Classes , Static Keyword , Final Keyword , Calling parent constructors, Function Overriding.

Unit- IV

Advance PHP concept : Form Handling : A Simple HTML Form , GET vs. POST , Cookies : The Anatomy of a Cookie, Setting Cookies with PHP, Accessing Cookies with PHP, Deleting Cookie with PHP. PHP Form Validation : Validate Form Data With PHP. Date & Time : Getting the Time Stamp with time() , Converting a Time Stamp with getdate() , Converting a Time Stamp with date(). PHP Error Handling : Basic Error Handling-Using the die() function,Creating a Custom Error Handler , Error Report levels.

Unit- V

Database connectivity in php : Introduction to mysql : PHP MySQL Database, PHP Connection to MySQL, Create a MySQL Database , Create MySQL Tables , inserting data into table , modifying data into table , fetching data from mysql table .

References :

1. Beginning PHP, MySQL and Apache. Wrox Press*.
2. PHP: The Complete Reference ,by Steven Holzner

Course Outcome: This course aims to enable students to develop simple web application using server side PHP programming and perform database Connectivity using MySQL.

405 MECOM Project work

The project is to be done by the student reflecting the knowledge gained during the course of work and submit a project report as per prescribed format. Presentation of the project will be in the accepted norms and should be of real life value.

Project report will be submitted by the students latest on the date announced by the department and then evaluated by the examiner.

Course Outcome: This course aims to enable students to develop potential solutions for various problem domains by utilizing their programming skills reflecting the knowledge gained during the entire course. and to gain improvements in their team building, communication and management skills. By using the acquired knowledge students are expected to develop an efficient project report.