



Courses which focuses on Professional Ethics, Gender, Human Values, Environment & Sustainability and other value framework:

Department : *Computer Science and Engineering*

Programme Name : *B.Tech.*

Academic Year :

Courses which focuses on Professional Ethics, Gender, Human Values, Environment & Sustainability and other value framework:

Sr. No.	Course Code	Name of the Course
01.	CS05TMC02	Constitution of India
02.	CS06TOE01	Management Information System
03.	CS06TOE02	E-Commerce
04.	CS06TOE03	Human Resource Management
05.	LW201TMC0	INDIAN Constitution

Scheme and Syllabus



SCHOOL OF STUDIES OF ENGINEERING & TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA (A CENTRAL UNIVERSITY)
CBCS-NEW, STUDY & EVALUATION SCHEME
PROPOSED W.E.F. SESSION 2020-2021
B.Tech. I Year (SEMESTER II)
(Common for CSE, ECE and IT)

SN	Course No.	SUBJECT	PERIODS			EVALUATION SCHEME			CREDITS
			L	T	P	IA	ESE	SUB-TOTAL	
1.	MA202TBS03	MATHEMATICS-II	3	1	-	30	70	100	4
2.	CY202TBS04	CHEMISTRY	3	1	-	30	70	100	4
3.	CE202TES03	ENGINEERING MECHANICS	3	1	-	30	70	100	4
4.	CS202TES04	COMPUTER PROGRAMMING	3	0	-	30	70	100	3
5.	CM202TES05	BASIC CIVIL & MECHANICAL ENGINEERING	3	0	0	30	70	100	3
6.	LW202TMC01	INDIAN CONSTITUTION	2	0	0	-	-	-	-
Total			17	3	0	150	350	500	18
PRACTICALS									
1.	CY202PBS02	CHEMISTRY LAB	-	-	2	30	20	50	1
2.	CE202PES04	ENGINEERING MECHANICS LAB	-	-	2	30	20	50	1
3.	CS202PES05	COMPUTER PROGRAMMING LAB	-	-	2	30	20	50	1
Total			-	-	6	90	60	150	3
GRAND TOTAL			17	3	6	240	410	650	21

Total Credits : **21**
Total Contact Hour : **26**
Total Marks : **650**

*INTERNAL ASSESSMENT- Two Class Test of 15 Marks each will be conducted.
L-LECTURE, T-TUTORIAL, P-PRACTICAL, ESE –END SEMESTER EXAMINATION



B. TECH. FIRST YEAR SYLLABUS (W.E.F SESSION 2020-21)

SYLLABUS	(SEMESTER-I)	Periods/ Week			Internal Assessment (IA)			ESE	Grand Total	Credit s
		L	T	P	CT-I	CT-II	TOTAL			
<i>Subject Code:</i>	LW201TMC01							--	--	--
<i>Subject:</i>	INDIAN CONSTITUTION	2	0	-	-	-	-			

Course Learning Objectives:

- To the importance of preamble of the constitution of India.
- To understand the fundamental rights and duty as a citizen of India.
- To understand the functioning of union and state government and their inter-relationship.

Course Content:

UNIT 1: Introduction: Constitution-meaning of the term, Sources and constitutional theory, Features, Citizenship, Preamble.

UNIT 2: Fundamental Rights and Duties: Fundamental Rights, Fundamental Duties, Directive Principles of State Policy

UNIT 3: Union Government: Structure of Indian Union: Federalism, Centre-State relationship President: Role, Power and position, Prime Minister and council of ministers, Cabinet and Central Secretariat, Lok Sabha. Rajya Sabha

UNIT 4: State Government: Governor: Role and position, Chief Minister and council of ministers, State Secretariat

UNIT 5: Relationship between Centre and States: Distribution of Legislative Powers, Administrative Relations, Coordination between States

Textbooks/References:

1. Constitution of India, V.N. Shukla
2. The Constitutional Law of India, J.N. Pandey
3. Indian Constitutional Law. M.P. Jain

Course Outcome: At the end of the course students will be able to:

- Describe the salient features of the Indian Constitution
- List the Fundamental Rights and Fundamental Duties of Indian citizens
- Describe the Directive Principles of State Policy and their significance



SCHEME FOR EXAMINATION
B.TECH (FOUR YEAR) DEGREE COURSE
COMPUTER SCIENCE AND ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING & TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA
THIRD YEAR, SEMESTER - V
W.E.F. SESSION 2020-21

<u>Branch :- Computer Science & Engg.</u>			<u>Year : III</u>			<u>Sem- V</u>			Credits
S. No.	Code no.	Subject	Periods			Evaluation Scheme			
			L	T	P	IA	ESE	Total	
1	CS05TES05	Microprocessor and Interfaces	3	0	0	30	70	100	3
2	CS05TPC08	Relational Data Base Management System	3	0	0	30	70	100	3
3	CS05TPC09	Formal Language and Automata Theory	3	0	0	30	70	100	3
4	CS05TPC10	Parallel Computing	3	0	0	30	70	100	3
5	CS05TPEX	Professional Elective-I	3	0	0	30	70	100	3
6	CS05TMC02	Constitution of India	3	0	0	0	0	0	0
PRACTICAL									
1	CS05PPC05	Relational Data Base Management System Lab	0	0	3	30	20	50	1.5
2	CS05PPC06	Parallel Computing Lab	0	0	3	30	20	50	1.5
3	CS05PPR01	Minor Project- I	0	0	3	30	20	50	1.5
Total									19.5

Professional Elective-I Subject V Sem.			
S. No.	Subject Code	Subject	Credits
1	CS05TPE01	Software Engineering	3
2	CS05TPE02	Information Theory & coding	3
3	CS05TPE03	Mobile Communication	3
4	CS05TPE04	Multimedia System Design	3



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COMPUTER SCIENCE AND ENGINEERING
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THIRD YEAR, SEMESTER - VI
W.E.F. SESSION 2020-21**

Branch :- Computer Science & Engg. Year : III Sem- VI

S. No.	Code no.	Subject	Periods			Evaluation Scheme			Credits
			L	T	P	IA	ESE	Total	
1	CS06TPC11	Design and Analysis of Algorithms	3	0	0	30	70	100	3
2	CS06TPC12	Java	3	0	0	30	70	100	3
3	CS06TPC13	Computer Graphics	3	0	0	30	70	100	3
4	CS06TPEX	Professional Elective-I	3	0	0	30	70	100	3
5	CS06TPEX	Professional Elective-II	3	0	0	30	70	100	3
6	CS06TOEX	Open Elective-I	3	0	0	30	70	100	3
PRACTICAL									
1	CS06PPC07	Design and Analysis of Algorithms Lab	0	0	3	30	20	50	1.5
2	CS06PPC08	Java Lab	0	0	3	30	20	50	1.5
3	CS06PPR02	Minor Project-II	0	0	3	30	20	50	1.5
Total									22.5

Professional Elective-I & II Subject VI Sem.				Open Elective-I Subject VI Sem.			
S.No	Subject Code	Subject	Credits	S.No	Subject Code	Subject	Credits
1	CS06TPE05	Digital Image Processing	3	1	CS06TOE01	Management Information System	3
2	CS06TPE06	Robotics	3	2	CS06TOE02	E-Commerce	3
3	CS06TPE07	Artificial Intelligence	3	3	CS06TOE03	Human Resource Management	3
4	CS06TPE08	Software Testing and Quality Assurance	3	4	CS06TOE04	Business Intelligence	3



Sub Title: CONSTITUTION OF INDIA		
Sub Code: CS05TMC02	No. of Credits : 0=0: 0: 0(L-T-P)	No of lecture hours/week :03
Exam Duration : 3 hours	IA+ESE=30+70	Total no of contact hours:36

COURSE OBJECTIVE:

1. To Enable the student to understand the importance of constitution
2. To understand the structure of executive, legislature and judiciary
3. To understand philosophy of fundamental rights and duties
4. To understand the autonomous nature of constitutional bodies like Supreme Court and high court, controller and auditor general of India and election commission of India.
5. To understand the central and state relation, financial and administrative.

UNIT No	Syllabus Content	No of Hours
1	Introduction: Constitution – meaning of the term, Sources and constitutional theory, Features, Citizenship, Preamble	8
2	Fundamental Rights and Duties: Fundamental Rights, Fundamental Duties, Directive Principles of State Policy	7
3	Union Government: Structure of Indian Union: Federalism, Centre-State relationship, President: Role, power and position, Prime Minister and council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha	7
4	State Government: Governor: Role and position, Chief Minister and council of ministers, State Secretariat	7
5	Relationship between Centre and States: Distribution of Legislative Powers, Administrative Relations, Coordination between States	7

COURSE OUTCOMES: The students would have learnt

- CO1: Able to understand historical background of the constitutional making and its importance for building a democratic India, the structure of Indian government, the structure of state government, the local Administration
- CO2: Able to apply the knowledge on directive principle of state policy, the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
- CO3: Able to analyze the History, features of Indian constitution, the role Governor and Chief Minister, role of state election commission, the decentralization of power between central, state and local self-government
- CO4: Able to evaluate Preamble, Fundamental Rights and Duties, Zilla Panchayat, block level organization, various commissions of viz SC/ST/OBC and women.

गुरु घासीदास विश्वविद्यालय
(केन्द्रीय विश्वविद्यालय अधिनियम 2009 ऋ. 25 के अंतर्गत स्थापित केन्द्रीय विश्वविद्यालय)
कोनी, बिलासपुर - 495009 (छ.ग.)



Guru Ghasidas Vishwavidyalaya
(A Central University Established by the Central Universities Act 2009 No. 25 of 2009)
Koni, Bilaspur - 495009 (C.G.)

Text Books:

1. Constitution of India, V.N. Shukla
2. The Constitutional Law of India, J.N. Pandey

Reference Books:

1. Indian Constitutional Law, M.P. Jain





Sub Title: MANAGEMENT INFORMATION SYSTEM		
Sub Code: CS06TOE01	No. of Credits : 3=3: 0(L-T-P)	No of lecture hours/week :03
Exam Duration : 3 hours	IA+ESE=30+70	Total no of contact hours:36

COURSE OBJECTIVE:

1. To describe the role of information technology and decision support systems in business and record the current issues with those of the firm to solve business problems.
2. To introduce the fundamental principles of computer-based information systems analysis and design and develop an understanding of the principles and techniques used.
3. To enable students understand the various knowledge representation methods and different expert system structures as strategic weapons to counter the threats to business and make business more competitive.
4. To enable the students to use information to assess the impact of the Internet and Internet technology on electronic commerce and electronic business and understand the specific threats and vulnerabilities of computer systems.
5. To provide the theoretical models used in database management systems to answer business questions.

UNIT No	Syllabus Content	No of Hours
1	Information System: Introduction of Information System, Fundamentals of Information System, Strategic Role of Information in Organization and Management, Three dimensions of Information System, Information System and Organization, Business Process Re-Engineering, Traditional and Computer based information system.	8
2	Decision Support System: Integration of Information, Types of Decision making in Organization, Decision Making Process, Models and Decision Support, Decision in business Areas, Strategic Analysis	7
3	Information System Planning: Types of Controlling Information System, Development of MIS Methodology and Tools/Techniques for Systematic Identification, Evaluation, Modification of MIS, Information System Success and Failure Implementation	7
4	Information System for Business Operations: Cross Functional Information System, A study of major Financial, Production, Human Resource Information System and Marketing Information System.	7



5	Security and Auditing of Information System: Management of Information System and End-User Computing, Security and Ethical issues of Information System, Major issues in Information System, Auditing of Information System.	7
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COURSE OUTCOMES: The students would have learnt

- CO1: Relate the basic concepts and technologies used in the field of management information systems;
- CO2: Compare the processes of developing and implementing information systems.
- CO3: Outline the role of the ethical, social, and security issues of information systems.
- CO4: Translate the role of information systems in organizations, the strategic management processes, with the implications for the management.
- CO5: Apply the understanding of how various information systems like DBMS work together to accomplish the information objectives of an organization.

Text Books:

1. Management Information System: A Contemporary Perspective, Kenneth C. Laudon and Jane Price Loudon, Maxwell Macmillan International Editions.

Reference Books:

1. Management Information System: Solving Business Problems with Information Technology, Gerald V. Post and David L. Anderson, Tata McGraw – Hill Edition
2. Management Information System: Managing Information Technology in the Internet worked Enterprise, James A. O'Brien Tata McGraw –Hill Edition, Fourth Edition.



Sub Title: E-COMMERCE		
Sub Code: CS06TOE02	No. of Credits : 3=3: 0: 0(L-T-P)	No of lecture hours/week :03
Exam Duration : 3 hours	IA+ESE=30+70	Total no of contact hours:36

COURSE OBJECTIVE:

1. Discuss fundamentals of e-commerce, types and applications.
2. Evaluate the role of the major types of information systems in a business environment and their relationship to each other
3. Assess the impact of the Internet and Internet technology on business electronic commerce and electronic business
4. Identify the major management challenges for building and using information systems and learn how to find appropriate solutions to those challenges.
5. Learn strategies for e-commerce, Mobile Commerce, Wireless Application Protocol, WAP technology and Mobile Information devices.

UNIT No	Syllabus Content	No of Hours
1	Introduction: Introduction to e-Commerce, e-Commerce Framework, e-Commerce and Media Convergence, Anatomy of e-Commerce Applications, e-Commerce Consumer Applications, e-Commerce Organization Applications	8
2	Network Infrastructure for E- Commerce: Internet and Intranet based E-commerce- Issues, problems and prospects, Network Infrastructure, Network Access Equipments, Broadband telecommunication (ATM, ISDN, FRAME RELAY). Mobile Commerce: Introduction, Wireless Application Protocol, WAP technology, Mobile Information device.	7
3	Web Security: Client-Server Network Security, Emerging Client-Server Security Threats, Firewalls and Network Security, Data and Message Security, Encrypted Documents and Electronic Mail, Challenge Response System.	7
4	Encryption: Encryption techniques, Symmetric Encryption: Keys and data encryption standard, Triple encryption, Secret key encryption; Asymmetric encryption: public and private pair key encryption, Digital Signatures, Virtual Private Network.	7
5	Electronic Payments: Overview, The SET protocol, Payment Gateway, certificate, digital Tokens, Smart card, credit card, magnetic strip card, E-Checks, Credit/Debit card based FPS, online Banking.FDI Application in business, E- Commerce Law, Forms of Agreement, Govt. policies and Agenda.	7



COURSE OUTCOMES: The students would have learnt

- CO1: Understand the basic concepts and technologies used in the field of management information systems
- CO2: Understand the processes of developing and implementing information systems
- CO3: Be aware of the ethical, social, and security issues of information systems and
- CO4: Develop an understanding of how various information systems work together to accomplish the information objectives of an organization
- CO5: Understand the role of information systems in organizations, the strategic management processes, and the implications for the management and learn about the importance of managing organizational change associated with information systems implementation

Text Books:

1. Frontiers of Electronic Commerce by Ravi Kalakota & Andrew B. Whinston, Pearson Education.
2. E-Commerce – The Cutting Edge of Business by Bajaj, Tata McGraw-Hill

Reference Books:

1. Electronic Commerce by David Kosiur, Published by Microsoft Press.
2. E-business roadmap for success by Dr. Ravi Kalakota & Marcia Robinson.



Sub Title: HUMAN RESOURCE MANAGEMENT		
Sub Code: CS06TOE03	No. of Credits : 3=3: 0: 0(L-T-P)	No of lecture hours/week :03
Exam Duration : 3 hours	IA+ESE=30+70	Total no of contact hours:36

COURSE OBJECTIVE:

1. To enable the students to understand the HR Management and system at various levels in general and in certain specific industries or organizations.
2. To help the students focus on and analyse the issues and strategies required to select and develop manpower resources
3. To develop relevant skills necessary for application in HR related issues
4. To Enable the students to integrate the understanding of various HR concepts along with the domain concept in order to take correct business decisions

UNIT No	Syllabus Content	No of Hours
1	Introduction: Introduction: Introduction to Human Resource Management and its definition, functions of Human Resource Management & its relation to other managerial functions. Nature, Scope and Importance of Human Resource Management in Industry, Role & position of Personnel function in the organization	8
2	Procurement and Placement: Need for Human Resource Planning; Process of Human Resource Planning; Methods of Recruitment; Psychological tests and interviewing; Meaning and Importance of Placement and Induction, Employment Exchanges (Compulsory Notification of vacancies) Act 1959, The Contract Labour (Regulation & Abolition) Act 1970. Training & Development: Difference between training and Development; Principles of Training; Employee Development; Promotion-Merit v/s seniority Performance Appraisal, Career Development & Planning	7
3	Job Analysis & Design: Job Analysis: Job Description & Job Description, Job Specification. Job Satisfaction: Job satisfaction and its importance; Motivation, Factors affecting motivation, introduction to Motivation Theory; Workers ' Participation, Quality of work life. The Compensation Function: Basic concepts in wage administration, company's wage policy, Job Evaluation, Issues in wage administration, Bonus & Incentives, Payment of Wages Act-1936, Minimum Wages Act-1961	7



4	Integration: Human Relations and Industrial Relations; Difference between Human Relations and Industrial Relations, Factors required for good Human Relation Policy in Industry; Employee Employer relationship Causes and Effects of Industrial disputes; Employees Grievances & their Redressal, Administration of Discipline, Communication in organization, Absenteeism, Labour Turnover, Changing face of the Indian work force and their environment, Importance of collective Bargaining; Role of trader unions in maintaining cordial Industrial Relations.	7
5	Maintenance: Fringe & retirement terminal benefits, administration of welfare amenities, Meaning and Importance of Employee Safety, Accidents-Causes & their Prevention, Safety Previsions under the Factories Act 1948; Welfare of Employees and its Importance, Social security, Family Pension Scheme, ESI act 1948, Workmen's Gratuity Act 1972, Future challenges for Human Resource Management..	7

COURSE OUTCOMES: The students would have learnt

- CO1: To develop the understanding of the concept of human resource management and to understand its relevance in organizations.
- CO2: To develop necessary skill set for application of various HR issues.
- CO3: To analyse the strategic issues and strategies required to select and develop manpower resources.
- CO4: To integrate the knowledge of HR concepts to take correct business decisions.

Text Books:

1. Thomas H. Cormen, Charles E. Leiserson, Ronald Rivest, Clifford Stein, "Introduction to Algorithm", Publisher PHI. ISBN 81-203-2141-3
2. T.N.Chhabra- Human Resource Management, Dhanpat Rai & Co.

Reference Books:

1. Lowin B. Flippo - Principles of personnel Management , Mc Graw-Hill
2. R.C. Saxena - Labour Problems and social welfare, K.Math & Co.
3. A Minappa and M. S. Saiyada - Personnel Management , Tata Mc. Graw-Hill
4. C.B. Mamoria - Personnel Management, Himalaya Publishing House, Bombay
5. T.N. Bhagotiwai - Economics of Labour and Industrial Relations, Sahitya Bhawan Agra



Sub Title: BUSINESS INTELLIGENCE		
Sub Code: CS06TOE04	No. of Credits : 3=3: 0: 0(L-T-P)	No of lecture hours/week :03
Exam Duration : 3 hours	IA+ESE=30+70	Total no of contact hours:36

COURSE OBJECTIVE:

1. Understand the role of BI in enterprise performance management and decision support.
2. Understand the applications of data mining and intelligent systems in managerial work.
3. Understand data warehousing and online analytical processing (OLAP) concepts.
4. Learn data analysis and reporting using available BI software.
5. Learn the responsibility of BI.

UNIT No	Syllabus Content	No of Hours
1	Business Intelligence Introduction to Business Intelligence: Introduction to OLTP and OLAP, BI Definitions & Concepts, Business Applications of BI, BI Framework, Role of Data Warehousing in BI, BI Infrastructure Components – BI Process, BI Technology, BI life cycle, BI Roles & Responsibilities.	8
2	Basics of Data Integration (Extraction Transformation Loading): Concepts of data integration need and advantages of using data integration, introduction to common data integration approaches, introduction to ETL, Introduction to data quality, data profiling concepts and applications.	7
3	Introduction to Multi-Dimensional Data Modeling: Introduction to data and dimension modeling, multidimensional data model, ER Modeling vs. multi dimensional modeling, concepts of dimensions, facts, cubes, attribute, hierarchies, star and snowflake schema, introduction to business metrics and KPIs, creating cubes using SSAS.	7
4	Basics of Enterprise Reporting: Introduction to enterprise reporting, concepts of dashboards, balanced scorecards, six sigma and overall architecture.	7
5	Data Mining Functionalities: Association rules mining, Mining Association rules from single level, multilevel transaction databases, Classification and prediction, Decision tree induction, Bayesian classification, k-nearest neighbor classification, Cluster analysis, Types of data in clustering, categorization of clustering methods.	7



COURSE OUTCOMES: The students would have learnt

- CO1: Gain knowledge of Business Intelligence.
- CO2: To build business projects.
- CO3: To generate and manage BI reports.
- CO4: To do BI Deployment, Administration & Security.
- CO5: Link Business Intelligence with Data Mining.

Text Books:

1. R N Prasad, Seema Acharya: Fundamentals of Business Analytics, Wiley India, First Edition, 2011
2. J.Han and M. Kamber: Data Mining: Concepts and Techniques By Morgan Kaufman publishers, Harcourt India pvt. Ltd. Latest Edition
3. David Loshin: Business Intelligence: The Savvy Manager's Guide., Latest Edition By Knowledge Enterprise.

Reference Books:

1. Larissa Terpeluk Moss, Shaku Atre: Business Intelligence roadmap by Addison Weseley
2. Cindi Howson: Successful Business Intelligence: Secrets to making Killer BI Applications by Tata McGraw Hill
3. Mike Biere: Business intelligence for the enterprise by Addison Weseley, August 2010