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KESHAV MEMORIAL INSTITUTE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTE)

Accredited by NBA & NAAC, Approved by AICTE, Affiliated to JNTU, Hyderabad

IV Year B.Tech. CSE, IT, CSE(DS),CSE(AIML)

I Semester Course Syllabus (KR21)

BUSINESS ECONOMICS AND FINANCIAL ANALYSIS (21CS701HSM)

L	T	P	C
3	0	0	3

Prerequisite/ Corequisite: NIL

Course Objectives: The course will help to

1. Learn Basic Business types. and various Macro Economic Concepts.
2. Study the concepts of demand and Supply analysis.
3. Understand Market Structures, Production, Cost Analysis and Pricing methods.
4. Learn different accounting concepts and Conventions.
5. Know Financial Analysis through various Ratios.

Course Outcomes: After learning the concepts of the course, the student is able to

1. Understand various forms of business and Macro Economic Concepts.
2. Apply Demand Forecasting Techniques.
3. Identify different Market Structures, able to choose suitable pricing strategies.
4. Prepare Financial Statements of Business Organizations.
5. Analyze and interpret the firm's financial position through various Ratios.

UNIT – I

Introduction to Business and Economics:

Business: Structure of Business Firm, Theory of Firm, Types of Business Entities, Limited Liability Companies, Sources of Capital for a Company, Non-Conventional Sources of Finance.

Economics: Significance of Economics, Micro and Macro Economic Concepts, Concepts and Importance of National Income, Inflation, Money Supply in Inflation, Business Cycle, Features and Phases of Business Cycle. Nature and Scope of Business Economics, Role of Business Economist, Multidisciplinary nature of Business Economics.

UNIT – II

Demand and Supply Analysis:

Elasticity of Demand: Elasticity, Types of Elasticity, Law of Demand, Measurement and Significance of Elasticity of Demand, Factors affecting Elasticity of Demand, Elasticity of Demand in decision making, Demand Forecasting: Characteristics of Good Demand Forecasting, Steps in Demand Forecasting, Methods of Demand Forecasting.

Supply Analysis: Determinants of Supply, Supply Function & Law of Supply.

UNIT – III

Production, Cost, Market Structures & Pricing:

Production Analysis: Factors of Production, Production Function, Production Function with one variable input, two variable inputs, Returns to Scale, Different Types of Production Functions.

Costanalysis: Types of Costs, Short run and Long run Cost Functions.

Market Structures: Nature of Competition, Features of Perfect competition, Monopoly, Oligopoly, Monopolistic Competition.
Pricing: Types of Pricing, Product Life Cycle based Pricing, Break Even Analysis, CostVolume Profit Analysis.

UNIT –IV
Financial Accounting: Accounting concepts and Conventions, Accounting Equation, Double-Entry system of Accounting, Rules for maintaining Books of Accounts, Journal, Posting to Ledger, Preparation of Trial Balance, Elements of Financial Statements, Preparation of Final Accounts.

UNIT – V
Financial Analysis through Ratios: Concept of Ratio Analysis, Liquidity Ratios, Turnover Ratios, Profitability Ratios, Proprietary Ratios, Solvency, Leverage Ratios (simple problems).
Introduction to Fund Flow and Cash Flow Analysis (simple problems).

TEXT BOOKS:

1. D.D. Chaturvedi, S.L. Gupta, Business Economics - Theory and Applications, International Book House Pvt. Ltd.2013.
2. Dhanesh K Khatri, Financial Accounting, Tata McGraw Hill,2011.
3. GeethikaGhosh, Piyali Gosh, Purba Roy Choudhury, Managerial Economics, 2e, Tata McGraw Hill Education Pvt. Ltd.2012.

REFERENCES:

1. Paresh Shah, Financial Accounting for Management 2e, Oxford Press,2015.
2. S.N. Maheshwari, Sunil K Maheshwari, Sharad K Maheshwari, Financial Accounting, 5e, Vikas Publications,2013.

3. **Noted and Approved**

1.Ms.G.Saritha	2. Ms.N.Surekha	3. Dr.Sindhu	4. Dr. B. Lakshmi	5.Dr.M. Kondala Rao	6. Ms. M.V.Rama
7.Ms.B.Sandhya Reddy	8. Ms.G.Lavanya				

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B.Tech in COMPUTER SCIENCE AND ENGINEERING
IV Year I Semester Syllabus (KR21)
CRYPTOGRAPHY AND NETWORK SECURITY (21CS701PC)

L	T	P	C
3	1	0	4

Pre-requisite/Co requisite:

21CS501PC- Computer Networks Course

Course Objectives: The course will help to

1. Understand the basic categories of threats to computers and networks.
2. Discuss the fundamental ideas of public-key cryptography.
3. Learn different encryption techniques such as Hash functions, MAC and Digital Signatures
4. Understand TLS and wireless security.
5. Generate and distribute a PGP key pair and use the PGP package to send an encrypted e-mail message.

Course Outcomes: The student will be able to

1. Gain knowledge on basic cryptographic algorithms, Security Services and Security Mechanisms
2. Analyze and design Block Ciphers, symmetric and asymmetric Ciphers.
3. Understand and Analyze Cryptographic Hash Functions, Key Management and Distribution.
4. Analyze and apply the knowledge of transport and wireless network security on real world problems.
5. Design network application security schemes, such as PGP, S/ MIME.

UNIT– I:

Security Concepts: Introduction, The need for security, Security approaches, Principles of security, Types of Security attacks, Security services, Security Mechanisms, A model for Network Security.

Cryptography Concepts and Techniques: Introduction, plain text and cipher text, substitution techniques, transposition techniques, encryption and decryption, symmetric and asymmetric key cryptography, steganography, key range and key size, possible types of attacks.

UNIT– II:

Symmetric key Ciphers: Block Cipher principles, DES, AES, Blowfish, RC5, IDEA, Block cipher operation, Stream ciphers, RC4.

Asymmetric key Ciphers: Principles of public key cryptosystems, RSA algorithm, Diffie-Hellman Key Exchange.

UNIT– III:

Cryptographic Hash Functions: Message Authentication, Secure Hash Algorithm (SHA-512).

Message authentication codes: Authentication requirements, HMAC, CMAC, Digital signatures.

Key Management and Distribution: Symmetric Key Distribution Using Symmetric & Asymmetric Encryption, Distribution of Public Keys, Kerberos, X.509 Authentication Service, Public – Key Infrastructure.

UNIT– IV:

Transport-level Security: Web security considerations, Secure Socket Layer and Transport Layer Security,HTTPS, Secure Shell (SSH).

Wireless Network Security: Wireless Security, Mobile Device Security, IEEE 802.11, Wireless LAN, IEEE 802.11, Wireless LAN Security.

UNIT– V:

E-Mail Security: Pretty Good Privacy, S/MIME IP Security: IP Security overview, IP Security architecture, Authentication Header, Encapsulating security payload, combines security associations, Internet Key Exchange.

TEXTBOOKS:

1. Cryptography and Network Security-Principles and Practice: William Stallings, Pearson Education, 7th Edition 2017
2. Cryptography and Network Security : Atul Kahate, Mc Graw Hill, 4th Edition 2019

REFERENCEBOOKS:

1. Cryptography and Network Security: C KShyamala, NHarini,Dr T R Padmanabhan, Wiley India, 2nd Edition, 2011
2. Cryptography and Network Security : Forouzan Mukhopadhyay , McGraw Hill, 3rd Edition 2015
3. Information Security, Principles, and Practice: Mark Stamp, Wiley India, 2021
4. Principles of Computer Security: WM. Arthur Conklin, Greg White, TMH , 4th Edition, 2016
5. Introduction to Network Security: Neal Krawetz, CENGAGE Learning 2007
6. Network Security and Cryptography: Bernard Menezes, CENGAGE Learning, 2010

Noted and Approved

1. Ms Sirisha KLS Chairperson	2. Ms Roja Devi T Chairperson	3. Mr Para Upendar Chairperson	4. Dr. T. Venu Gopal JNTUH Nominee	5.Dr.J.Sasi Kiran External Member
6.Dr. M.Seetha External Member	7.Mr.C.Pavan Industry Expert	8.Dr. JVS Srinivas Internal Member	9.Dr. M. Shailaja Internal Member	10.Dr. T. Sunil Kumar Internal Member
11.Mrs. B. Madhurika Internal Member	12.Mr. E. Srinath Internal Member	13.Mr. D. Jayasurya Alumni		

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B.Tech.in COMPUTER SCIENCE AND ENGINEERING
IV Year I Semester Syllabus (KR21)
DATA MINING (21CS711PE)
(Professional Elective-IV)

L	T	P	C
3	0	0	3

Prerequisites/Co-requisites:

1. 21CS402PC–Database Management Systems Course

Course Objectives: The course will help to

1. Introduce data mining functionalities, storage patterns and types of data to be mined.
2. Describe methods for data classification and prediction, and data–clustering approaches.
3. Analyze various mining types of data stores such as spatial, textual, multimedia, streams.
4. Gain practical intuition about how to apply these techniques on datasets of realistic sizes using modern data analysis frameworks.
5. Learn new, advanced techniques for emerging applications (e.g. social network analysis, stream data mining).

Course Outcomes: The student will be able to

1. Understand the types of the data to be mined and present a general classification of tasks and primitives to integrate a data mining system.
2. Apply preprocessing methods for any given raw data.
3. Extract interesting patterns from large amounts of data.
4. Discover the role played by data mining in various fields.
5. Choose and employ suitable data mining algorithms to build analytical applications

UNIT - I:
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-Bayes Theorem, Naïve Bayesian classification, Rule–based classification- Rule Extraction from a decision tree, Rule Induction using sequential covering Algorithm, Rule Pruning ,Lazy learner-KNN Classifiers, Case based reasoning.

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 and 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. **Data Mining**–Concepts and Techniques–Jiawei Han & Michelin Kamber, 3rd Edition Elsevier, 2009.
2. **Data Mining Introductory and Advanced topics**–Margaret H Dunham, PEA, 2010.

REFERENCEBOOKS:

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

Noted and approved

1. Ms Sirisha KLS Chairperson	2. Ms Rupa Devi T Chairperson	3. Mr Para Upendar Chairperson	4. Dr. T. Venu Gopal JNTUH Nominee	5.Dr.J.Sasi Kiran External Member
6.Dr. M. Seetha External Member	7.Mr. C. Pavan Industry Expert	8.Dr. JVS Srinivas Internal Member	9.Dr. M. Shailaja Internal Member	10.Dr. T. Sunil Kumar Internal Member
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B. Tech. in COMPUTER SCIENCE AND ENGINEERING

IV Year I Semester Syllabus (KR21)
SCRIPTING LANGUAGES (21CE711PE)
COMMON TO CSE AND IT
(Professional Elective-IV)

L	T	P	C
3	0	0	3

Prerequisites/ Co-requisite:

1. 21CS303PC – Data Structures through C++ Course

Course Objectives: The course will help to

1. Introduce the scripting languages Web Frameworks and its widgets used in web applications.
2. Introduce scripting languages such as Perl, Ruby and TCL.
3. Understand script programming paradigms
4. Relate major scripting languages concepts (Ruby, Perl and TCL) used in web applications
5. Introduce internet ware applications and its security issues

Course Outcomes: The student will be able to

1. Comprehend the differences between typical scripting languages and typical system and application programming languages.
2. Master the theory behind scripting and its relationship to classic programming.
3. Gain knowledge of the strengths and weakness of Perl, TCL and Ruby; and select an appropriate language for solving a given problem.
4. Survey many of the modern and way cool language features that show up frequently in scripting languages.
5. Acquire programming skills in scripting language

UNIT – I:

Introduction: Ruby, Rails, the structure and Execution of Ruby Programs, Package Management with RUBYGEMS, Ruby and web: Writing CGI scripts, cookies, Choice of Web servers, SOAP and web services Ruby Tk – Simple Tk Application, widgets, Binding events, Canvas, scrolling

UNIT – II:

Extending Ruby: Ruby Objects in C- Value as a pointer, Value as an immediate object, sharing data type between ruby and C, the Jukebox extension, Memory allocation, Ruby Type System, Embedding Ruby to Other Languages, Embedding a Ruby Interpreter.

UNIT – III:

Introduction to PERL: Scripting Scripts and Programs, Origin of Scripting, Scripting Today, Characteristics of Scripting Languages, Uses for Scripting Languages, Web Scripting, and the universe of Scripting Languages. PERL- Names and Values, Variables, Scalar Expressions, Control Structures, arrays, list, hashes, strings, pattern and regular expressions, subroutines.

UNIT – IV:

Advanced PERL: Finer points of looping, pack and unpack, file system, eval, data structures, packages, modules, objects, interfacing to the operating system, Creating Internet ware applications, Dirty Hands Internet Programming, security Issues.

UNIT – V:

TCL:TCL Structure, syntax, Variables and Data in TCL, Control Flow, Data Structures, input/output, procedures, strings, patterns, files, Advance TCL-eval, source, exec and up level commands, Name spaces, trapping errors, event driven programs, making applications internet aware, Nuts and Bolts Internet Programming, Security Issues, C Interface, Tk Tk-Visual Tool Kits, Fundamental Concepts of Tk, Tk by example, Events and Binding, Perl-Tk

TEXT BOOKS:

1. The World of Scripting Languages, David Barron, Wiley Publications.
2. Practical Programming in Tcl and TkBy Brent B. Welch, Ken Jones, Jeffrey Hobbs · 2003

REFERENCE BOOKS:

1. Perl by Example, E. Quigley, Pearson Education.
2. Programming Perl, Larry Wall, T. Christiansen and J. Orwant, O'Reilly, SPD.
3. Programming Ruby the Pragmatic Programmers' Guide by David Thomas, Chad Fowler, Andrew Hunt 2005.

1. Ms Sirisha KLS Chairperson	2. Ms Rupa Devi T Chairperson	3. Mr Para Upendar Chairperson	4. Dr. T. Venu Gopal JNTUH Nominee	5.Dr.J.SasiKiran External Member
6.Dr. M. Seetha External Member	7.Mr. C. Pavan Industry Expert	8.Dr. JVS Srinivas Internal Member	9.Dr. M. Shailaja Internal Member	10.Dr. T. Sunil Kumar Internal Member
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B.Tech. in Information Technology
IV Year I Semester Course Syllabus (KR21)
DATA VISUALIZATION TECHNIQUES (21IT7000E)
OPEN ELECTIVE-II

L	T	P	C
3	0	0	3

Pre-requisites/ Co-requisites: NIL

Course Objectives: The course will help to

1. Understand about Data visualization foundations.
2. Understand the basic foundations of visualization
3. Understand the process visualization for different types of data..
4. Describe the interactions in data visualization.
5. Understand research directions in visualization.

Course Outcomes: After learning the concepts of this course, the student is able to

1. Visualize the objects in different dimensions.
2. Design and process the data for Virtualization.
3. Apply the visualization techniques in physical sciences, computer science, appliedmathematicsand medical science.
4. Apply the virtualization techniques for text documents.
5. Apply the virtualization techniques for research projects.

UNIT-I:
Introduction and Data Foundation: Basics - Relationship between Visualization and Other Fields -The Visualization Process - Pseudo code Conventions - The Scatter plot. Data Foundation - Types ofData - Structure within and between Records - Data Preprocessing - Data Sets.

UNIT-II:
Foundations for Visualization: Visualization stages - Semiology of Graphical Symbols - The EightVisual Variables - Historical Perspective - Taxonomies - Experimental Semiotics based on PerceptionGibson's Affordance theory – A Model of Perceptual Processing.

UNIT-III:
Visualization Techniques: Spatial Data: One-Dimensional Data - Two-Dimensional Data – Three-Dimensional Data - Dynamic Data - Combining Techniques.
Geospatial Data: Visualizing Spatial Data- Visualization of Point Data -Visualization of Line Data - Visualization of Area Data - Other Issues inGeospatial Data Visualization .
Multivariate Data: Point-Based Techniques - Line- Based Techniques -Region-Based Techniques - Combinations of Techniques – Trees Displaying Hierarchical Structures –Graphics and Networks- Displaying Arbitrary Graphs/Networks.

UNIT-IV:
Interaction Concepts and Techniques: Text and Document Visualization: Introduction - Levels ofText Representations - The Vector Space Model - Single Document Visualizations -Document

Collection Visualizations - Extended Text Visualizations **Interaction Concepts**: Interaction Operators - Interaction Operands and Spaces - A Unified Framework.
Interaction Techniques: Screen Space -Object-Space -Data Space -Attribute Space- Data Structure Space - Visualization Structure –AnimatingTransformations -Interaction Control

UNIT-V:
Research Directions in Virtualizations: Steps in designing Visualizations – Problems in designingeffective Visualizations- Issues of Data, Issues of Cognition, Perception, and Reasoning, Issues ofSystem Design Evaluation, Hardware and Applications.

TEXT BOOKS:

1. Matthew Ward, Georges Grinstein and Daniel Keim, "Interactive Data Visualization Foundations, Techniques, Applications", 2010.
2. Colin Ware, "Information Visualization Perception for Design", 2nd edition, Margon Kaufmann Publishers, 2004.

REFERENCE BOOKS:

1. Robert Spence "Information visualization – Design for interaction", Pearson Education, 2nd Edition, 2007.
2. Alexandru C. Telea, "Data Visualization: Principles and Practice," A. K. Peters Ltd, 2008.

Noted and Approved

1.IT HOD Dr. G.Narender	2.Dr. T Venugopal	3. Dr. J Sasi Kiran	4.Dr.V. Venkata Krishna	5.Mr. Pavan
6.Ms.Gudivada Naga Harshini	7.Dr.K.Bhargavi	8.Mr.G. Rakesh Reddy	9.Ms.Pooja Dixit	10.Ms.B.Manasa
11.Ms.S.Swarajya Laxmi				

B.Tech. in INFORMATION TECHNOLOGY
IV Year I Semester Course Syllabus (KR21)
R PROGRAMMING (21IT701OE)
OPEN ELECTIVE-II

L	T	P	C
3	0	0	3

Course Objectives: The course will help

1. Understand and able to use basic programming concepts.
2. Automate data analysis.
3. Working collaboratively and openly on code.
4. Knowing how to generate dynamic documents.
5. Being able to use a continuous test-driven development approach.

Course Outcomes: The student will be able to

1. Demonstrate concepts of R Language through programs.
2. Apply R to solve statistical problems.
3. Implement and describe Monte Carlo the technology.
4. Develop Minimize and maximize functions using R.
5. Apply Object Oriented Programming concepts in R Programming.

UNIT – I:
Introduction: Overview of R, R data types and objects, reading and writing data, sub setting R Objects, Essentials of the R Language, Installing R, Running R, Packages in R, Calculations, Complex numbers in R, Rounding, Arithmetic, Modulo and integer quotients, Variable names and assignment, Operators, Integers, Factors, Logical operations.

UNIT – II:
Control structures, functions, scoping rules, dates and times: Introduction to Functions, preview of Some Important R Data Structures, Vectors, Character Strings, Matrices, Lists, Data Frames, Classes Vectors: Generating sequences.
Vectors and subscripts, Extracting elements of a vector using subscripts, Working with logical subscripts, Scalars, Vectors, Arrays, and Matrices, Adding and Deleting Vector Elements, Obtaining the Length of a Vector, Matrices and Arrays as Vectors Vector Arithmetic and Logical Operations, Vector Indexing, Common Vector Operations.

UNIT – III:
Lists: Creating Lists, General List Operations, List Indexing Adding and Deleting List Elements, Getting the Size of a List, Extended Example: Text Concordance Accessing List Components and Values Applying Functions to Lists, DATA FRAMES, Creating Data Frames, Accessing Data Frames, Other Matrix-Like Operations.

UNIT – IV:
Factors and Tables: Factors and Levels, Common Functions used with Factors, Working with Tables, Matrix/Array-Like Operations on Tables , Extracting a Sub table.
Finding the Largest Cells in a Table, Math Functions, Calculating a Probability, Cumulative Sums and Products, Minima and Maxima, Calculus, Functions for Statistical Distributions.

UNIT – V:
Object-Oriented Programming: S Classes, S Generic Functions, Writing S Classes, Using Inheritance, S Classes, Writing S Classes, Implementing a Generic Function on an S Class, visualization, Simulation, code profiling, Statistical Analysis with R, data manipulation.

TEXT BOOKS:

1. R Programming for Data Science by Roger D. Peng. Published by Roger D. Peng, 2015
2. Sandip Rakshit, R Programming for Beginners, McGraw Hill Education (India), 2017.

REFERENCE BOOKS:

1. The Art of R Programming by Norman Matloff Cengage Learning India.

Noted and Approved

1. Dr.G Narender Chairperson	2. Dr T Venugopal JNTUH Nominee	3. Dr. J Sasi Kiran External Member	4. Dr M Seetha External Member	5. Mr Ervan Industry Expert
6 .Ms Sreelaya Vuyyuru Alumni	7. .Ms Savitha Ramesh Internal Member	8. Ms Nikitha M Internal Member	9.Mr Vikas C Internal Member	10.Ms Nidhi Srivastav Internal Member

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B.Tech in COMPUTER SCIENCE AND ENGINEERING

IV Year I Semester Syllabus (KR21)

CRYPTOGRAPHY AND NETWORK SECURITY LAB (21CS702PC)

L	T	P	C
0	0	2	1

Prerequisites/Co-requisites:

21CS701PC – Cryptography and Network Security Course

Course Objectives: The course will help to

1. Understand various cryptographic algorithms.
2. Understand Key Exchange mechanism
3. Discuss the Role of third party in the provision authentication services
4. Understand transport and wireless security.
5. Generate and distribute a PGP key pair and use the PGP package to send an encrypted e- mail message.

Course Outcomes: The student will be able to

1. Identify and classify various Security Services and Security Attacks
2. Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to various attacks.
3. Gain knowledge on Cryptographic Hash Functions, Key Management and Distribution.
4. Comprehend and apply authentication, Transport Level Security and web security services
5. Evaluate various email security mechanisms.

Software to be Used: JDK.

Note: All the programs must be implemented in Java.

List of Experiments:

1. Write a program that contains a string (char pointer) with a value 'Hello world'. The program should XOR each character in this string with 0 and displays the result.

2. Write a program that contains a string (char pointer) with a value 'Hello world'. The program should AND or and XOR each character in this string with 127 and display the result.

3. Write a program to perform encryption and decryption using the following algorithms
   a. Ceaser cipher b. Substitution cipher c. Hill Cipher

4. Write a program to implement the DES algorithm logic.

5. Write a program to implement the Blowfish algorithm logic.

6. Write a program to implement the Rijndael algorithm logic.

7. Write the RC4 logic Using Java cryptography; encrypt the text "Hello world" usingBlowfish.

   Create your own key using Java key tool.

8. Write a program to implement RSA algorithm.

9. Write a program to Calculate the message digest of a text using the SHA-1 algorithm.

10. Write a program to Calculate the message digest of a text using the MD5 algorithm.

TEXT BOOKS:

1. Cryptography and Network Security-Principles and Practice: William Stallings, Pearson Education, 7th Edition 2017
2. Cryptography and Network Security: Atul Kahate, Mc Graw Hill, 4th Edition 2019

REFERENCE BOOKS:

1. Cryptography and Network Security: C KShyamala, NHarini,Dr T R Padmanabhan, Wiley India, 2nd Edition. 2011
2. Cryptography and Network Security : Forouzan Mukhopadhyay , McGraw Hill, 3rd Edition 2015
3. Information Security, Principles, and Practice: Mark Stamp, Wiley India. 2021
4. Principles of Computer Security: WM. Arthur Conklin, Greg White, TMH , 4th Edition. 2016
5. Introduction to Network Security: Neal Krawetz, CENGAGE Learning 2007
6. Network Security and Cryptography: Bernard Menezes, CENGAGE Learning. 2010

Noted and Approved:

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IV Year B.Tech. CSE, IT, CSE(DS),CSE(AIML)

I Semester Course Syllabus (KR21)

INTELLECTUAL PROPERTY RIGHTS (*MC701HSM)

L	T	P	C
3	0	0	0

Prerequisite/ Corequisite: Nil

Course Objectives: The course will help

1. To recognize the importance of IP and to educate the pupils on basic concepts of Intellectual Property Rights.
2. To identify the significance of practice and procedure of Patents.
3. To make the students to understand the statutory provisions of different forms of IPRs in simple forms.
4. To learn the procedure of obtaining Patents, Copyrights, Trade Marks & Industrial Design
5. To enable the students to keep their IP rights alive.

Course Outcomes: After learning the concepts of this course, the student is able to

1. Distinguish and Explain various forms of IPR s.
2. Identify criteria's to fit one's own intellectual work in particular form of IPRs.
3. Apply statutory provisions to protect particular form of IPRs.
4. Analyse rights and responsibilities of holder of Patent, Copyright, Trademark, Industrial Design etc.
5. Identify procedure to protect different forms of IPRs national and internationally.

UNIT – I

Introduction to Intellectual property: Introduction, types of intellectual property, international organizations, agencies and treaties, importance of intellectual property rights.

UNIT – II

Trade Marks: Purpose and function of trademarks, acquisition of trade mark rights, protectable matter, selecting, and evaluating trade mark, trade mark registration processes.

UNIT – III

Law of copy rights: Fundamental of copy right law, originality of material, rights of reproduction, rights to perform the work publicly, copy right ownership issues, copy right registration, notice of copy right, international copy right law.

Law of patents: Foundation of patent law, patent searching process, ownership rights and transfer

UNIT – IV

Trade Secrets: Trade secrete law, determination of trade secrete status, liability for misappropriations of trade secrets, protection for submission, trade secrete litigation.

Unfair competition: Misappropriation right of publicity, false advertising.

UNIT – V

New development of intellectual property: new developments in trade mark law; copy right law, patent law, intellectual property audits.

International overview on intellectual property, international – trade mark law, copy right law, international patent law, and international development in trade secrets law.

TEXT & REFERENCE BOOKS:

1. Intellectual property right, Deborah. E. Bouchoux, Cengage learning.
2. Intellectual property right – Unleashing the knowledge economy, prabuddhaganguli, Tata McGraw Hill Publishing company ltd

Noted and Approved

1.Ms.G.Saritha	2. Ms.N.Surekha	3. Dr.Sindhu	4. Dr. B. Lakshmi	5.Dr.M. Kondala Rao	6. Ms. M.V.Rama
	G. Lavanya				
7.Ms.B.Sandhya Reddy	8. Ms.G.Lavanya				