Stream/ Specialization : **Systems Management**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	BA5020	Advanced Database Management System	PE	3	3	0	0	3
2.	BA5021	Datamining for Business Intelligence	PE	3	3	0	0	3
3.	BA5022	Enterprise Resource Planning	PE	3	3	0	0	3
4.	BA5023	Software Project Management and Quality	PE	3	3	0	0	3
5.	BA5024	E-Business Management	PE	3	3	0	0	3

BA5020 ADVANCED DATABASE MANAGEMENT SYSTEM L T P C
3 0 0 3

OBJECTIVES :

- To understand the various advanced databases used in the organization
- To be aware of recent trends in database management.

UNIT I INTRODUCTION 9

DBMS Models - Multimedia Databases, Parallel Databases, embedded, web, spatial, temporal databases, Virtualization, Active Databases - Embedded databases - Web databases.

UNIT II DATABASE IMPLEMENTATION 9

Query Processing basics and optimization – Heuristic Optimization – Transactions Models – Concurrency Control – Recovery – Security and Authorization – Storage – Indexing and Hashing – ISAM – B-Trees – Kd Trees – X Trees – Dynamic Hashing.

UNIT III DISTRIBUTED DATABASES 9

Distributed Databases – Queries – Optimization Access Strategies – Distributed Transactions Management – Concurrency Control – Reliability

UNIT IV OBJECT ORIENTED DATABASES 9

Object Oriented Concepts – Data Object Models –Object Oriented Databases – Issues in OODBMS - Object Oriented Relational Databases – Object Definition Languages – Object Query Languages

UNIT V EMERGING TRENDS 9

Data Mining – Data warehousing – Star, Snowflake, Fact Constellation; open source database systems, Scripting Language, JDBC, ODBC

TOTAL: 45 PERIODS

OUTCOMES :

- Awareness of database models
- Knowledge of database technologies

REFERENCES :

1. Peter Rob, Carlos Coronel, Database System and Design, Implementation and Management,8 th edition, Cengage,
2. Ramez Elmasri and Shamkant B. Navethe,Fundamentals of Database Systems,7th edition , Pearson Education, 2015.

3. Jeffrey A Hoffer et al, Modern Database Management, 12th Edition, Pearson Education, 2016,
4. Abraham Silberchatz, Henry F. Korth and S.Sudarsan, Database System Concepts, 6th Edition, McGraw-Hill, 2015.
5. Thomas M. Connolly and Carolyn E. Begg, Database Systems – A Practical Approach to Design, Implementation and Management, 6 th edition, Pearson Education, 2015.
6. Jefrey D. Ullman and Jenifer Widom, A First Course in Database Systems, 3 rd edition, Pearson Education Asia, 2013.
7. Stefano Ceri and Giuseppe Pelagatti, Distributed Databases Principles and Systems, McGraw-Hill International Editions, 2008.
8. Rajesh Narang, Object Oriented Interfaces and Databases, 1st edition ,Prentice Hall of India, 2004.
9. Mark L.Gillenson & el, Introduction to database management, 2 nd edition, Wiley India Pvt. Ltd, 2012
10. Charkrabarti, Advanced Database Management Systems, Wiley India Pvt Ltd, 2011

BA5021 DATAMINING FOR BUSINESS INTELLIGENCE L T P C
3 0 0 3

OBJECTIVES :

- To know how to derive meaning form huge volume of data and information
- To understand how knowledge discovering process is used in business decision making

UNIT I INTRODUCTION 9

Data mining, Text mining, Web mining, Spatial mining, Process mining, BI process- Private and Public intelligence, Strategic assessment of implementing BI

UNIT II DATA WAREHOUSING 9

Data ware house – characteristics and view - OLTP and OLAP - Design and development of data warehouse, Meta data models, Extract/ Transform / Load (ETL) design

UNIT III DATA MINING TOOLS, METHODS AND TECHNIQUES 9

Regression and correlation; Classification- Decision trees; clustering –Neural networks; Market basket analysis- Association rules-Genetic algorithms and link analysis, Support Vector Machine, Ant Colony Optimization

UNIT IV MODERN INFORMATION TECHNOLOGY AND ITS BUSINESS OPPORTUNITIES 9

Business intelligence software, BI on web, Ethical and legal limits, Industrial espionage, modern techniques of crypto analysis, managing and organizing for an effective BI Team.

UNIT V BI AND DATA MINING APPLICATIONS 9

Applications in various sectors – Retailing, CRM, Banking, Stock Pricing, Production, Crime, Genetics, Medical, Pharmaceutical.

TOTAL: 45 PERIODS

OUTCOMES :

- Big Data Management
- Appreciate the techniques of knowledge discovery for business applications

REFERENCES :

1. Jaiwei Ham and Micheline Kamber, Data Mining concepts and techniques, Kauffmann Publishers 3 rd edition, 2011

2. Efraim Turban, Ramesh Sharda, Jay E. Aronson and David King, Business Intelligence, 3rd edition,Prentice Hall, 2014.
3. W.H.Inmon, Building the Data Warehouse, fourth edition Wiley India pvt. Ltd. 2005.
4. Ralph Kimball and Richard Merz, The data warehouse toolkit, John Wiley, 2005.
5. Michel Berry and Gordon Linoff, Mastering Data mining, John Wiley and Sons Inc, 3nd Edition, 2011
6. Michel Berry and Gordon Linoff, Data mining techniques for Marketing, Sales and Customer support, John Wiley, 3 rd edition 2011
7. G. K. Gupta, Ïntroduction to Data mining with Case Studies, Prentice hall of India, 2014.
8. Giudici, Applied Data mining – Statistical Methods for Business and Industry, John Wiley. 2009
9. Elizabeth Vitt, Michael Luckevich Stacia Misner, Business Intelligence, Microsoft, 2011
10. Michalewicz Z., Schmidt M. Michalewicz M and Chiriac C, Adaptive Business Intelligence, Springer – Verlag, edition 2016
11. Galit Shmueli, Nitin R. Patel and Peter C. Bruce, Data Mining for Business Intelligence – Concepts, Techniques and Applications Wiley, India ,3rd edition, 2016

BA5022 ENTERPRISE RESOURCE PLANNING L T P C
3 0 0 3

OBJECTIVES :

- To understand the business process of an enterprise
- To grasp the activities of erp project management cycle
- To understand the emerging trends in erp developments

UNIT I INTRODUCTION 8

Overview of enterprise systems – Evolution - Risks and benefits - Fundamental technology - Issues to be consider in planning design and implementation of cross functional integrated ERP systems.

UNIT II ERP SOLUTIONS AND FUNCTIONAL MODULES 10

Overview of ERP software solutions- Small, medium and large enterprise vendor solutions, BPR, and best business practices - Business process Management, Functional modules.

UNIT III ERP IMPLEMENTATION 10

Planning Evaluation and selection of ERP systems - Implementation life cycle - ERP implementation, Methodology and Frame work- Training – Data Migration. People Organization in implementation- Consultants, Vendors and Employees.

UNIT IV POST IMPLEMENTATION 8

Maintenance of ERP- Organizational and Industrial impact; Success and Failure factors of ERP Implementation.

UNIT V EMERGING TRENDS ON ERP 9

Extended ERP systems and ERP add-ons -CRM, SCM, Business analytics- Future trends in ERP systems-web enabled, Wireless technologies, cloud computing.

TOTAL: 45 PERIODS

OUTCOMES

- Knowledge of ERP implementation cycle
- Awareness of core and extended modules of ERP

REFERENCES :

1. Alexis Leon, ERP demystified, second Edition Tata McGraw-Hill, 2008.

2. Sinha P. Magal and Jeffery Word, Essentials of Business Process and Information System, Wiley India, 2012
3. Jagan Nathan Vaman, ERP in Practice, Tata McGraw-Hill, 2008
4. Alexis Leon, Enterprise Resource Planning, third edition, Tata McGraw-Hill, 2014.
5. Mahadeo Jaiswal and Ganesh Vanapalli, first edition,ERP Macmillan India, 2013
6. Vinod Kumar Grag and N.K. Venkitakrishnan, ERP- Concepts and Practice, second edition Prentice Hall of India, 2009.
7. Summer, ERP, Pearson Education, 2016

BA5023 SOFTWARE PROJECT MANAGEMENT AND QUALITY L T P C
3 0 0 3

OBJECTIVES:

- To understand the various project management phases – Initiation, Planning, Tracking and Closure
- To study various project estimation methodologies, process models and risk management
- To understand quality assurance in software development

UNIT I PROJECT MANAGEMENT OVERVIEW 8

What is Project and Project Management, Various phase of Project Management, Project Stakeholders, Project Management Organisation (PMO);Roles and Responsibilities of Project Manager. Brief introduction to various process models - Waterfall, RAD, V, Spiral, Incremental, Prototyping, Agile- SCRUM, Extreme Programming (XP) and Kanban **Project Initiation -** Project Charter; Statement of Work (SoW)

UNIT II PROJECT PLANNING 10

Project Planning Activities- Project Scope, Work Breakdown Structures (WBS), Software estimation methodologies - COCOMO Model and Function Point

Project Scheduling Techniques – Program Evaluation and Review Technique (PERT), Gantt Chart and Critical Path Method (CPM)

UNIT III PROJECT TRACKING 10

Monitoring and Control, Project Status Reporting; Project Metrics; Earned Value Analysis (EVA); Project Communication Plan & Techniques; Steps for Process Improvement.

Risk Management: Concepts of Risks and Risk Management; Risk Management Activities; Effective Risk Management; Risk Categories; Aids for Risk Identification; Potential Risk Treatments; Risk Components and Drivers; Risk Prioritization.

UNIT IV PROJECT CLOSURE 8

Project Closure Analysis, Lesson Learnt

Software Quality Assurance-Software Quality Assurance Activities; Software Qualities; Software Quality Standards – ISO Standards for Software Organization, Capability Maturity Model (CMM), Comparison between ISO 9001 & SEI CMM, Other Standards.

UNIT V AGILE PROJECT MANAGEMENT WITH SCRUM 9

Agile Manifesto and Agile Principles

Agile Scrum - Purpose, Values, Scrum Framework, Scrum Roles – Product Owner, Scrum Master & Team, Scrum Events – Sprint Planning, Daily Scrum/Stand-up Meeting, Sprint Review, Sprint Retrospective, Scrum Artefacts – Product Backlog, Sprint Backlog, Increment and Definition of Done (DoD), Agile estimation – Story Point

TOTAL:45 PERIODS

OUTCOMES:

At the end of this course, student should be able to:

- Manage different phases of Software Project Management
- Identify Risk and create risk mitigation plan
- Apply software quality assurance for better quality software delivery

REFERENCES:

- Bob Hughes and Mike Cotterell, Software Project Management, Tata McGraw Hill, 5th Edition
- Jalote, “Software Project Management in Practice”, Pearson Education
- Ramesh, Gopalaswamy, "Managing Global Projects", Tata McGraw Hill
- Ken Schwaber, Agile Project Management with Scrum, Microsoft Press
- Mike Cohn, Agile Estimating & Planning, Pearson
- Royce, “Software Project Management”, Pearson Education, 1999.

ONLINE RESOURCES:

- http://agilemanifesto.org/
- https://www.scrum.org/Resources/What-is-Scrum
- http://www.scrumguides.org/scrum-guide.html#purpose

BA5024 E- BUSINESS MANAGEMENT L T P C
3 0 0 3

OBJECTIVES:

- To understand the practices and technology to start an online business

UNIT I INTRODUCTION TO e-BUSINESS 8

e-business,e-businessvse-commerce,Economicforces-advantages-myths-e-business models, design, develop and manage-business, Web2.0andSocialNetworking,Mobile Commerce, S-commerce.

UNIT II TECHNOLOGY INFRASTRUCTURE 10

Internet and World Wide Web, internet protocols- FTP, intranet and extranet, Cloud Service Models – SAAS, PAAS, IAAS, Cloud Deployment Models – Public Cloud, Private Cloud, Hybrid Cloud, Auto-Scaling in the Cloud, Internet information publishing technology- basics of web server hardware and software

UNIT III BUSINESS APPLICATIONS 10

Consumer oriented e-business-e-tailing and models-Marketing on web-advertising, e-mail marketing, affiliated programs - e-CRM; online services, Business oriented e-business, e- governance, EDI on the internet, Delivery management system, Web Auctions, Virtual communities and Web portals-social media marketing

UNIT IV e-BUSINESS PAYMENTS AND SECURITY 9

E-payments -Characteristics of payment of systems, protocols, e-cash, e-cheque, e-Wallets and Micro payment systems- internet security-cryptography –security protocols-network security.

UNIT V LEGAL AND PRIVACY ISSUES 8

Legal, Ethics and privacy issues – Protection needs and methodology – consumer protection, cyber laws, contracts and warranties, Taxation and encryption policies.

TOTAL:45 PERIODS

OUTCOMES:

At the end of this course, student should be able to know how to build and manage an e-business

REFERENCES

1. Harvey M. Deitel, Paul J.Deitel, Kate Steinbuhler, e-business and e-commerce for managers, Pearson, 2011.
2. EfraimTurban, Jae K.Lee, DavidKing,TingPengLiang,DeborrahTurban,ElectronicCommerce-Amanagerial perspective, Pearson Education Asia,2010.
3. Kelly Goetsch - e Commerce in the Cloud, O Reilly Media,2014.

4. Parag Kulkarni, Sunita Jahirabad kao, Pradeep Chande, ebusiness, Oxford University Press, 2012.
5. Hentry Chan &el, E-Commerce–fundamentals and Applications, Wiley India Pvt Ltd, 2007.
6. GaryP.Schneider,Electroniccommerce,Thomsoncoursetechnology,Fourthannualedition,2007
7. Bharat Bhasker, Electronic Commerce, Framework technologies and Applications, 3rd Edition. Tata McGraw Hill Publications, 2009
8. Kamlesh K. Bajajand DebjaniNag, Ecommerce- the cutting edge of Business, Tata McGraw Hill Publications, 7threprint, 2009.
9. Kalakotaet al, Frontiers ofElectronicCommerce,AddisonWesley,2004
10. Micheal Papaloelon and Peter Robert, e-business, Wiley India, 2006.
11. Michael Miller, Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online, Que Publishing, 2009