

Shri Rawatpura Sarkar University, Raipur



Examination Scheme & Syllabus For Bachelors of Computer Application Semester-VI

(Effective from the session: 2022-23)

Department of Computer Science & Engineering



SHRI RAWATPURA SARKAR UNIVERSITY, RAIPUR, CHHATTISGARH
FACULTY OF ENGINEERING
B.C.A. Sixth Semester

Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
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S.No	Course Code	Course Title	Hours / Week			Credits	Maximum Marks			Sem End Exam Duration (Hrs)
			L	T	P		Continuous Evaluation	Sem End Exam	Total	
1	SCA04-661	Open Elective	3	1	-	4	30	70	100	3 Hrs
2	SCA04-691	Major Project / Internship	-	-	32	16	120	280	400	3 Hrs
Total Contact Hrs per week: 32						Total Credit:20	Total Marks: 500			

TABLE- 1		
OPEN ELECTIVE-II		
S.NO.	COURSE CODE	COURSE TITLE
1	SCA04661A	DIGITAL MARKETING
2	SCA04661B	APPLIED STATISTICAL METHOD
3	SCA04661C	G-SUIT
4	SCA04661D	E-TRADING
5	SCA04661E	WORD PRESS
6	SCA04661F	CONSTITUTION OF INDIA
7	SCA04661G	CYBER LAW
8	SCA04661H	LATEX
9	SCA04661I	SENTIMENT ANALYSIS



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Course Title	DIGITAL MARKETING				
Course Code	SCA04671A				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	<ul style="list-style-type: none"> ● No prior knowledge about marketing or digital marketing is required ● Speak and write English fluently ● Have broadband internet access ● Have basic PC skills and online access 				
Course Objectives	Digital marketing objectives should be SMART (Specific, Measurable, Achievable, Relevant and Time Related); and you should benchmark against your competitors to ensure that you are more effective.				
Course Contents	<p>UNIT 1: Introduction to Digital Marketing: What is digital marketing, and importance of digital marketing. Difference between blog, portal & website. How is it different from traditional marketing? ROI between Digital and traditional marketing? Discussion on Ecommerce Discussion on new trends and current scenario of the world? Digital marketing a boon or a Bane? How can digital marketing be a tool of success for companies?</p> <p>UNIT 2: WEBSITE:Understanding a website What is a website? Levels of websites? Diff b/w Blog, Portal and Website? Diff b/w websites either static or dynamic.</p> <p>UNIT 3: Search Engine Optimization (SEO): SEO (Search engine Optimization, what is On page optimization, Off page optimization, On page optimization techniques,Off page Optimization techniques,Reports.</p> <p>UNIT 4: Social Media Optimization (SMO): Introduction to social Media Marketing Advanced Facebook Marketing Word Press blog creation Twitter</p>				



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	marketing LinkedIn Marketing Google plus marketing Social Media Analytical Tools UNIT 5: Additional Module: Google Analytics, Online Reputation Management, E-Mail Marketing, Affiliate Marketing, Social Media Analytics, Ad designing.
Course Outcomes	<ol style="list-style-type: none">1. Online & Offline SEO2. Competitive Analysis For Smarter Marketing3. You will learn how to use dozens of proven digital marketing strategies4. You will learn how to use all of the most popular social media platforms to grow your business5. You will see tangible results by taking action throughout the entire course6. You will increase conversions and sales with real world techniques7. You will improve your brand identity and grow your brand's audience
Text Books	<ul style="list-style-type: none">● Organizational Behavior – John W Newstrom – 12th Edition, TATA McGraw HILL● Management: James A.F.Stoner, R Edward Freeman, Daniel R Giolbert, 6th Edition, Prentice Hall.● Principles of Management - Book by Charles W.L. Hill and Steven McShane
Reference Books	<ul style="list-style-type: none">● Principles of Management: Efficiency and Effectiveness in the Private and Public Sector Textbook by Ian Towers and Peter Eichhorn● Principles of Management -Book by Tony Morden● Principles of Management -Book by Robert Kreitner



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Course Title	APPLIED STATISTICAL METHOD				
Course Code	SCA04671B				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	Student must have basic knowledge of Maths.				
Course Objectives	<p>Statistical methods are important tools which provide the students with both descriptive and analytical methods for dealing with the variability in observed data. It introduces students to cognitive learning in statistics; and develops skills on analyzing the data by using different tests and designing the experiments with several factors.</p>				
Course Contents	<p>UNIT-I The Role of Statistics in Engineering : The Engineering Method and Statistical Thinking - Collecting Engineering Data - Basic Principles - Retrospective Study - Observational Study - Designed Experiments -Observing Processes Over Time - Mechanistic and Empirical Models</p> <p>Data Description and Representation: Collection of data- Classification and Tabulation of data - Stem-and-Leaf Diagrams - Frequency Distributions and Histograms - Box Plots - Time Sequence Plots - Probability Plots .</p> <p>UNIT-II Descriptive Statistics: Measures of central Tendency-Measures of DispersionSkewness and Kurtosis. Correlation and Regression: Scatter Diagram – Types of Correlation – Karl Pearsons Coefficient of Correlation and Spearman’s Rank Correlations- Method of Least Squares – Linear Regression.</p> <p>UNIT-III Sampling: Different types of sampling - Sampling Distributions - Sampling Distribution of Mean.</p> <p>Point Estimation of Parameters: General Concepts of Point Estimation - Unbiased Estimators -Variance of a Point Estimator - Standard Error- Methods of</p>				



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	<p>Point Estimation (Method of Moments - Method of Maximum Likelihood).</p> <p>Statistical Intervals for a Single Sample: Confidence Interval on the Mean of a Normal Distribution with Variance Known - Confidence Interval on the Mean of a Normal Distribution with Variance Unknown - Confidence Interval on the Variance and Standard Deviation of a Normal Distribution - A Large-Sample Confidence Interval for a Population Proportion.</p> <p>UNIT-IV Tests of Hypotheses for a Single Sample: Tests of Statistical Hypotheses - General Procedure for Hypothesis Testing –Tests on the Mean of a Normal Distribution with Variance Known - Tests on the Mean of a Normal Distribution with Variance Unknown - Tests on the Variance and Standard Deviation of a Normal Distribution.</p> <p>Statistical Inference for Two Samples: Inference For a Difference in Means of Two Normal Distributions with Variances Known - Inference For a Difference in Means of Two Normal Distributions with Variances Unknown -Inference on the Variances of Two Normal Distributions – Inference on Two Population Proportions.</p> <p>UNIT-V The Analysis of Variance: Concept-Assumptions-One way classification and two-way classifications.</p> <p>Designing Engineering Experiments –Concept of Randomization, Replication and local control - Completely Randomized Design -Randomized Block Design – Latin square Design.</p>
<p>Course Outcomes</p>	<ul style="list-style-type: none"> ● Identify the role that statistics can play in the engineering problem-solving process, discuss the different methods that engineers use to collect data and, construct and interpret visual data displays ● Compute and interpret the descriptive statistics, correlation coefficient and rank correlation coefficient, use simple linear regression model to engineer data.



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Text Books	<ol style="list-style-type: none">1. Douglas C. Montgomery and George C. Runger. Applied Statistics and Probability for Engineers, (3rdEdn), John Wiley and Sons, Inc., New York, 2003. 2.2. Robert H. Carver and Jane Gradwohl Nash. Doing Data Analysis with SPSS Version 18.0, (Indian Edition), Cengage Learning, New Delhi, 2012 3.3. Richard A. Johnson and C.B.Gupta, Probability and Statistics for Engineers, (7thEdn.), Pearson Education, Indian Impression 2006.
Reference Books	<ol style="list-style-type: none">1. Mohammed A.Shayib. Applied Statistics, First Edition. eBook, Bookboon.com 2013. 2.2. Peter R.Nelson, Marie Coffin, Copeland Kanen, A.F. Introductory Statistics for Engineering Experimentation, Elsevier Science and Technology Books, New York, 2003. 3.3. Sheldon M. Ross, Introduction to Probability and Statistics, (3rdEdn), Elsevier Science and Technology Books, New York, 2004. 4.4. T.T.Soong, Fundamentals of Probability and Statistics for Engineers, John Wiley and Sons, Ltd., New York, 2004. 5.5. J.P.Marques de Sá , Applied Statistics using SPSS, STATISTICA, MATLAB and R, (2ndEdn.), Springer Verlag, Heidelberg, 2007.



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Course Title	G-SUIT				
Course Code	SCA04671C				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	Basic knowledge of Computer and MS- Office.				
Course Objectives	G Suite for Education enables access to Google Vault for IT administrators. Vault enables setting up archiving and retention of e-discovery tools or other compliance and regulatory requirements. It can be used for searches, legal holds, exporting data, and audit reporting.				
Course Contents	<p>UNIT- 1 Gmail</p> <ol style="list-style-type: none"> 1. Creating and Sending an Email 2. Organizing your Inbox 3. Find email 4. Create a Signature 5. Access calendar, notes, and tasks <p>UNIT 2 Docs</p> <ol style="list-style-type: none"> 1. Create or Import Files 2. Edit and Format a Document 3. Share and Collaborate on Files 4. Print and Download documents <p>UNIT 3 Sheets</p> <ol style="list-style-type: none"> 1. Create or Import Files 				



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	<p>2. Add Content to your Spreadsheet</p> <p>3. Share and Collaborate on Files</p> <p>4. Print and Download Files</p> <p>UNIT 4 Slides</p> <p>1. Create or Import Files</p> <p>2. Add content to your Presentation</p> <p>3. Share and Collaborate on Files</p> <p>4. Print and Download Files</p> <p>5. Give a Presentation with Slides</p> <p>UNIT 5 OTHERS</p> <p>1. Upload and Store Files ,Access your Files in Drive ,View and Update files in Drive, Organize and Search in Drive,Share and Collaborate in My Drive</p> <p>2. Introduction to Meet, Hangouts and Chat, Joining a Meet presentation.</p> <p>3. Create a Contact and Contact Groups, Email Contact and Contact Groups, Organize Contacts.</p> <p>4. Schedule EventS, Respond to and Manage Events,Create Reminders in Calendar, Share and View Calendars,Customize your Calendar.</p> <p>5. GOOGLE FORMS</p>
<p>Course Outcomes</p>	<p>Students will be able to</p> <ul style="list-style-type: none">● Communicate Without Barriers.● Collaborate in Real-Time.● Manage Course and Assignment Papers.● Prioritize Tasks and Schedule Management.● Stay Compliant and Proactive with Data Security.



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Text Books	<ul style="list-style-type: none">● Hands-On G Suite for Administrators: Build and manage any business on top of the Google Cloud infrastructure● Google Apps for Seniors: A Practical Guide to Google Drive Google Docs, Google Sheets, Google Slides, and Google Forms (5)
Reference Books	<ul style="list-style-type: none">● G Suite For Dummies (For Dummies (Computer/Tech)) 1st Edition● Google Drive & Docs In 30 Minutes: The unofficial guide to Google Drive, Docs, Sheets & Slides.



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Course Title	E-TRADING				
Course Code	SCA04671D				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	Student must have a basic idea of Computer, Cyber Crime and Buisness				
Course Objectives	To enable the student t o become familiar with the mechanism for conducting business transactions through electronic means				
Course Contents	<p>Unit 1: Introduction: Meaning, nature, concepts, advantages, disadvantages and reasons for transacting online, types of E-Commerce, e-commerce business models (introduction , key elements of a business model and categorizing major E-commerce business models), forces behind ecommerce.</p> <p>Unit 2: Security and Encryption: Need and concepts, the e-commerce security environment: (dimension, definition and scope of esecurity), security threats in the E-commerce environment (security intrusions and breaches, attacking methods like hacking, sniffing, cyber-vandalism etc.), technology solutions (Encryption, security channels of communication, protecting networks and protecting servers and clients)</p> <p>Unit 3: IT Act 2000 and Cyber Crimes IT Act 2000: Definitions, Digital signature, Electronic governance, Attribution, acknowledgement and dispatch of electronic records, Regulation of certifying authorities, Digital signatures certificates, Duties of subscribers, Penalties and adjudication, Appellate Tribunal, Offences and Cyber-crimes.</p> <p>Unit 4: E-payment System: Models and methods of e–payments (Debit Card, Credit Card, Smart Cards, e-money), digital signatures (procedure, working and legal position), payment gateways, online banking (meaning, concepts, importance,</p>				



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	<p>electronic fund transfer, automated clearing house, automated ledger posting), risks involved in e-payments.</p> <p>Unit 5: On-line Business Transactions: Meaning, purpose, advantages and disadvantages of transacting online, E-commerce applications in various industries like {banking, insurance, payment of utility bills, online marketing, e-tailing (popularity, benefits, problems and features), online services (financial, travel and career), auctions, online portal, online learning, publishing and entertainment } Online shopping (amazon, snapdeal, alibaba, flipkart, etc.)</p>
Course Outcomes	Students will be able to know various transaction methods.
Text Books	<ol style="list-style-type: none">1. Kenneth C. Laudon and Carlo Guercio Traver, E-Commerce, Pearson Education.2. David Whiteley, E-commerce: Strategy, Technology and Applications, McGraw Hill Education3. Bharat Bhaskar, Electronic Commerce: Framework, Technology and Application, 4th Ed., McGraw Hill Education
Reference Books	<ul style="list-style-type: none">● PT Joseph, E-Commerce: An Indian Perspective, PHI Learning● KK Bajaj and Debjani Nag, E-commerce, McGraw Hill Education● TN Chhabra, E-Commerce, Dhanpat Rai & Co.● Sushila Madan, E-Commerce, Taxmann



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Course Title	WORDPRESS				
Course Code	SCA04671E				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	Students must be aware about the basics of HTML and CSS.				
Course Objectives	<p>Students will learn how to:</p> <ul style="list-style-type: none"> ● Set up a MySQL database on their server ● Install WordPress on the MySQL database ● Plan their website by choosing color schemes, fonts, layouts, and more ● Search for themes in WordPress ● Select, install, and activate a theme ● Add posts to their website ● Create website pages 				
Course Contents	<p>UNIT 1 Front-End Web Development Front-end code works in a web browser, whereas the back-end code works on a web server. HTML: Create web pages and emails using HTML code to mark up content (text, images, etc.) CSS: Style the contents of a webpage or email.</p> <p>UNIT 2 JavaScript & jQuery: Add interactivity, animation, and more to webpages. Responsive Web Design: Create pages that are optimized for all size screens.</p> <p>UNIT 3 Code Management & Deploying Sites FTP: Upload your files to make the site go live. Git: Keep a history of code changes, and merge your code with other developers. GitHub & Bitbucket: Work with other developers using remote Git repositories.</p>				



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	<p>UNIT 4 Web Design & Graphics Layout webpage designs using Photoshop. Create and optimize web graphics for fast download.</p> <p>UNIT 5 Back-End Web Development WordPress: Learn to create custom WordPress themes for the most commonly used CMS (content management system). PHP & MySQL: Build dynamic web pages and interact with a database.</p>
Course Outcomes	<p>By successfully completing this course, students will be able to:</p> <ul style="list-style-type: none">● Describe about wordpress● Create a website
Text Books	<ul style="list-style-type: none">● WordPress for Beginners 2020● WordPress 5 Complete
Reference Books	<ul style="list-style-type: none">● Building Web Apps with WordPress● Professional WordPress: Design and Development● WordPress Plugins: The 672 Best Free WordPress Plugins



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Course Title	CONSTITUTION OF INDIA				
Course Code	SCA04671F				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	NONE				
Course Objectives	<p>1 To realise the significance of constitution of India to students from all walks of life and help them to understand the basic concepts of Indian constitution.</p> <p>2 To identify the importance of fundamental rights aswell as fundamental duties.</p> <p>3 To understand the functioning of Union, State and Local Governments in Indian federal system.</p> <p>4 To learn procedure and effects of emergency, composition and activities of election commission and amendment procedure.</p>				
Course Contents	<p>UNIT 1 Introduction to Constitution: Meaning and importance of the Constitution, salient features of Indian Constitution. Preamble of the Constitution. Fundamental rights- meaning and limitations. Directive principles of state policy and Fundamental duties -their enforcement and their relevance.</p> <p>UNIT -2 Union Government: Union Executive- President, Vice-president, Prime Minister, Council of Ministers. Union Legislature- Parliament and Parliamentary proceedings. Union Judiciary-Supreme Court of India – composition and powers and functions.</p> <p>UNIT- 3 State and Local Governments: State Executive- Governor, Chief Minister, Council of Ministers. State Legislature-State Legislative Assembly and State Legislative Council. State Judiciary-High court. Local Government-Panchayat raj system with special reference to 73rd and Urban Local Self Govt. with special reference to 74th Amendment.</p>				



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	UNIT- 4 Election provisions, Emergency provisions, Amendment of the constitution Election Commission of India-composition, powers and functions and electoral process. Types of emergency-grounds, procedure, duration and effects. Amendment of the constitution- meaning, procedure and limitations.
Course Outcomes	At the end of the course the student should be able to: <ul style="list-style-type: none">● Understand and explain the significance of Indian Constitution as the fundamental law of the land.● Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.● Analyse the Indian political system, the powers and functions of the Union, State and Local Governments in detail● Understand Electoral Process, Emergency provisions and Amendment procedure.
Text Books	1. M.V.Pylee, "Introduction to the Constitution of India", 4th Edition, Vikas publication, 2005. 2. Durga Das Basu(DD Basu) , "Introduction to the constitution of India", (Student Edition), 19th edition, Prentice-Hall EEE, 2008.
Reference Books	1. Merunandan, "Multiple Choice Questions on Constitution of India", 2 nd Edition, Meraga publication, 2007.



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Course Title	CYBER LAW				
Course Code	SCA04671G				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	Students must be aware of Cyber crimes.				
Course Objectives	By the completion of this course, students will be able to understand different cyber-crime and be aware of cyber law. He can also understand basics of E-security, type of attack and digital Signatures.				
Course Contents	<p>UNIT – I: E-Security</p> <p>E-Security –Overview-security, Principles of security, Attack methods: the difference between targeted attacks and target-of opportunity attacks, Types of attacks, Denial-of-service attacks, Target-of-opportunity malware, attacks, Intruders: intrusion detection.</p> <p>UNIT – II: Introduction to cyber laws</p> <p>Introduction to cyber laws: Introduction Cyber-crimes and cyber laws, Information Technology act 2000. Cyber Regulation Advisory committee– Violation, damages and penalties–Cyber flying, The cyber regulation Appellate Tribunal [composition, qualifications, powers and rights]</p> <p>UNIT – III: Cyber-crime, criminal justice, cyber squatters and copyright protection</p> <p>Cyber-crime, criminal justice, cyber squatters and copyright protection : Introduction Hacking with case studies, Cyber Fraud and cheating, Virus on the internet, Defamation Harassment and E-mail abuse with case study, Cyber pornography, Other IT offence, Jurisdiction and cyber-crime, case study, Concept of Domain name and reply to cyber squatters, Copy right in fragment, remedies and offences, Computer software privacy.</p>				



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	<p>UNIT – IV: E-commerce Taxation</p> <p>E-commerce Taxation: Introduction E-commerce, finding the P E in cross border E-commerce, the impact of the internet on customer duties, Taxation policies in India.</p> <p>UNIT – V: Digital Signature</p> <p>Digital Signature: Introduction Digital Signatures, Digital Signature certificate, Certifying authorities and liability in the event of digital Signature compromise.</p>
Course Outcomes	<ul style="list-style-type: none">● This course student will be able to understand all Security systems & Cyber Law.● Students must know about Digital Signature.
Text Books	<ol style="list-style-type: none">1. Cryptography and Network Security Principle and Practice 3rd Edition by William Stalling Pearson.2. Cyber law: The Indian Perspective" by Pavan Duggal, Saakshar Law Publications.3. Cryptography and Network Security Principle 2nd edition by atul kahte
Reference Books	<ol style="list-style-type: none">1. Cyber law simplified – vivek sood (TMH)2. Corporate Computer and Network Security by Raymond R Panko, Pearson Publications



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Course Title	LATEX				
Course Code	SCA04671H				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	<ul style="list-style-type: none"> Students must know the basic of MS-Office 				
Course Objectives	<ul style="list-style-type: none"> To create understanding of the LaTeX To understand the fundamentals of Scilab and Utilization Development of Proficiency in English and Communication Skills 				
Course Contents	<p>UNIT 1: Installation of the software LaTeX, Understanding Latex compilation Basic Syntax, Writing equations, Matrix, Tables.</p> <p>UNIT- 2: Page Layout – Titles, Abstract Chapters, Sections, References, Equation references, citation. List making environments Table of contents, Generating new commands, Figure handling numbering, List of figures, List of tables, Generating index.</p> <p>UNIT- 3: Packages: Geometry, Hyperref, amsmath, amssymb, algorithms, algorithmic graphic, color, tilez listing. Classes: article, book, report, beamer, slides. IEEtran.</p> <p>UNIT 4: Applications to: Writing Resumae Writing question paper Writing articles/ research papers Presentation using beamer.</p> <p>UNIT 5: Theory, Practical and exercises based on the above concepts.</p>				
Course Outcomes	<ol style="list-style-type: none"> 1. Student knows history of Latex and how to install Latex software. 2. Student learns to write equations, matrix and tables. 3. Student learn to quote the references, equation references, citations. 4. Student lists the figures, tables and generating index 				



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Text Books	<ul style="list-style-type: none">● Diller, Latex Line by Line, published by Wiley.● Introduction to Latex by Tobias Oetiker.
Reference Books	<ul style="list-style-type: none">● Patrick Daly. Natural Sciences Citations and References, 2006● Michael Doenes. Short Math Guide for Latex.



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Course Title	SENTIMENT ANALYSIS				
Course Code	SCA04671I				
Course Credits	L	T	P	TC	
	3	1	-	4	
Prerequisites	Knowledge in Python language				
Course Objectives	<p>This course is an introduction to Sentiment Analysis, with topics covered including relevant aspects of machine learning and Python programming.</p> <ul style="list-style-type: none"> ● Establish an understanding of concepts and theories of Sentiment Analysis. ● Establish an understanding of related concepts in machine learning, data mining, and natural language processing. ● Establish proficiency in Python programming, and specifically the use of the Natural Language Toolkit to solve problems in Sentiment Analysis. ● Establish an understanding of research approaches in Sentiment Analysis through conducting experiments and writing up results in research paper form. 				
Course Contents	<p>Sentiment Analysis using Python</p> <p>UNIT-1 What is Machine Learning?, Categories of Machine Learning</p> <p>UNIT- 2 Introduction to Sentiment Analysis</p> <p>UNIT-3 Text Pre-processing, Vectorization and Modeling</p> <p>UNIT- 4 Introduction to Python</p> <p>UNIT- 5 Twitter Sentiment Analysis</p>				
Course Outcomes	Sentiment analysis using machine learning can help any business analyze public opinion, improve customer support, and automate tasks with fast turnarounds. Not only saving you time, but also money. Sentiment analysis results will also give you real actionable insights, helping you make the right decisions.				



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Text Books	<ol style="list-style-type: none">1. Sentiment Analysis A Complete Guide Gerardus Blokdyk2. Efficient Techniques for Sentiment Analysis from Social Media Data Savitha Hiremath, Manjula S H, Venugopal K R3. Sentiment Analysis Mining Opinions, Sentiments, and Emotions
Reference Books	<ol style="list-style-type: none">1. Sentiment Analysis A Complete Guide 2021 Edition The Art of Service - Sentiment Analysis Publishing2. Sentiment Analysis of Arabic YouTube Comments Esra'a Bani Issa, Abdel-Karim Al-Tamimi, Ali Shatnawi3. An Approach to Sentiment Analysis through Deep Learning Indrajit Dawn, Gopi Bondhu Ganguly, Koyel Chakraborty