JHARKHAND UNIVERSITY OF TECHNOLOGY
Ranchi

MBA SYLLABUS
FUNCTIONAL SPECIALIZATIONS

INFORMATION TECHNOLOGY [IT]
[ELECTIVE – IV]

SUBJECT: DATA ANALYTICS [DA]

SUBJECT CODE: MBA_IT_01 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40 (Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, Tutorial-1, Practical-1.	**End Term Examination Marks: 60**

Course Objectives: This course aims to cover fundamental algorithms and techniques used in Data Analytics. The course will give an understanding of statistical foundations, machine learning and data mining algorithms.

Learning outcomes:

1. To gather sufficient relevant data, conduct data analytics using scientific methods, and make appropriate and powerful connections between quantitative analysis and real-world problems.
2. Use advanced techniques to conduct thorough and insightful analysis and interpret the results correctly with detailed and useful information and use data analytics skills for decision-making.
3. To show substantial understanding of the real problems; conduct deep data analytics using correct methods; and draw reasonable conclusions with sufficient explanation and elaboration.
4. To make better business decisions by using advanced techniques in data analytics.

UNIT I (12 Hours)

Introduction to Data Analytics: Sources and nature of data, classification of data (structured, semi-structured, unstructured), characteristics of data, introduction to Big Data platform, need of data analytics, evolution of analytic scalability, analytic process and tools, analysis vs reporting, modern data analytic tools, applications of data analytics. Data Analytics Lifecycle: Need, key roles for successful analytic projects, various phases of data analytics lifecycle – discovery, data preparation, model planning, model building, communicating results, operationalization.

UNIT II (12 Hours)

Data Analysis: Regression modeling, multivariate analysis, Bayesian modeling, inference and Bayesian networks, support vector and kernel methods, analysis of time series: linear systems analysis & nonlinear dynamics, rule induction, neural networks: learning and generalisation, competitive learning, principal component analysis and neural networks,

fuzzy logic; extracting fuzzy models from data, fuzzy decision trees, stochastic search methods.

UNIT III (12 Hours)

Mining Data Streams: Introduction to streams concepts, stream data model and architecture, stream computing, sampling data in a stream, filtering streams, counting distinct elements in a stream, estimating moments, counting oneness in a window, decaying window, Real-time Analytics Platform (RTAP) applications, Case studies – real time sentiment analysis, stock market predictions.

UNIT IV (12 Hours)

Data analysis techniques

Frequent Itemsets and Clustering: Mining frequent itemsets, market based modelling, Apriori algorithm, handling large data sets in main memory, limited pass algorithm, counting frequent itemsets in a stream, clustering techniques: hierarchical, K-means, clustering high dimensional data, CLIQUE and ProCLUS, frequent pattern based clustering methods, clustering in non-euclidean space, clustering for streams and parallelism.

UNIT V (12 Hours)

Frame Works and Visualization: MapReduce, Hadoop, Pig, Hive, HBase, MapR, Sharding, NoSQL Databases, S3, Hadoop Distributed File Systems, Visualization: visual data analysis techniques, interaction techniques, systems and applications. Introduction to R - R graphical user interfaces, data import and export, attribute and data types, descriptive statistics, exploratory data analysis, visualization before analysis, analytics for unstructured data.

TEXTBOOKS:

1. Michael Berthold, David J. Hand, Intelligent Data Analysis, Springer
2. John Garrett,Data Analytics for IT Networks: Developing Innovative Use Cases, Pearson Education
3. Bill Franks, Taming the Big Data Tidal wave: Finding Opportunities in Huge Data Streams with Advanced Analytics, John Wiley & Sons.
4. Michael Minelli, Michelle Chambers, and Ambiga Dhiraj, "Big Data, Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Businesses", Wiley
5. David Dietrich, Barry Heller, Beibei Yang, “Data Science and Big Data Analytics”, EMC Education Series, John Wiley

REFERENCE BOOKS

1. Bart Baesens “Analytics in a Big Data World: The Essential Guide to Data Science and its Applications (WILEY Big Data Series)”, John Wiley & Sons,2014
2. Charu C. Aggarwal, “Data Mining-theTextbook”, Springer, 2015.
3. Craig K. Enders, “Applied Missing Data Analysis”, The Guilford Press, 2010.
4. Inge Koch, “Analysis of Multivariate and High dimensional data”, Cambridge University Press, 2014.
5. Michael Jambu, “Exploratory and multivariate data analysis”, Academic Press Inc., 1990.

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SUBJECT: DATA MINING [DM]

SUBJECT CODE: MBA_IT_02 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks:40 (Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, Tutorial-1, Practical-1.	**End Term Examination Marks: 60**

Course Objectives:
The course presents methods for mining frequent patterns, associations, and correlations. The course aims to acquaint students with methods for data classification and prediction, and data–clustering approaches. It covers mining various types of data stores such as spatial, textual, multimedia, streams.

Learning outcomes:

1. To understand the concept of Data Mining and the kind of data, the kind of patterns that can be mined
2. To explain major Issues in data mining.
3. To apply machine learning, pattern recognition, statistics, visualization, algorithm, database technology and high-performance computing in data mining applications.
4. To identify the kinds of technologies used for different application and to manipulate data pre-processing, data Warehouse and OLAP technology, data cube technology; mining frequent patterns andassociation, classification, clustering, and outlier detection.

Unit I (12 Hours)

Data Mining: Data–Types of Data–, Data Mining Functionalities– Interestingness Patterns– Classification of Data Mining systems– Data mining Task primitives –Integration of Data mining system with a Data warehouse–Major issues in Data Mining–Data Preprocessing.

UNIT II

Association Rule Mining: Mining Frequent Patterns–Associations and correlations – Mining Methods– Mining Various kinds of Association Rules– Correlation Analysis– Constraint based Association mining. Graph Pattern Mining, SPM

UNIT - III

Classification: Classification and Prediction – Basic concepts–Decision tree induction– Bayesian classification, Rule–based classification, Lazy learner.

UNIT – IV

Clustering and Applications: Cluster analysis–Types of Data in Cluster Analysis– Categorization of Major Clustering Methods– Partitioning Methods, Hierarchical Methods– Density–Based Methods, Grid–Based Methods, Outlier Analysis.

UNIT - V

Advanced Concepts: Basic concepts in Mining data streams–Mining Time–series data— Mining sequence patterns in Transactional databases– Mining Object– Spatial– Multimedia– Text and Web data – Spatial Data mining– Multimedia Data mining–Text Mining– Mining the World Wide Web.

TEXTBOOKS:

1. J. Han and M. Kamber, "Data Mining: Concepts and Techniques", Morgan Kaufman.

2. Data Mining – Concepts and Techniques – Jiawei Han & Micheline Kamber, 3rd Edition Elsevier.

REFERENCE BOOKS:

1. Data Mining Introductory and Advanced topics – Margaret H Dunham, PEA.

2. Ian H. Witten and Eibe Frank, Data Mining: Practical Machine Learning Tools and Techniques (Second Edition), Morgan Kaufmann, 2005.

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SUBJECT:E-COMMERCE AND DIGITAL MARKETS [ECDM]

SUBJECT CODE: MBA_IT_03 (OEC/SDC)

Total Credits: 04	Full Marks: 100
Total Credit Hours: 60 hours	Internal Assessment Marks: 40 (Teacher's Assessment: 20 + Mid Term Examination: 20)
Periods: Lectures-2, Tutorial-1, Practical-1.	End Term Examination Marks: 60

Course Objectives

To help students understand the concept of Digital Marketing & E-commerce in today's scenario and to enable the students in creating and maintaining a good website and blog posts. To make students understand the importance of SEO and Email Marketing in today's modern world and various Analytics tools of online marketing.

Learning outcomes:

1. To understand the foundations of E–Commerce
2. To know how to prepare E–Business plan and to address E–Commerce related issues
3. To design and develop E–marketing strategies and digital payment systems.
4. To comprehend E–marketing tools and E–Business entrepreneurship

UNIT I (12 Hours)

Applications of E-Commerce: Introduction, History of Electronic Commerce, Advantages and Disadvantage of E-commerce, Roadmap of e-commerce in India, E-business Models Based on the Relationship of Transaction Parties, e-commerce Sales Life Cycle (ESLC) Model, Electronic Payment Systems, Electronic Cash, Smart Cards and Electronic Payment Systems, Credit Card Based Electronic Payment Systems, Risks and Electronic Payment Systems, Electronic Data Interchange (EDI)

UNIT II (12 Hours)

Introduction to Digital Marketing & Website and Blog Development: Introduction to Digital Marketing and its Significance; Traditional Marketing Vs Digital Marketing; Digital Marketing Process; The contemporary digital revolution, digital transformation framework. Types of websites, Keywords, Understanding Domain and Webhosting, Building Website/Blog using CMS WordPress, Using WordPress Plug-ins; Blog Creation: Including Headlines, Links, Posts; Using various plugins like Elimentor

UNIT III (12 Hours)

SEO& Email-Marketing: Introduction to SEO; SEO Keyword Planner Tools; On Page SEO Techniques: Indexing and Key Word Placement, Content Planning & Optimization, Display Advertising, Various SEO Plug-in, Off –Page SEO Techniques; Email Marketing-

Introduction and Significance, campaigns using Mail Chimp; Email Marketing Strategy and Monitoring.

UNIT IV (12 Hours)

SEM & Social Media Marketing: Introduction to SEM, Mobile Marketing, Video Marketing on YouTube. Introduction to Social Media Marketing: Facebook, Instagram, Linked-in, Twitter, Google G Suit and online marketing campaigns on theses Social Media platforms. Content Marketing, Content creation process, Influencer marketing.

UNIT V (12 Hours)

Using Marketing Strategies & Analytics Tools: Understanding Digital marketing Strategies, Using Marketing analytics tools to segment, target, position; Online PR and reputation management, Digital Marketing Strategies and its ROI. Using Google Analytics and other social media analytics tools. Using Apps and Gamification.

TEXTBOOKS:

1. Turban, Efraim, and David King, "Electronic Commerce: A Managerial Perspective", 2010, Pearson Education Asia, Delhi.
2. Kalakota, Ravi, "Frontiers of Electronic Commerce", 2004, Addison – Wesley, Delhi.
3. Rayport, Jeffrey F. and Jaworksi, Bernard J, "Introduction to E–Commerce", 2003, 4. Tata McGraw Hill, New Delhi.
4. Vandana Ahuja "Digital marketing" OXFORD HIGHER Education

REFERENCE BOOKS:

1. Kenneth C. Laudon Carol Guercio Traver "E–Commerce",Pearson.
2. Russ, Henneberry "Digital Marketing for Dummies" Wiley
3. S.J.P.T. JOSEPH "E–Commerce: An Indian Perspective" PHI
4. Gary P. Schneider "Electronic Commerce" Course Technology Inc.

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SUBJECT: ENTERPRISE RESOURCE PLANNING [ERP]

SUBJECT CODE: MBA_IT_04 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40** **(Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, **Tutorial-1,** **Practical-1.**	**End Term Examination Marks: 60**

Course Objectives:

The course aims to impart knowledge about Enterprise Resource Planning (ERP) and related technologies. It aims to give an understanding about implementation of ERP and applications of ERP at operational levels and the applications of ERP at managerial practices.

Learning outcomes:

1. To identify the important business functions provided by typical business software such as enterprise resource planning and customer relationship management.
2. To describe basic concepts of ERP systems for manufacturing or service companies.
3. To analyze the technical aspect of telecommunication systems, internet and their roles in business environment.
4. To develop skills necessary for building and managing relationships with customers, and stakeholders

Unit I (12 Hours)

Enterprise: Overview of Enterprise Resources & Business Functions, Classifications of Business Processes, Business Process Management System; Information: Characteristics and Value of information in enterprise; Information System: Components of an Information System, Characteristics and uses of Decision Support System, Executive Information System & Management Information System; Business Process Modeling: Automation and Structuring of Business Processes, Business Process Reengineering (BPR). Cross Functional and Integrated Enterprise Systems; Case Studies

Unit II (12 Hours)

Enterprise Systems and Enterprise Resources Planning (ERP): Characteristics of Enterprise Systems, Enterprise Applications and ERP, Evolution of ERP System, Benefits of an ERP System; ERP Related Technologies: Database & Data Warehouse, Data Mining, On-Line Analytical Processing, Workflow Management Systems

Unit III (12 Hours)

ERP Modules: Finance, Production planning, Sales & Distribution, Human resource management (HRM), Inventory Control System, Quality Management, ERP in Supply Chain

Management and Customer Relationship Management. ERP Solutions in the markets and ERP Domains: Sector specific ERP Solutions, Introduction and Characteristics of SAP, BAAN and Oracle ERP. Case Studies

Unit IV: (12 Hours)

Execution of ERP and Value Chain: Impacts of ERP on Value Chain (Porter's Value Chain Model), Competitive Advantages of ERP; Future Directions in ERP: New Trends in ERP, ERP to ERP II, ERP and e-business, SOA Factors in ERP; ERP Implementation: Evaluation and Selection of ERP Package, Project Planning, Testing & End User's Training, Post Evaluation and Maintenance, Issues and Challenges in ERP Implementation, Latest ERP Implementation Methodologies; Case Studies

Unit V (12 Hours)

ERP Project Team: Composition, Organization and Working of ERP Implementation Team, Success and Failure Factors in ERP Project. Post ERP Implementation: Organizational Change Management, Post Implementation Review, Post Implementation Support, ERP Security. Case Studies

TEXTBOOKS:

1. ERP Demystified: Leon, Alexis (McGraw-Hill Education)
2. Concepts in Enterprise Resource Planning: Joseph, A. Brady, Ellen, F. Monk and Wangner, Bret J. (Thomson Learning)
3. Enterprise Resource Planning: Concepts and Planning; Garg, V.K. and Venkitakrishnan, N.K.(PHILearning)
4. Enterprise Resource Planning – A Managerial Perspective: DP Goyal (TMH)

REFERENCE BOOKS:

1. Paul Greenberg, CRM at the Speed of Light: Social CRM Strategies, Tools, and Technologies for Engaging Your Customer, McGraw Hill.
2. Alexis Leon, Enterprise Resource Planning, 2nd Edition, McGraw Hill, 2008

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SUBJECT: MANAGING DIGITAL INNOVATION AND TRANSFORMATION [MDIT]

SUBJECT CODE: MBA_IT_05 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks:40 (Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, Tutorial-1, Practical-1.	**End Term Examination Marks: 60**

Course Objectives:

To understand the concept of digital innovation and how technologies are changing business scenario and analysing how to develop IT capability of business organization The course aims to develop an understanding of how to bring about organizational transformation through digital medium.

Learning outcomes:

1. To evaluate and manage the digital transformations in their organizations.
2. To devise the strategy to utilize and experience the transformations in social medias.
3. To provide solutions to the challenges in using digital platform for business.
4. To leverage the digital transformations in the space of cloud computing.

UNIT I

Introduction to Digital Innovation:

Digital Innovation, Different Perspectives of digitization, Strategic Challenges of Digital Innovation and Transformation, Reaping Value from Digitalization, Untapped Opportunities, Digital Platforms Understanding Transformation: Business process transformation, Product or service digitization, customer engagement and experience, ecosystem and business model, IT delivery and transformation

UNIT II (15 Hours)

Digital Technology and its Innovation: Digital disruption, Technological developments leading to digital innovation- Artificial Intelligence, Machine Learning, IOT, Block chain, Social computing Strategic Management of Technology and Innovation: Technological innovation and business strategy, managing disruptive innovations and technological transitions, The Technology S-Curve and its implications on IS strategies Innovation

strategies, and their implementation, Online business models – technology mediated platform networks

UNIT III (12 Hours)

Designing Information Capabilities for Competitive Advantage: IT Capability and firms Competitive advantage, Value chain network, Dynamic integration of business processes and technology, Impact of IT on operating models, Impact of IT on innovation and decision-making within firms, Technology marketing

UNIT IV (12 Hours)

Challenges in the digital economy: Organization and cultural issues - building and managing a virtual organization, Management challenges of networked business, Role of leadership and management. Managing Transformation: Cloud computing, change management, process reengineering, testing and training, governance and communications

UNIT V (9 Hours)

Case studies like Reliance industries, Amazon, Google, Examples from Media and entertainment/ Healthcare / Financial Service industry

TEXTBOOKS:

1. Venkatraman, V; The Digital Matrix: New rules for business Transformation through technology; Lifetree Media Ltd, 2017
2. Velte, A. T; Velte, T. J; and Elsenpeter, R; Cloud Computing: A Practical Approach, Mcgraw Hill Education (India) Private Limited, 2017 (23rd reprint).
3. Westerman, G; Bonnet, D; and McAfee, A; Leading Digital: Turning Technology into Business Transformation; Harvard Business Review Press, 2014

REFERENCE BOOKS:

1. Joe Peppard & John Ward The Strategic Management of Information Systems: Building a Digital Strategy ;Wiley
2. Robert D. Galliers, Dorothy E. Leidner (Eds) Strategic Information Management Challenges and Strategies in Managing Information Systems; Routledge
3. Michael Lewrick, Patrick Link, Lary Leifer The design thinking playbook: Mindful digital transformation of teams, products, services, business and ecosystems
4. Herbert, Lindsay; Digital Transformation: Build your organization’s Future for the Innovation Age, Bloomsbury Publication, 2017

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SUBJECT:MANAGING DIGITAL PLATFORMS [MDP]

SUBJECT CODE: MBA_IT_06 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40** **(Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, **Tutorial-1,** **Practical-1.**	**End Term Examination Marks: 60**

Course Objectives:

The course provides students with an understanding of how to build and manage digital platforms. Students will apply contemporary theories from innovation, management and information systems to conceptualise digital platform solutions.

Learning outcomes:

1. To apply key theories and concepts of digital platforms operating in digital economies
2. To analyze technological trends and explain the implications for digital platforms
3. To discuss and critically reflect on applied digital platform theories and findings
4. To conceptualize a digital platform solution based on theoretical foundations taught in the course

UNIT I:

Introduction to Digital Platforms: Types of Digital platforms;Emergence of digital platforms Eco system, Digital eco system; Growth of Digital Enterprises in India; Opportunities of Digital Enterprises; Phases of Industrial transition; Growth-Concept and Issues; Development- Concept and Issues; Challenges of Digital Enterprises. Business Models for Digital Platforms

UNIT II: (12 Hours)

Digital Platform Architecture: Platform Architecture, Types and concept of Platform Architecture; Governance-Factors involved in Digital Governance; Media Optimisation, Latest trends in Media optimisation; Channel Optimisation; Resource profile of channel optimisation, Audience platform utilisation

UNIT III: (12 Hours)

Digital Technology and Intellectual Property: Overview of Platform competition, Platform Technologies, Development of platform technologies, Political culture, Concepts involved in political culture, Intellectual properties in Digital Economy, Instruments of Digital Economy, Pricing policies, Overview of pricing policies, Types of pricing policies

UNIT IV: (12 Hours)

Future perspective of Digital Technology: Overview on global divide, Major policies, Opportunities in Global divide, Future of digital platforms, Strategies in digital platforms, Participation of Digital platforms in global scenario

UNIT V: (12 Hours)

Electronic forms of Digital Technology: Digital Media, Roots of marketing strategy, Cross media marketing strategy, Marketing self, Branding, Branding strategies, Overview of Innovation, Digital business innovation, Types and concepts involved in Digital business innovation, Case Studies

TEXTBOOKS:

1. Michael A. Cusumano, Annabelle Gawer, David B. Yoffie, The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power, Harper Business
2. Swaminathan T. N., Karthik Kumar, Digital Marketing: From Fundamentals to Future, Andrew McAfee and Erik Brynjolfsson, Cengage Learning India
3. Dave Chaffey, Fiona Ellis-Chadwick, Digital Marketing, Pearson
4. Abhishek Das, Applications of Digital Marketing for Success in Business, BPB Publications

REFERENCE BOOKS:

1. Chris Westfall, The New Elevator Pitch: The Definitive Guide to Persuasive Communication in the Digital Age, Marie Street Press
2. Feras Alhlou, Shiraz Asif, Eric Fettman Google Analytics Breakthrough: From Zero to Business Impact, Wiley
3. Sumesh Singh Dadwal, Innovations in Technology and Marketing for the Connected Consumer; IGI Global

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SUBJECT:MANAGING SOFTWARE PROJECTS [MSP]

SUBJECT CODE: MBA_IT_07 (OEC/SDC)

Total Credits: 04	Full Marks: 100
Total Credit Hours: 60 hours	Internal Assessment Marks: 40 (Teacher's Assessment: 20 + Mid Term Examination: 20)
Periods: Lectures-2, Tutorial-1, Practical-1.	End Term Examination Marks: 60

Course Objectives:

The aim of this paper is to acquaint the students with various aspects of Software Project Management.

Learning Outcomes:

1. To identify the different project contexts and suggest an appropriate management strategy.
2. To practice the role of professional ethics in successful software development.
3. Identify and describe the key phases of project management.
4. Determine an appropriate project management approach through an evaluation of the business context and scope of the project.
5. Students will be able to understand various software project management techniques which enable them to start project planning phase for software development.

UNIT I (12 Hours)

Introduction-Fundamentals of Software Project Management (SPM), Need Identification. Vision and Scope Document, Project Management Cycle, SPM Objectives, Management Spectrum SPM Framework

UNIT II (12 Hours)

Software Project Planning-Steps in Project Planning, Software Project Planning, Planning Objectives, Types of Project Plans, Projection and Estimation, Software Project Management Plan, Creating the Work Breakdown Structure. Identifying the Tasks and Activities, Estimating Duration and Cost, Manpower Planning, Project Quality Planning

UNIT III (12 Hours)

Project Organization-Software Development Process, Resource Allocation: Indentifying Resource Requirements. Scheduling Resources. Publishing the Resource Schedule & Cost Schedule. Scheduling Sequence., Choosing an Organizational Form Software Architecture, Management Strategies and Techniques

UNIT IV (12 Hours)

Project Scheduling-Activity Sequencing, Network Diagram, Schedule Development. Schedule Compression Techniques. Software Project Scheduling Tools

Project Approach: Intro. Technical Plan, Choice of Process Models: Waterfall, V-Process, Spiral. Prototyping. Incremental Delivery

UNIT V (12 Hours)

Project Monitoring and Control-Software Metrics, Software Testing, Software Quality: Introduction, Defining Software Quality. ISO 9126. Software Measures. Product Vs. Process Quality Management. External Standards. Software Configuration Management, Measure Productivity, Taking corrective Actions, Senior Management Review Meetings, Projects Audit and Review,

Project Risk-Risk Assessment, Risk analysis- Qualitative and Quantitative, Prioritization of Risks Risk Response Planning Monitoring the Risk

TEXTBOOKS:

1. R. T. Futrell, D. F. Shafer, & L. I. Shafer : Quality Software Project Management, Pearson Education Ltd.
2. P. Jalote : Software Project Management in Practice, Pearson Education Asia Limited & Tsinghua University Press
3. R. B. Kelsey : Software Project Management: Measures for Improving Performance, Management Concepts Pub.
4. A. Singh and K. K. Singh : Software Project Management, Umesh Publications

REFERENCE BOOKS:

1. Software Project Management : From Concepts to Development, Coriolis Group
2. B. B. Agarwal, S. Dhall, S. P. Tayal : Software Project Management, University Science Press
3. G. P. Sudhakar : Elements of Software Project management, PHI

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SUBJECT: MANAGEMENT INFORMATION SYSTEM [MIS]

SUBJECT CODE: MBA_IT_08 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40** **(Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, **Tutorial-1,** **Practical-1.**	**End Term Examination Marks: 60**

Course Objectives:

The objective of the course is to introduce students to Management Information System, designing decision support system and appropriate applications of information management, strategic advantages, and effective decision making with data and people in global and complex business organizations.

Learning outcomes:

1. To relate the basic concepts and technologies used in the field of management information systems.
2. To compare the processes of developing and implementing information systems.
3. To outline the role of the ethical, social, and security issues of information systems.
4. Translate the role of information systems in organizations, the strategic management processes, with the implications for the management

UNIT-1 (12 Hours)

Introduction to MIS

Information System Concepts, Information as a strategic resource, Use of information for competitive advantage, Types of information. Management Information Systems - Need, Purpose and Objectives ,MIS as an evolving concept, MIS and Decision Support Systems, MIS and Information Resource Management, MIS Professional, Computer System Concept, Conversion of Manual to Computer-Based Systems, Transaction Processing System: Characteristics and its importance

UNIT -II (12 Hours)

Information, Management and Decision Making - Attributes of information and its relevance to Decision Making, Models of Decision Making - Classical, Administrative and Herbert Simon's Models.

Role of MIS - Strategic advantage with MIS; Systems approach to problem solving; Business Process Reengineering (BPR); Internet worked enterprise in MIS; Internet, Intranet, Extranet; Enterprise communication and Collaboration.

UNIT III: (12 Hours)

Decision Support Systems- MIS support for decision making; Decision Support Systems; Components of DSS; Tools of business support systems; what if analysis, sensitivity analysis; goal seek analysis, optimization analysis, data mining for decision support,Group Decision Support Systems, and Executive Information Systems. Managing Data Resources- The need for data management, Challenges of data management, Data independence, Data redundancy, Data consistency, Data administration Database Management System – Concepts and types of DBMS, Fields, Records, Table, View, Reports and Queries.

UNIT IV: (12 Hours)

Developing MIS Systems-System Development Life Cycle; Investigation Phase; System Analysis; System Design (DFD and ER diagrams); System Implementation.

UNIT 5: (12 Hours)

Applications-Cross-functional MIS; ERP; CRM; SCM; Transaction processing; Artificial intelligent technologies in business; Neural Network; Fuzzy logic, Genetic algorithm, Virtual reality; Executive Information System; Expert Support Systems; Security and Ethical Challenges. Contemporary Issues in MIS

TEXTBOOKS:

1. Jawadekar, W.S., “Management Information Systems”, Tata McGraw Hill Private Limited
2. Kenneth C. Laudon and Jane P. Laudon: “Management Information Systems” 9/e, Pearson Education
3. Alex Leon and Mathew Leon: “Data Base Management Systems”, Vikas Publishing House
4. Goyal, D.P.: “Management Information System”, MACMILLAN India Limited
5. Mahadeo Jaiswal, Monika Mital: “Management Information System”, Oxford University Press
6. Murthy C.S.V.: “Management Information System”, Himalaya Publications

REFERENCE BOOKS:

1. Laudon K C & Laudon J P : Management Information Systems: Managing the Digital Firm, Prentice-Hall.
2. O’Brien J : Management Information Systems, Tata McGraw-Hill, Galgotia
3. Oz E : Management Information Systems, Vikas Pub.
4. Mudrick R G : An information system for modern management, Pearson.

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SUBJECT:MOBILE APP DESIGNING [MAD]

SUBJECT CODE: MBA_IT_09 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40** **(Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, **Tutorial-1,** **Practical-1.**	**End Term Examination Marks: 60**

Course Objectives:

The course aims to define basic concepts of Mobile App development and marketing and identify the various mobile App Frameworks for implementing the App.

This course helps the student to understand the set of processes and procedures involved in writing software for small, wireless computing devices such as smart phones and tablets and be able to Write App based on Location and Mapping.

Learning outcomes:

1. To identify the basic knowledge on mobile application environment and technology.
2. To explain the concepts and processes of mobile application development.
3. To discuss design and development issues specific to mobile applications.
4. To design and develop mobile applications, using development tools and environments.

UNIT – I (12 Hours)

Preliminary considerations:

Cost of development, Importance of mobile strategies, Mobile Myths, Third party Frameworks,
Mobile Web Presence, Mobile Applications, Marketing.

Creating consumable web services for mobile devices -

Fundamentals of Web Service, Web Services Languages (Formats), Creating an Example Web Service, Debugging Web Services.

UNIT – II (12 Hours)

Mobile user Interface Design –

Effective Use of Screen Real Estate, Understanding Mobile Application Users, Understanding Mobile Information Design, Understanding Mobile Platforms, Using the Tools of Mobile Interface Design.

Mobile websites-

Choosing a Mobile Web Option, Adaptive Mobile Websites, Dedicated Mobile Websites, Mobile Web Apps with HTML5.

UNIT – III (12 Hours)

Getting started with Android -

Meaning and Concept of Android, Need and Importance of Android, Android as Competition to Itself, Connecting to the Google Play, Android Development Practices, Building the Derby App in Android.

Getting started with IOS -

The iPhone Craze, Getting the Tools You Need, iOS Project, Debugging iOS Apps, Objective-C Basics, Hello World App, Building the Derby App in iOS, Other Useful iOS Things.

UNIT – IV (12 Hours)

Application of a Mobile Software -

Test your application,Attach and end user License Agreement if desired,Create and attach an Icon and Label,clean Up for Release,Version Your Application,Obtaining a signing Certificate and API Key,Signing Your Application,Retesting your Application,publishing on Android Market, signing up As an Android Developer.

Persistent Data Storage: SQLite Databases and Content Providers -

Databases - Basic Structure of the MicroJobsdatabase Class, Reading Data from the Database, Modifying the Database. Content Providers-Introducing Notepad, Content Providers, consuming a Content Provider.

UNIT – V (12 Hours)

Location and Mapping

Location-Based services, Mapping, The Google Maps Activity, the Map view and MapActivity, working with Mapviews, Location Without Maps.

Building a View

Android GUI Architecture, Assembling a graphical Interface, Wiring up the Controller, The Menu

PRACTICAL:

1. Write mobile application for small devices and explain different techniques for developing applications for mobile devices.

2. Design an application for mobile devices and implement an application for a mobile device using current technologies

TEXT AND REFERENCE BOOKS:

1. Jeff McWherter, Scott Gowell, Professional Mobile Application Development, WROX, 2012
2. Rogers, Android Application Development, Shroff/O'Reilly Publications, 2009
3. Neuburg, Programming iOS8, 5th edition, Shroff/O'Reilly Publications, 2014
4. Fling, B. (2009) Mobile Design and Development: Practical techniques for creating mobile sites and web apps. O'Reilly Media, Inc.
5. Jones, M. and Marsden, G. (2006) Mobile Interaction Design. John Wiley & Sons Ltd.
6. Smyth, N. (2014) Android Studio Development Essentials. CreateSpace Independent Publishing.

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SUBJECT: STRATEGIC MANAGEMENT OF INFORMATION TECHNOLOGY [SMIT]

SUBJECT CODE: MBA_IT_10 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40 (Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, Tutorial-1, Practical-1.	**End Term Examination Marks: 60**

Course Objectives:

The objective of this course is to arm the students, from both Business and Technology sides, with the knowledge to create substantial shareholder value by creating a well thought out and clearly articulated IS Strategy i.e., aligning IT capability with business strategy.

Learning outcomes:

1. To summarize how business organisations employ information technology to create a competitive advantage.
2. To explain the roles and impact of business processes as they relate to information systems within an organisation.
3. To summarize how each component of an e-commerce system can be used to improve a business organization and contribute to its competitive advantage
4. To analyse the decisions taken in case of strategic information systems planning and to define the importance of alignment of IT strategy with business decisions.

UNIT I: (12 Hours)

Business Strategy for Digital World: The development of strategic management ; The development of the digital economy- The Positioning Approach; The competitive environment, The Resource-Based View, E-business and the Resource-Based View, Strategic information systems and the RBV, Dynamic capabilities, M-commerce; The importance of ICT in contemporary organizations; Evidence on the exploitation of ICT by organizations; Challenges associated with exploiting ICT; Understanding ICT implementation and use; Improving the exploitation of ICT

UNIT II: (12 Hours)

Information Systems Development Approaches: Concept of Information System, History of Information Systems Development; Contemporary Information Systems Development (ISD);The Dynamic Systems Development Method (DSDM)

Disruptive Technologies and Applications, Context for disruptive technologies and applications, Strategy of disruption and innovation, Internet and related technologies, Emerging disruptive technologies: features and applications, MMORPGS and virtual worlds

UNIT III (12 Hours)

Strategic Information Systems and Planning: Concept of information system SIS strategy. Strategic information system SISP. Concept of strategic information system planning SISP. Objectives for strategic information system. Strategic Information System Plan. Benefits Strategic Information System Plan. Needs to plan strategic information system. Critical Success Factors CSF. Methods for strategic information system. Problems implementing planning methods for strategic system. Types of information systems strategy. Management Information Systems MIS. Decision support systems DSS. Executive management information systems.

UNIT IV (12 Hours)

Global Issues in Information Management: IT/IS outsourcing and offshoring; Emerging technologies and global IM; Global information management and management decision-making; Strategic Knowledge Management- Evolution of the knowledge economy; Knowledge management models, Knowledge management strategies, Knowledge Management Processes, Knowledge as a Strategic Resource. Mapping Knowledge. Alignment Knowledge With Business Strategy. Knowledge Management And Innovation. Strategic Information Systems and Knowledge. Practical Applications on The Relationship Between Systems and Knowledge Management Strategy.

UNIT V (12 Hours)

Strategic Leadership and Environmental Analysis: Concept of strategic Information System. Information Technology to achieve competitive advantage. Strategic planning for information resources. Benefits to strategic information resource planning. Concept competitive advantage and necessity for strategic information system. Relationship information system and Strategic Advantage. Strategic information system and environmental analysis (SWOC).Strategic IT/IS Leadership and IT Governance; Strategic leadership-The differences between managers and leaders; Leading technology enabled innovations; Leadership competencies for technology led innovation; Corporate governance; IT governance definition; Corporate governance and IT governance; Building effective IT governance structure, participation and process

TEXTBOOKS:

1. Jerry N. Luftman: Managing the Information Technology Resource: Leadership in the Information Age, Prentice Hall, 2004, 0-13-035126-1
2. Keri E. Pearlson and Carol. S. Saunders: Managing and Using Information Systems. A Strategic Approach (Upplaga: 3ed.), John Wiley & Sons, 2006, 0-471-71538-7
3. Chew, Eng K., & Gottschalk, P. (2009). Information technology strategy and management: Best practices. New York: Information Science Reference.

REFERENCE BOOKS:

4. HBS. (1999). Business value of IT. Boston: Harvard Business School Press.
5. Parker, M. M. (1996). Strategic transformation and information technology: paradigms for performing while transforming. New Jersey: Prentice Hall.
6. Turban, E., Volonino, L., & Wood, G.R. (2015). Information Technology for Management Digital Strategies for Insight, Action, and Sustainable Performance (10th ed). NJ: Wiley Company. ISBN: 978-1-118-89778-2

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SUBJECT: WEBSITE PLANNING & DESIGNING [WPD]

SUBJECT CODE: MBA_IT_11 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40** **(Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, **Tutorial-1,** **Practical-1.**	**End Term Examination Marks: 60**

Course Objectives:

The course provides the instructor and students with a contract, a common reference point that sets the stage for learning the details required for making website. The students should be able to plan and design a website after completion of course.

Learning Outcomes:

1. To equip the students with skills required for designing, developing web applications
2. To get acquainted with elements, Tags and basic structure of HTML files and develop the concept of basic and advanced text formatting
3. To use the multimedia components in HTML documents and designing of webpage-Document Layout, Working with List, Working with Tables.
4. To practice Hyper linking, Designing of webpage-Working with Frames, Forms and Controls.
5. To apply the website planning process to plan the design for a basic website.

UNIT I (12 Hours)

Basics of Website Planning and Designing: Meaning and Concept, Understanding domain names & domain extensions, Different types of websites, Based on functionality, Based on purpose Planning &Conceptualizing, Website Booking and a domain name & web hosting, Buying a Domain, Website Language & Technology, Core Objective of Website and Flow, One Page Website.

UNIT II (12 Hours)

Domain of Web service: Adding domain name to web Server, Adding web pages & content, Adding Plugins, Building website using CMS in Class, Identifying objectives of website, deciding on number of pages required, Strategic Design of Home Page, Strategic Design of Products & Services, and Page Strategic Design of Pricing Page.

UNIT III (12 Hours)

Web service and Strategy: Deciding on number of pages required, planning for engagement options, Landing Pages & Optimization, Creating blueprint of every webpage Best & Worst Examples.

Introduction to HTML : What is HTML, HTML Documents, Basic structure of an HTML document, Creating an HTML document, Mark up Tags, Heading-Paragraphs, Line Breaks, HTML Tags, Working with Hyperlinks, Images and Multimedia; Working with Forms and controls.

UNIT IV (12 Hours)

Web Portfolio and Tracking: Portfolio, Gallery and Contact Us Page, Call to Action (Real Engagement Happens), Designing Other Pages, SEO overview, Google Analytics Tracking Code, Website Auditing, Designing Word press Website.

UNIT V (12 Hours)

Managing Internet and Web Design: Web Design Internet, Browser, Client Server Application, Static Web Page Processing, Dynamic Web Page Processing, Introduction to Simple HTML tags For Creating a Web Page, Website design, Website Hosting

Introduction To ASP Introduction to Cookies, Session Tracking, Introduction IIS Server, ASP Variable, ASP Request ASP Response, Introduction to ASP ADO Connectivity.

TEXTBOOKS:

1. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education.
2. Chris Bates, "Web Programming, building internet applications", 2ndEdition, WILEY, Dreamtech.
3. Hirdesh Bhardwaj, Web Designing 1) "Computer Networks" (PHI-81)- Tannenbaum A.S. 2) ASP 3.0- Wrox 3) Html4 Unleased – SAMS tech media

REFERENCE BOOKS:

1. Darryl King.The Complete Website Planning Guide: A step-by-step guide on how to create a practical and successful plan for your next web design project Kindle Edition
2. Steve Krug, Roger Black.Don't Make Me Think: A Common Sense Approach to Web Usability
3. Jennifer Niederst, Richard Koman. Web Design in a Nutshell: A Desktop Quick Reference
4. Eric MeyerCSS: Mastering the Language of Web Design
5. The Internet Book- Douglas E. Corner

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SUBJECT: CURRENT ISSUES AND EMERGING CHALLENGES IN IT [CIECIT]

SUBJECT CODE: MBA_IT_12 (OEC/SDC)

Total Credits: 04	**Full Marks: 100**
Total Credit Hours: 60 hours	**Internal Assessment Marks: 40 (Teacher's Assessment: 20 + Mid Term Examination: 20)**
Periods: Lectures-2, Tutorial-1, Practical-1.	**End Term Examination Marks: 60**

Course Objectives: To make the students aware of the changes in technologies, applications, and Systems around us.

Learning outcomes:

1. To be able to identify the current trends in information technology
2. To explore application of Machine learning, artificial intelligence, and other new emerging technologies.
3. Explore emerging technologies for use in professional and pedagogical practice.
4. To understand the basic concepts of Artificial Intelligence and explore the applications of AI in various fields

UNIT I (12 Hours)

Fundamentals of IT and Issues: -Introduction, Parallel and Distributed System, Computer Networks. Distributed Systems–Distributed System, Managing Distributed Data bases ,Distributing the Processing and Storage Function, Transaction and Concurrency, Advantages and Disadvantages of DS, Flavors of Distributed Systems, Architectures of Distributed Systems, Security in Distributed Systems

UNIT- II (12 Hours)

Modern Business Trends: E Business & E-Commerce :–Introduction ,Online Shopping, E-Business, E-Commerce, Buying and playing Online, Electronic Payment System, Online PublishingModern Business Management : E-SCM :–Introduction, Supply Chain Management, E- Supply Chain Management, Component of Modern E-SCM Major Trends in E-SCM, Example of E-SCM, Architecture of E-Supply Chain ModelsModern Business Management : E-CRM –Customer Relationship Management Concept , E-CRM Solution Advantages of E-CRM Solutions, Advantages of E-CRM, E-CRM Capabilities,Example of E-CRM, E-CRM Framework

UNIT- III (12 Hours)

Artificial Intelligence:–Introduction, Concept of A1, A1 Applications, Intelligence, Artificial Intelligence, Intelligent Systems, Knowledge –based Systems,Expert Systems:-

Introduction, Background History, Concept of Expert Systems, Expert Systems Vs. and Disadvantages of ES Applications, Expert System Problem Domain, Benefits and Limitations of Expert Systems, Examples of Systems Data Warehousing :-Introduction, Data warehouse, Data warehousing ,Data warehouse Components, Structure of Data Warehouse, Advantages of Data warehouse, Use of data ware warehouse, Standard Report and QueryData Mining :-Introduction, Data Mining & Evolution of DM , Data Mining Verification vs. Discovery, data mining process data mining Techniques, Data Mining tools, On Line Analytical Processing OLAP Types, Selecting an OLAP Application

UNIT- IV (12 Hours)

Mobile Commerce:-Mobile Commerce, Technology for Mobile Commerce, Wireless Communications and its Generations, Wireless Application Protocol (wap), Other Wireless, Technologies, GSM/CDMA, Geographic Information Systems:-Introduction ,Geographic Information System, Components of a GIS, Working of GIS, Data for GIS and Related Technologies ,Traditional maps Vs. GIS, Functions Of GIF Software

UNIT-V (12 Hours)

Introduction and Basic Concept of Modern Communication and Telephony Technology: -Introduction, Code Division Multiple Access, Wireless Local Loop, GSM (Global System for Mobile Communication, Voice Over IP, Bluetooth, Wi-Fi, ISDN Electronic Data Interchange:-introduction, Electronic Data Interchange, The structure of EDI Systems, EDI Standards, Feature of EDI, EDI Technology, Advantages of EDI, Barriers in adopting EDI, Drawbacks of EDI, New Trend in EDI.

E-learning – Models WBT, CBT, Virtual Campus , LMS & LCMS, Video Conferencing, Chatting Bulleting, Building Online Community, Asynchronous / Synchronous Learning

REFERENCE BOOKS:

1. Internet (Use of Search Engines Google & yahoo etc)

2. E–Commerce :C.V.S.Murty

3. Fire Wall and Internet Security: William Cheswick, Stevens, Aviel Rubin

4. The Essential Guide to Knowledge management :Amrit Tiwana

5. The GISBook:GeorgeB.Karte.

6. Management Information System: Laudon& Laudon

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