Estd. 1962
NAAC 'A' Grade
MHRD-NIRF- 28th Rank

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दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग– २६०९०९४)
फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३.e-mail:bos@unishivaji.ac.in

SU/BOS/comm. And Mgt/9473 **Date: 27/08/2018**

To,
The Principal,
All Affiliated M.Com IT College
Shivaji University, Kolhapur

Subject: Regarding syllabi of First year M.Com (IT Sem 1 and 2) under the Faculty of Commerce and Mangament

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the First year M.Com (IT Sem 1 and 2) under syllabi, Nature of question paper and equivalence under the Faculty of commerce and Mangament.

This syllabus and equivalence shall be implemented from the academic year 2018-2019 (i.e. from June 2018) onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website www.unishivaji.ac.in. (Online Syllabus)

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in October /November 2018 & March/April 2019. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy Registrar

Copy to:

1	TheDean,Faculty of commerce and Mangament	**7**	Computer Centre
2	The Chairman, Respective Board of Studies	**8**	Affiliation Section (T.1)
3	Director, Examination and Evaluation	**9**	Affiliation Section (T.2)
4	Eligibility Section	**10**	P.G.Admission Section
5	O.E. – 1	**11**	P.G Seminar Section
6	Appointment Section	**12**	Meeting Section

Master of Commerce (Information Technology)

M.Com.(IT) Part-I Sem-I & Sem-II (Choice Based Credit System) Introduced from June 2018 and Onwards

1. Implementation of semester system - It was decided that the semester system should be implemented gradually as mentioned below

M.Com.(IT) Part – I Sem-I & Sem-II from Academic year 2018- 19
M.Com. Part – II Sem-III & Sem-IV from Academic year 2019- 20

2. Pattern of semester system – It was decided to accept 80:20 pattern for the purpose of semester examinations.

3. Eligibility: B.Com (IT) with 50% Marks

4. Scheme of internal assessment - The committee took note of the UGC guidelines and recommended to have continuous internal assessment for M.Com. Programme. Internal Examination will be compulsory for all students. If a student fails / remains absent in internal Examination then he / she will have to clear the internal Examination in subsequent attempt/s.

The following scheme for internal assessment was prepared. The Question paper in each semester (for each paper) shall be of 100 marks wherein 80 % 20 patterns will be accepted. For this purpose following will be the pattern for internal assessment scheme i) M.Com. Part – I and II There will be Home Assignment /Internal Test/ Mini project for 10 marks and Seminar/ Oral / Case study for 10 marks of each semester (The 80:20 Pattern will be applicable to Distance education students. However, for internal work there will be Home assignment of 20 marks for each paper of all semesters)

The division of marks for Paper VIII (404) Project Work in IT will be as 60 marks for project work and 40 marks for viva-Voce. The evaluation of 100 marks will be done at the time of viva-voce by University Committee. Viva voce is to be conducted by, two external and one internal examiners appointed by University. The Chairman of committee has to submit viva voce marks to the University in stipulated time.

5. Duration of semester examination for each paper - The duration of semester examination for each paper of 80 marks shall be of three hours.

The project viva-voce examination is to be conducted by University Appointed examiners before commencement of written examination of university. Two experts in the concern field is to be appointed one is Chairman of committee and other is expert to conduct the viva-voce. Besides this one examiner is to be appointed as internal examiner by the University.

6. Equivalence of papers and chances for the students in pre-semester pattern (i.e. annual pattern) - Two additional chances shall be provided for the repeater students of the annual pattern. After this the concerned students will have to appear as per the equivalent paper given under semester system.

7. Standard of passing- The Standard of passing shall be 40% where the student will have to score 32 marks out of 80 and 8 Marks out of 20 in each paper. There will be a separate head of passing in Theory i.e. (University exam.) and Internal Examination. N.B.:- A student will be allowed to keep term for M.Com. Part-II if he/she passes in all papers of Part I or fails in Part I in any of or all the heads of passing (Sem.I & sem.II) taken together.

8. Result - The result of each semester should be declared as Pass or Fail.

9. The choice based credit system (CBCS) is applicable to M.Com.

10. Revised Ordinance and Rules - The committee has revised the ordinance and rules as per semester system. Draft ordinance and rules are enclosed herewith for the approval of the respective university authorities. These revised ordinance and rules will be gradually implemented with effect from the academic year 2013 -14 for M.Com. course.

11. NATURE OF QUESTION PAPER

Total Marks:80 Duration: 3 Clock Hours

Instructions: 1) Que. No. 1 & 2 is COMPULSORY

2) Attempt any Three questions from Que. No. 3 to 6

Que:- 1: (A) Multiple choice questions ----------08 Marks

(B) Fill in the blanks ----------04 Marks

(C) True OR False ---------- 04 Marks

Que.- 2: Short answer type questions (Any TWO out of THREE) ----------16 Marks

Que:- 3: Long question ----------16 Marks

Que:- 4: Long question ----------16 Marks

Que:- 5: Long question ---------16 Marks

Que:- 6: Write Short Notes (Any TWO out of THREE) ---------16 Marks

M.Com. (IT) Part- I
Course Structure

Paper No.	Sem I	Paper No.	Sem II
101	Management Concepts and Organizational Behaviour Paper I (Management Concepts)	201	Management Concepts and Organizational Behaviour Paper II (Organizational Behaviour)
102	Managerial Economics -Paper I	202	Managerial Economics -Paper II
103	Emerging trends in Information Technology	203	Data Warehousing and Data Mining
104	Computer Networks	204	Advanced Web Technology
	Sem III		**Sem IV**
301	Management Accountancy Paper-I	401	Management Accountancy Paper-II
302	Business Finance Paper-I	402	Business Finance Paper-II
303	Advance Database Technology	403	Knowledge Management
304	Research Methodology and Project Work	404	Research Project in IT

M.Com. Part-I (Information Technology) Semester-I
Compulsory Paper
Management Concepts and Organizational Behaviour Paper I
(Management Concepts)
Paper-No 101

Objectives:

1) To acquaint the students with the basic management concepts and process.

2) To create awareness among students about the modern trends in the management and impact of globalization.

Total Marks : 80	**Hours of Teaching: 60**	
UNIT I- :- Evolution of Management Thought:-	Contribution of Michal porter Mary Parker Follet, Peter Drucker and C.K pralhad Management in 21st century. International Management - Impact of globlization on management.	**10**
Unit - 2:- Basics of Management:	Definition, characteristics and significance of management, Managerial skills, Henry Mintzberg's roles of manager, Management of Change- Need for change, Resistance to change and remedies to overcome the resistance.	**15**
Unit - 3:- Managerial Functions:	**Planning:** Concept, significance and process. Organizing: Concept and principles, Staffing, Directing and Controlling: Concepts and process.	**15**
Unit - 4:- Leadership and Motivation:	**(A) Leadership:** Concept and theories of leadership- Traits theory, Behavioural theories, Fiedler's Contingency Theory, Harsey-Blanchard's Theory, The Managerial Grid, Likert's four systems of leadership. **(B) Motivation**: Concept and process of motivation, Theories of motivation- Maslow's Need Hierarchy Theory, Hertzberg's Two Factor Theory, McGregor's Theory 'X' and Theory 'Y', Alderfer's ERG theory,	**20**

	Victor Vroom's expectancy theory.	

References:

1) Organization and Management- Dr.C.B.Gupta

2) Business Organization and Management - M.C. Shukla

3) The Practice of Management- Peter Drucker

4) Principles of Management O.B. K. Aghurth

5) Management and Organizational Behaviour-P. Subbarao

6) Organizational Behaiour - Keith avis

7) Organizational Behaiour - Stephen Robbins

8) Organizational Behaiour - Dr. Anjali Ghanekar

M.Com. Part-I (Information Technology) Semester-I
Compulsory Paper
Paper-No. 102
MANAGERIAL ECONOMICS Paper I

PREABLE :- Managerial Economics is a new branch of Economics. It is applied Economics and constitutes Micro as well as Macro Economic theories, which are useful to business manager in daily decision making regarding his business. Therefore, it is essential to the commerce and management students to aware about the Managerial Economics. They should be well versed in the knowledge of Managerial Economics by keeping this view the syllabus of Managerial Economics is prepared accordingly, to face the problems of the business during the globalization era.

Total Marks : 80	**Hours of Teaching: 60**	
Unit 1: Introduction to Managerial Economics	Meaning, Definition, Nature and Scope of Managerial Economics- Economic Theory and Managerial Theory- Role and Responsibilities of Business Manager- Managerial Economics and Decision making – Objectives of Business Firm.	**14**
Unit 2: Demand Analysis	Demand function- Law of Demand- Elasticity of demand- Types of elasticity of demand- Measurement of price elasticity of demand – Use of elasticity of demand in Managerial decisions.	**14**
Unit 3: Theory of Consumer's Choice	Indifference curve Analysis- Revealed Preference Theory. Theory of Consumer's Choice under risks- Demand forecasting – Methods of Demand Forecasting.	**16**
Unit 4: Production Theory	Production Function- short run production function – Long-run production function- Economics of Scale- cost concepts- their nature, shape and Interrelationship.	**16**

	Break Even Analysis.	

Reference Books :-		
1.	Dean Joel	'Managerial Economics', Tata MC Graw Hill, Delhi.
2.	D.N. Dwivedi	'Managerial Economics', Vikas publishing House PVT Ltd. New Delhi.
3.	R. Cauvery, U.K.	'Managerial Economics', S.Chand& Company Ltd. New Delhi.
4.	M.Girija, R. Meenakshi	
5.	Gough J. & S. Hill S.	. 'Fundamentals of Managerial Economics Macmillan, London.
6.	Peterson, H. Craig & W. Cris Lewis,	'Managerial Economics', Prentice Hall Delhi.
7.	Dr. M.N. Shinde,	'Managerial Economics', AjabPublication, Kolhapur.
8.	H.L. Ahuja,	'Advanced Economic Theory'
9.	K.K. Dewtt,	'Modern Economic Theory' S.Chand& Company Ltd. New Delhi.
10.	Mehta P.L.	'Managerial Economics', S. Chand & Company Ltd. New Delhi.
11.	Gopal Krishna D.,	'A Study of Managerial Economics' Himalaya publishing house, Bombay.
12.	Hague D.C.	Managerial Economic Analysis for Business Decisions, Longman Group Ltd, London.

M.Com. Part-I (Information Technology) Semester-I
Paper No:103
Emerging Trends in Information Technology

Course Outcomes:
Students who complete this course should be able to:

1. M**ake use of** social media for the different functional areasin the business.
2. **Explain**the design and architecture of mobile based applications for the business.
3. **Determine** the role of Expert Systems and Big Data Management for the Business Intelligence.
4. **Examine** Cloud Computing Architecture for transformation, development and agility in the business.

Marks : 80 Total	**Hours of Teaching: 60**	**Theory: 40**	**Practical: 20**	
UNIT I- **Social Networking** **a) Theory**	**Social Networking:** Definition, Types of Social Networking Sites, **Examples of Social Networking Sites:** Facebook, Twitter, WhatsApp**,** **Social Networking Analysis:** Attributes and Metrics of Social Networking, Social Networking Models, Security and Privacy Issues of Social Networking Sites, **Business Applications:** Marketing and HR, Educational Applications, Social and Political Applications.			**10**
b) Practical	Case Study on usage of Social networking for Marketing with special reference to Facebook and Twitter.			**05**
UNIT II- **MOBILE COMPUTING** **a) Theory**	**Mobile Computing Applications**: Characteristics of Mobile computing, Structure of Mobile Computing Application. **Mobile Computing Platforms**: Special Constrains & Requirements, Commercial Mobile Operating Systems: iOS, Android, BlackBerry, Windows **M.Commerce Applications**: Structure, Pros & Cons, Mobile Banking Services, Mobile Payment Systems, Security Issues in M.Commerce.			**10**
b) Practical	Case Study to explain Mobile Payment system with special reference to Paytm and mPesa			**05**
UNIT III- **DATA ANALYTICS** **a) Theory**	**Business Intelligence**-Introduction toArtificial Intelligence and Expert System, Components of Expert System, Implementing Expert System for Banking and Finance sector. **Introduction to Big Data**: Definition, Sources of Big Data, Characteristics of Big Data, Applications of Big			**10**

	Data **Big Data Analytics**: Introduction to Hadoop, Features, Architecture, Components of Hadoop, Map-Reduce Architecture, Examples of Map-Reduce.	
b) Practical	Case Study to determine the role of Expert System with special reference to Credit Risk Analysis for Banking and Finance Sector.	**05**
UNIT IV- **CLOUD COMPUTING** **a) Theory**	**Cloud Models:** NIST Cloud Computing Reference Architecture, IaaS, PaaS, SaaS, Public v/s Private Cloud**,** **Basics of Virtualization**: Types of Virtualization, Implementation Levels of Virtualization, Virtualization for Data-center, **Programming Support**: Google App Engine, Amazon AWS, **Security in the Cloud**: Data Security, Application Security, Virtual Machine Security	**10**
b) Practical	Case Study to examineSaas Applications for Business with special reference to Business Productivity tool of Amazon AWS.	**05**

Reference Book

1. KarabiBandopadhyay, Mobile Commerce, PHI-2013
2. ShuenShroff, Web 2.0: A Strategy Guide, O'Reilly
3. Eva Foucher , Social Networking: The Top Social Networking Websites That Help
4. You Build an Online Presence Quickly, CreateSpace Independent Publishing Platform
5. John W.Rittinghouse and James F.Ransome, “Cloud Computing: Implementation, Management, and Security”, CRC Press, 2010.
6. Toby Velte, Anthony Velte, Robert Elsenpeter, “Cloud Computing, A Practical Approach”, Tata MacGraw Hill, 2009.
7. JyLiebowitz, “Big Data and Business analytics”,CRC press, 2013.
8. Tom White, Hadoop: The Definitive Guide, O’Reilly, 3rd edition
9. Decision Support Systems and Data Warehouse, B. Ravinath, New Age International Publishers

M.Com. Part-I (Information Technology) Semester-I
Paper No:104
Computer Networks

Course Outcomes:

The students will be able to :

1. Visualize the different aspects of networks, protocols and network design models.
2. Analyze and compare different LAN protocols.
3. Examine various Data Link layer design issues and Data Link protocols.
4. Compare and select appropriate routing algorithms for a network.
5. Examine the important aspects and functions of different layers in internetworking.

Marks : 80 Total	**Hours of Teaching: 60**	**Theory: 40**	**Practical: 20**	
Unit I **a) Theory**	**Basics of Data communication** Data Communication concept -Components-sender, receiver, message, transmission media, Data Flow- simplex, half-duplex, or full-duplex, Networks- Definition, Advantages and disadvantages, Categories of Networks- LAN, WAN. MAN, Network Architecture-Client-Server and Peer to peer, Multiplexing – Frequency Division Multiplexing, Wavelength-Division Multiplexing, Time-Division Multiplexing, switching -Circuit switching, Packet Switching, Message Switching			**10**
b) Practical	Case study on Network topology			**05**
Unit II **a) Theory**	**Transmission media and Reference Models** Transmission Media: Guided Media - Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Unguided Media: Radio Waves, Microwaves, Infrared, satellite communication Transmission Modes- Parallel and Serial -(Asynchronous, Synchronous) Reference Models- OSI reference model, TCP/IP reference model, Comparison of OSI and TCP/IP reference model, Protocol Standards, IP address scheme and characteristics of IP address.			**10**
b) Practical	Case study on network components			**05**
Unit III **a) Theory**	**Data link, Network and Transport layer** Data link Layer- Design issues, Framing, error detection and correction, Network layer- design issues of network layer, , Classless and Classfull Addressing, Routing algorithm (shortest path, Flooding, distance vector), Congestion control, Transport layer - Transport Layer Primitives: listen, connect, send, receive, disconnect, Protocols: TCP, UDP			**10**
b) Practical	Case study on structure of different IP address scheme.			**05**
Unit IV **a) Theory**	**Session, Presentation and Application layer** Session layer: Services- dialog management, synchronization, activity management, exception handling, Remote procedure calls, Presentation layer:- Services: Translation, compression, encryption, Cryptography: concept, symmetric key & asymmetric key cryptography,			**10**

	Application layer: Functions, DNS, SMTP, SNMP, FTP, HTTP	
b) Practical	Study of different application layer protocols	**05**

Reference Books :

1. Behrouz A. Forouzan: Data Communications and Networking, 4th Edition, Tata McGrawHill, 2006.
2. William Stallings: Data and Computer Communication, 8th Edition, Pearson Education, 2007.
3. Larry L. Peterson and Bruce S. David: Computer Networks - A Systems Approach, 4th Edition, Elsevier, 2007.
4. Andrew S. Tanenbaum: Computer Networks, 4th Edition, PHI.
5. Internetworking With TCP/IP, Douglas Comer, volume 1, Prentice-Hall Publisher, 2005
6. Nader F. Mir: Computer and Communication Networks, Pearson Education, 2007
7. Black, Data & Computer Communication, PHI
8. Miller, data Communication & Network, Vikas

M.Com. Part-I (Information Technology) Semester-II

Paper No: 201

(Compulsory Paper)
Management Concepts and Organizational Behaviour Paper-II
(Organizational Behaviour)

Objectives:

1) To familiarize the students with the foundations of individual and group behaviour and the concepts of organizational behavior

2) To create awareness among students about the organizational culture and corporate social responsibility

Total Marks : 80	**Hours of Teaching: 60**	
Unit-1 :: Organizational Behaviour :	Concept and significance-Contributing disciplines to OB- Relationship between management and organizational behavior - Ethical issues in OB	**15**
Unit-2: Individual and Group Behaviour:	(A) Foundations of Individual Behaviour Learning, Perception and Attitude. (B) Foundations of Group Behaviour : Definition and importance of group, Types of group, Process of group development, Group performance factors.	**15**
Unit-3: Organizational Conflict and Stress Management	A) Organizational Conflict :Concept types sources and levels of Organizational Conflict, Traditional and modern approach to conflict, Functional and dysfunctional Organizational conflict, Resolution of conflict. B) Stress Management - Work stress, factors causing stress, Managing stress.	**15**
Unit-4: Organizational Culture and Corporate Social	**(**A) Organizational Culture: Definition, importance and factors influencing organizational culture (B) Corporate Social Responsibility : Concept, importance and practice	**15**

Responsibility :		

References:

1) Management and Organizational Behaviour - P.Subbarao.

2) Organizational Behaviour - Keith Davis.

3) Organizational Behaviour - Stephen Robbins.

4) Organizational Behaviour - Dr. Anjali Ghanekar.

5) Organizational Behaviour - Dr. C.B.Gupta.

M.Com. IT Part-I Semester- II
Paper No. 202
Compulsory Paper
MANAGERIAL ECONOMICS Paper-II

Preamble Managerial Economics is a new branch of Economics. It is applied economics and constitutes Micro as well as Macro economic theories which are useful to business manager in daily decision making regarding his business. Therefore, it is essential to the commerce and management students to aware about the managerial economics. They should be well versed in the knowledge of managerial economics. By keeping this view the syllabus of Managerial Economics is prepared accordingly, to face the problem of the business during the globalization era.

Total Marks : 80	**Hours of Teaching: 60**	
Unit 1: Price Determination Under Different Market Conditions	Perfect Competition- It's features- Price determination in short run and long run Monopoly- features and price determination Monopolistic Competition – features – price determination in short run and long run Oligopoly Market – features – Independent pricing – price war and price rigidity-	**20**
Unit 2: Pricing Practices and Investment Analysis.	A) Cost plus pricing – Multiple pricing – Price discrimination –International Price discrimination and Dumping – Transfer Pricing B) Capital Budgeting – Need – Criteria for Project appraisal – Pay – Back Method – Accounting Method or Rate of Return and Net Present Value.	**16**
Unit 3: Business Cycles.	Meaning and Phases of Business Cycle – Theories of business cycles – Cob – Web theory- Hicks's Theory and Samuelson's Theory.	**12**

Unit 4: Inflation	Definition – Types – Demand pull and Cost push Theory – Factors causing inflation -Measures to Control Inflation-Philips Curve.	**12**

Reference Books :-		
1.	Dean Joel	'Managerial Economics', Tata MC Graw Hill, Delhi.
2.	D.N. Dwivedi	'Managerial Economics', Vikas publishing House PVT Ltd. New Delhi.
3.	R. Cauvery, U.K.	'Managerial Economics', S.Chand& Company Ltd. New Delhi.
4.	M.Girija, R. Meenakshi	
5.	Gough J. & S. Hill S.	. 'Fundamentals of Managerial Economics Macmillan, London.
6.	Peterson, H. Craig & W. Cris Lewis,	'Managerial Economics', Prentice Hall Delhi.
7.	Dr. M.N. Shinde,	'Managerial Economics', Ajab Publication, Kolhapur.
8.	H.L. Ahuja,	'Advanced Economic Theory'
9.	K.K. Dewtt,	'Modern Economic Theory' S.Chand& Company Ltd. New Delhi.
10.	Mehta P.L.	'Managerial Economics', S. Chand & Company Ltd. New Delhi.
11.	Gopal Krishna D.,	'A Study of Managerial Economics' Himalaya publishing house, Bombay.
12.	Hague D.C.	Managerial Economic Analysis for Business Decisions, Longman Group Ltd, London.

M.Com. Part-I (Information Technology) Semester-II

Paper No:203

DATA WAREHOUSING AND DATA MINING

Course Outcomes:

Students who complete this course should be able to:

1. Understand concept and components of data warehouse.
2. Illustrate data warehouse applications in business.
3. Understand process and importance of data processing in data mining.
4. Learn implementation and application of data mining techniques.

Marks : 80 Total	**Hours of Teaching: 60**	**Theory: 40**	**Practical: 20**	
Unit I **c) Theory**	**Data Warehouse:** Basic Concepts and Definition, Need and significance of Data Warehouse, Component architecture of Data Warehouse. **Data Warehousing**: Concept, Dimensional data Modeling-Star and Snowflake schema, Data Cube, OLAP.			**10**
d) Practical	Case study on Data warehouse for Bank and Insurance company			**05**
Unit II **a) Theory**	**Data Warehouse Design and Usage:** A Business Analysis Framework for Data Warehouse Design, Data Warehouse Design Process, Data Warehouse Usage for Information Processing, Data Warehouse Implementation.			**10**
b) Practical	Case study on Data warehouse design for manufacturing business unit and finance ministry of state government			**05**
Unit III **a) Theory**	**Data Mining:** Introduction to Data Mining, Data Mining Functionalities, Classification of Data Mining Systems, Major Issues in Data Mining. KDD. **Getting to know your data:** Data Objects and Attribute Types, Basic Statistical Descriptions of Data, Measuring Data Similarity and Dissimilarity. **Data Preprocessing:** An Overview, Data Cleaning, Data Integration, Data Reduction, Data Transformation			**10**
b) Practical	DM Applications in Customer Relationship Management (CRM), Retail, Telecommunication			**05**
Unit IV **a) Theory**	**Data Mining techniques –** Classification, Clustering, Decision Trees, Association Rule Mining, Sequence Mining Benefits of Data mining.			**10**
c) Practical	DM Applications in Banking and Finance etc			**05**

Reference Books:

1.Data Mining : Concept and Techniques Han Elsevier ISBN : 978938031913
2. Margaret H. Dunham , S. Shridhar Data Mining- Introductory and advanced topics Pearson education
3.Tom Mitchell- machine learning McGraw hill 1997
4.Data Mining Techniques-Arun k Pujari,2nd edition ,Universities Press.
5.Data Warehousing in the Real Wor;ld-Sam Aanhory & Dennis Murray Pearson Edn Asia.
6. Pang-Ning Tan, Michael Steinback, Vipin Kumar, "Introduction to Data Mining", Pearson Education, 2008.
7. M.Humphires, M.Hawkins, M.Dy,"Data Warehousing: Architecture and Implementation", Pearson Education, 2009.
8. Anahory, Murray, "Data Warehousing in the Real World", Pearson Education, 2008.
9. Kargupta, Joshi,etc., "Data Mining: Next Generation Challenges and Future Directions", Prentice Hall of India Pvt Ltd, 2007.

M.Com. Part-I (Information Technology) Semester-II

Paper No: 204

Advanced Web Technology

Course Outcomes:

Students who complete this course should be able to:

1. Understand working of .Net framework.
2. Demonstrate concept of object oriented programming using C#.
3. Understand web controls and develop web application using ASP.Net.
4. Develop web based application using ADO.Net.

Marks : 80 Total	**Hours of Teaching: 60**	**Theory: 40**	**Practical: 20**
Unit I **e) Theory**	**Introduction to .Net Framework :**Overview, Architecture, Features of .NET , Meta data, CLR, Managed and unmanaged code, CTS, CLS, .NET base classes, Introduction to Visual Studio .NET IDE, Types of JIT compiler.		**10**
f) Practical	Practicals based on DLL and exe.		**05**
Unit II **d) Theory**	**Introduction to C#:** Introduction to C#, program using command line arguments, Decision making statements, Looping statements, Global stack and heap memory, reference type and data type, casting implicit and explicit, Boxing and unboxing, pass by reference and out parameters.		**10**
e) Practical	C# programs on – Even odd No, Prime No, Factorial, Swapping, program using out parameter.		**05**
Unit III **c) Theory**	**Web development through ASP.Net:** Understanding role of WEB server and WEB browser, HTTP request and response structure, Introduction to ASP, Types of server controls, Validation controls, Web forms life cycle, ASP.NET state management, deployment of web application through IIS.		**10**
d) Practical	Implementation of web controls, web form validation		**05**
Unit IV **b) Theory**	**Database Connectivity through ADO.Net:** Introduction to ADO.Net, Architecture of ADO.Net-Connected and Disconnected, DataReader, DataAdapter, DataSet, Connection, Command. Connectivity between ASP.Net and MS.Sql Server database.		**10**
f) Practical	Database connectivity between ASP.Net and MS.Sql Server database and perform insert, update, search, delete operations on data.		**05**

Reference Books: -

1. .NET programming Black Book, DreamTech Press
2 .NET 4.5 Programming 6-in-1, Black Book Kogent
3. C# 2012 Programming Black Book Covers .NET 4.5 Kogent
4. B.M. Harwani ,"Practical ASP.NET Projects", SPD Publication
5. ChiragPatel, "Advance .NET Technology" 2nd Edition , DreamTech Press,2012
6. CristianNagel,BillEvjen,JayGlynn,Karli Watson, Morgan Skinner, "Professional C# 2012 and .NET 4.5" , Wrox Publication
7. Anne Boehm,JoelMurach, "murach's ASP. NET 4 Web Programming with C# 2010", 4th Edition , SPD Publication,2011
8. Web Technologies Black book , DreamTech Press, 2013, Ralph Moseley & M