



ADHIYAMAAN COLLEGE OF ENGINEERING (Autonomous)

Affiliated to Anna University – Chennai & Approved by AICTE – New Delhi.
Accredited by NAAC & NBA - UGC, New Delhi

Values, Rights , duties - List of courses and number of students enrolled for the courses to be collected from Human Excellence

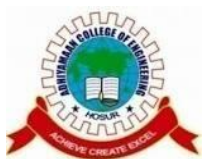
S.No	Course Code	Course Name	Academic Year	Sem
1	115BAT04	Organizational Behavior	2017-2018	I
2	215BAT03	Human Resource Management	2017-2018	II
3	315BAH01	Industrial Relations and Labor Legislations	2017-2018	III
4	118BAT05	Organizational Behavior	2018-2019	I
5	218BAT08	Human Resource Management	2018-2019	II
6	318BAH01	Industrial Relations and Labor Legislations	2018-2019	III
7	118BAT05	Organizational Behavior	2019-2020	I
8	218BAT08	Human Resource Management	2019-2020	II
9	318BAH01	Industrial Relations and Labor Legislations	2019-2020	III
	318CET06	Value Education Program	2019-2020	III
10	118BAT05	Organizational Behavior	2020-2021	I
11	218BAT08	Human Resource Management	2020-2021	II
12	318BAH01	Industrial Relations and Labor Legislations	2020-2021	III
13	618CHE02	Industrial Management	2020-2021	VI
14	618BAO03	Professional Ethics And Human Values	2020-2021	VI
15	518BAO03	Engineering Ethics And Human Values	2020-2021	V
16	618MEE02	Professional Ethics And Human Values	2020-2021	VI
17	318CET06	Value Education Program	2020-2021	III
18	118BAT05	Organizational Behavior	2021-2022	I
19	218BAT08	Human Resource Management	2021-2022	II
20	318BAH01	Industrial Relations and Labor Legislations	2021-2022	III
21	718BME14	Professional Ethics And Human Values	2021-2022	VII
22	718BTE01	Clinical Research And Database Management	2021-2022	VII
23	818BTT01	Bioethics, Ipr And Entrepreneurship	2021-2022	VIII
24	818BTE02	Tele Medicine	2021-2022	VIII
25	818BTE06	Total Quality Management	2021-2022	VIII
26	818CHT01	Total Quality Management	2021-2022	VIII
27	818CHE04	Entrepreneurship Development	2021-2022	VIII
28	818CHE12	Professional Ethics And Human Values	2021-2022	VIII
29	818EEE07	Professionaethics Andhuman Values	2021-2022	VIII
30	618CHE02	Industrial Management	2021-2022	VI
31	618BAO03	Professional Ethics And Human Values	2021-2022	VI
32	518BAO03	Engineering Ethics And Human Values	2021-2022	V
33	618MEE02	Professional Ethics And Human Values	2021-2022	VI
34	318CET06	Value Education Program	2021-2022	III



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SYLLABUS



ADHIYAMAAN COLLEGE OF ENGINEERING

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115BAT04	Organizational Behavior	L	T	P	C	CA	EA	TOTAL
		4	1	0	3	50	50	100

Course Objective

To give a comprehensive view on the behavior of individuals and groups within diverse organizations and on organizational structure and processes

Unit I - Introduction to OB

12

Meaning & Importance of OB - Historical Development & Contribution Disciplines - Foundation of individual behavior and individual decision making - Values attitudes & job satisfactions

Unit II- Personality & Motivation

10

Personality – Basic concepts and theories - Perception - Basic concepts and factors influencing - Motivation - Theories – Content theories and process theories– Problems in motivation

Unit III - Group Dynamics

10

Foundation of group behavior - Types of groups - Group Norms and Cohesive group Roles - Understanding work teams

Unit IV- Organizational Culture & Learning

12

Elements of organizational culture - Organizational culture and performance - Changing and strengthening culture - Organizational socialization - Creating an ethical organizational culture - Sustaining organizational culture

Unit V-Conflict, Power and Politics

12

Conflict process ,source of conflict - Structural approach to conflict management - Resolving conflict through negotiation - Organizational careers - Contingent workforce - Power and politics in organization - Work stress and its management - Cause and consequences - Stress coping strategies

Total – 56Hrs

Course Outcomes

CO1: Understand and learn the effective interpersonal, team building and leadership skills.

CO2: Familiarized to adjust better in organizational settings (by developing an understanding of how and why others behave in a particular manner).

CO3: Improved the organizational performance through the effective management of human resources.

CO4: Students will have a better understanding of human behavior in organization

CO5: They will know the framework for managing individual and group performance

Text Books

1.Robbins Stephen and Timothy A Judge Organizational Behaviour 15th edition Prentice Hall(India)Pvt Ltd “2013”

Dr. M.G.R. Nagar, Hosur – 635 130, Krishnagiri (Dt), Tamil Nadu, India. Phone: Office: 04344 – 260570, 261001-3, 261034. Fax: 04344 – 260573 Website : www.adhiyamaan.ac.in E-mail : principal@adhiyamaan.ac.in.



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References

1. Mcshane L. Steven von Glinow Ann Mary Sharma R. Radha Books Organisational Behaviour, Publisher Tata McGraw Hills “2006”
2. Robin Fincham Peter Rhodes, Principle of organizational Behaviour, oxford university press, year “2005”
3. Luthan Fred, organizational Behaviour, Tata McGraw Hill Year “2000”
4. Robbins Stephen P, Organizational Behaviour 12th edition Prentice Hall (India) Pvt Ltd “2000”
4. Dwivedi R. S, Human Relations and organizational Behaviour A Global perspective 5th Edition Palgrave Macmillan Year “2006”

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	2	1	1	1	2	2	1	1
CO2	3	2	3	3	2	2	1	1	2	2	1	2
CO3	2	3	3	3	2	3	2	1	1	2	2	1
CO4	3	2	3	2	1	2	2	2	1	1	2	1
CO5	2	3	2	3	3	1	1	3	1	2	2	1



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215BAT03	Human Resource Management	L	T	P	C	CA	EA	TOTAL	
		4	0	0	3	50	50	100	COURSE

OBJECTIVE

The objective of the course is to teach the basic principles of Human Resource Management—how an organization acquires, rewards, motivates, uses, and generally manages its people effectively. In addition to providing a basic legal and conceptual framework for managers, the course will introduce the manager to practices and techniques for evaluating performance, structuring teams, coaching and mentoring people, and performing the wide range of other people related duties of a manager in today’s increasingly complex workplace.

UNIT I INTRODUCTION TO HRM 10

Meaning, Scope, Definition and Objectives of HRM - Functions of HRM and Models of HRM - Activities and Challenges of HRM - Role of HR Manager - HRM as Linked to Environmental changes.

UNIT II HUMAN RESOURCE PLANNING & RECRUITMENT, SELECTION 11

HR Planning process - Job analysis, Job description & Job specification - Job Rotation, Job enlargement & Job enrichment - Job evaluation – RECRUITMENT:- Recruitment -Process & Methods of Recruitment. SELECTION:- Selection process - type of tests & types of interviews - Designing and conducting the effective interview - Induction and Placement.

UNIT III WAGE AND SALARY ADMINISTRATION & APPRAISING AND MANAGING PERFORMANCE 12

Principles and techniques of wage fixation - Incentive schemes and plans. Appraisal process, methods, and potential problems in performance evaluations, Traditional Modern methods - Potential Appraisal - Methods to improve performance - Career Planning and Development

UNIT IV TRAINING AND DEVELOPMENT 12

Nature of Training - Methods and tools of Training - Training Need Assessment - Training Design - Training Evaluation

UNIT V RECENT TRENDS IN HR 11

HR outsourcing - Managing Recession and Retention - Collective Bargaining - Grievance Management - Quality of work life – HR Accounting and Audit – Whistle Blowing – Employee poaching - HRIS

Total – 56Hrs

COURSE OUTCOME:

CO1: Explain the importance of human resources and their effective management in organizations.

CO2: Demonstrate a basic understanding of different tools used in forecasting and planning human resource needs.

CO3: Analyze the key issues related to administering the human elements such as motivation, compensation, appraisal, career planning, diversity, ethics, and training

CO4: Students would be prepared to implement the concepts learned in the workplace.

CO5: Students would be aware of the emerging concepts in the field of HRM



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TEXT BOOKS:

- 1 K.Aswathappa Human Resource Management TMH, 2017.
- 2 Dessler Human Resource Management, Pearson Education Limited, 2017

REFERENCES:

1. Luis R.Gomez-Mejia, David B.Balkin, Robert L Cardy. Managing Human Resource. PHI Learning. 2015
2. Bernadin, Human Resource Management, Tata Mcgraw Hill, 14th edition 2015
3. Scott Snell & George Bohlander Human Resource Management Thomson Learning 2009.
4. VSP Rao Human Resource Management -2016.
5. Raymond A. Noe John R. Hollenbeck Patrick M Wright Human Resource Management – Gaining a competitive advantage TMH 2007.

WEBSITES:

www.hrmantra.com
<http://www.whatishumanresourcemanagement.com>
www.shrm.org
www.citehr.com

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	2	2	2	1	1	2	1	1	1
CO2	3	3	2	3	2	2	2	2	3	1	2	1
CO3	3	3	3	3	3	3	2	2	3	1	2	1
CO4	3	3	2	3	3	2	2	2	2	1	1	1
CO5	3	3	1	2	2	2	2	2	2	1	1	1



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315BAH01	INDUSTRIAL RELATIONS AND LABOR LEGISLATIONS	L	T	P	C	CA	EA	TOTAL
		5	0	0	3	50	50	100

Course Objective

To promote a critical understanding of substantive and procedural labour laws. The approach is to develop skills in handling legal issues in industrial relations and other labour matters.

Unit I - Industrial Relations 10

Concepts – Importance – Industrial Relations problems in the Public Sector – Growth of Trade Unions – Trade Union Act 1926 – Codes of conduct.

Unit II - Industrial Conflicts & Collective Bargaining 12

Disputes – Impact – Causes – Strikes – Prevention – Industrial Peace – Government Machinery – Conciliation – Arbitration – Adjudication – Legal Framework of Collective Bargaining

Unit III - Labour Welfare & Industrial Safety 12

Concept – Objectives – Scope – Voluntary Welfare Measures – Statutory Welfare Measures – Causes of Accidents – Prevention – Safety Provisions – Industrial Health and Hygiene – Importance – Problems – Occupational Hazards – Diseases.

Unit IV - Labor Legislations 12

Factories Act 1948 – Contract Labor Act 1970 – Industrial Disputes Act 1947 – Minimum Wages act 1948 – Payment of Wages Act 1936 – Payment of Bonus Act 1965 – EPF Act 1952 – Payment of Gratuity Act 1972 – Maternity Benefit Act 1961 – ESI Act 1948

Unit V - Welfare Of Special Categories Of Labour 10

Child Labour – Female Labour – Contract Labour – Construction Labour – Agricultural Labour – Differently abled Labour – Social Assistance & Security

Total Hrs: 56

Course Outcomes

CO1: Students will know how to resolve industrial relations.

CO2: Students will know how to resolve human relations problems and

CO3: They would promote welfare of industrial labour.

CO4: Legal provisions for equal remuneration, gratuity, compensation, industrial employment and Apprenticeship

CO5: Legal provisions for EPF, ESI, Maternity, contract labours, and child labour prevention



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Text Books

1.Mamoria C.B. and SathishMamoria, Dynamics of Industrial Relations, Himalaya Publishing House, New Delhi, 2011.

References

- 1.C.S.VenkataRatnam, Globalisation and Labour Management Relations, Response Books, 2012.
- 2.RatnaSen, Industrial Relations in India, Shifting Paradigms, Macmillan India Ltd., New Delhi, 2015.
- Srivastava, Industrial Relations and Labour laws, Vikas, 2007.
- 3.Sarma A. M, Welfare of Unorganized Labour, Himalaya Publishing House, 4th Edition, 2013.
- 4.Subba Rao, Essentials of Human Resource Management & Industrial relations (Text & Cases), Himalaya Publications, 2015.
- 5.“B.D. Singh”, Labour Laws for Managers, Excel Books, 2017.

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CO1	3	2	1	3	3	1	2	1	3	2	2	1
CO2	3	3	3	3	3	3	2	2	2	1	2	1
CO3	3	3	3	3	3	2	1	1	2	1	2	1
CO4	3	3	2	3	3	1	1	2	3	3	3	2
CO5	3	3	3	3	3	2	1	1	2	3	2	2



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118BAT05

ORGANIZATIONAL BEHAVIOR

L T P C

4 0 0 3

Course Objective

To give a comprehensive view on the individuals behavior and Personality

To give a comprehensive view on the groups behavior Motivation

To give a comprehensive view in diverse organizations and on organizational structure and processes

Unit I - Introduction to OB

12

Meaning & Importance of OB - Historical Development & Contribution Disciplines - Foundation of individual behavior and individual decision making - Values attitudes & job satisfactions

Unit II- Personality & Motivation

10

Personality – Basic concepts and theories - Perception - Basic concepts and factors influencing - Motivation - Theories – Content theories and process theories– Problems in motivation

Unit III - Group Dynamics

10

Foundation of group behavior - Types of groups - Group Norms and Cohesive group Roles - Understanding work teams

Unit IV- Organizational Culture & Learning

12

Elements of organizational culture - Organizational culture and performance - Changing and strengthening culture - Organizational socialization - Creating an ethical organizational culture - Sustaining organizational culture

Unit V-Conflict, Power and Politics

12

Conflict process ,source of conflict - Structural approach to conflict management - Resolving conflict through negotiation - Organizational careers - Contingent workforce - Power and politics in organization - Work stress and its management - Cause and consequences - Stress coping strategies

Total – 56 Hrs

Course Outcomes

CO1: Understand and learn the effective interpersonal, team building and leadership skills.

CO2: Familiarized to adjust better in organizational settings (by developing an understanding of how and why others behave in a particular manner).



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CO3: Improved the organizational performance through the effective management of human resources.

CO4: Students will have a better understanding of human behavior in organization

CO5: They will know the framework for managing individual and group performance

Text Books

1. Robbins Stephen and Timothy A Judge Organizational Behaviour 15th edition Prentice Hall(India)Pvt Ltd “2013”

References

1. Mcshane L. Steven von Glinow Ann Mary Sharma R. Radha Books Organisational Behaviour, Publisher Tata McGraw Hills “2006”

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CO1	3	2	3	2	2	1	1	1	2	2	1	1
CO2	3	2	3	3	2	2	1	1	2	2	1	2
CO3	2	3	3	3	2	3	2	1	1	2	2	1
CO4	3	2	3	2	1	2	2	2	1	1	2	1
CO5	2	3	2	3	3	1	1	3	1	2	2	1

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218BAT08

HUMAN RESOURCE MANAGEMENT

L T P C

4 0 0 4

COURSE OBJECTIVE

The objective of the course is to equip students with knowledge, skill and competencies to manage people along with capital, material, information and knowledge asset in the organization

In addition to providing a basic legal and conceptual framework for managers, the course will introduce the manager to practices and techniques for evaluating performance, structuring teams, coaching and mentoring people, and performing the wide range of other people related duties of a manager in today's increasingly complex workplace.

The course will provide students logic and rationale to make fundamental choice about their own assumption and belief in dealing with people.

UNIT I INTRODUCTION TO HRM

12

Meaning, Scope, Definition and Objectives of HRM –Importance of human factor-Challenges-Inclusive growth and Affirmative action- Functions of HRM and Models of HRM - Activities and Challenges of HRM - Role of HR Manager - HRM as Linked to Environmental changes.

UNIT II HUMAN RESOURCE PLANNING & RECRUITMENT, SELECTION

12

HRP – Need and Importance, HRP Process, Barriers to HRP - HR Planning process - Job analysis, Job description & Job specification - Job Rotation, Job enlargement & Job enrichment - Job evaluation – RECRUITMENT: - Recruitment -Process & Methods of Recruitment. SELECTION: - Selection process - type of tests & types of interviews - Designing and conducting the effective interview - Induction and Placement.

UNIT III WAGE AND SALARY ADMINISTRATION & APPRAISING AND MANAGING PERFORMANCE

12

Principles and techniques of wage fixation - Incentive schemes and plans. Appraisal process, methods, and potential problems in performance evaluations, Traditional Modern methods - Potential Appraisal - Methods to improve performance - Career Planning and Development

UNIT IV TRAINING AND EXECUTIVE DEVELOPMENT

12

Nature of Training – Methods of Training – Training Need Analysis- Training Design – Training Evaluation- Management Development –Succession Planning-Coaching.

UNIT V RECENT TRENDS IN HR

12

HR outsourcing - Managing Attrition and Retention - Collective Bargaining - Grievance Management - Quality of work life – HR Accounting and Audit – Whistle Blowing – Employee poaching - HRIS- Diversity of Workforce - Cause and procedure for employee termination - IOT role in HRIM and e – filing.

Total – 60Hrs

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COURSE OUTCOME:

CO1: Explain the importance of human resources and their effective management in organizations.

CO2: Demonstrate a basic understanding of different tools used in forecasting and planning human resource needs.

CO3: Analyze the key issues related to administering the human elements such as motivation, compensation, appraisal, career planning, diversity, ethics, and training

CO4: Students would be prepared to implement the concepts learned in the workplace.

CO5: Students would be aware of the emerging concepts in the field of HRM

TEXT BOOKS:

1 K.Aswathappa Human Resource Management TMH, 2017.

2 Dessler Human Resource Management, Pearson Education Limited, 2017

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www.citehr.com

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CO1	2	2	1	2	2	2	1	1	2	1	1	1
CO2	3	3	2	3	2	2	2	2	3	1	2	1
CO3	3	3	3	3	3	3	2	2	3	1	2	1
CO4	3	3	2	3	3	2	2	2	2	1	1	1
CO5	3	3	1	2	2	2	2	2	2	1	1	1



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318BAH01 INDUSTRIAL RELATIONS AND LABOR LEGISLATIONS **L T P C**
4 0 0 4

Course Objective

To promote a critical understanding of substantive and procedural labor laws.

The approach is to develop skills in handling legal issues in industrial relations

The approach is to develop skills in handling legal issues in other labor matters.

Unit I - Industrial Relations 12

Concepts – Importance – Industrial Relations problems in the Public Sector – Growth of Trade Unions – Trade Union Act 2001 – Codes of conduct - The Plantation Labor Act, 1951-The Equal Remuneration Act, 1976

Unit II -Labor Legislations 12

Factories Act 1948 – Contract Labor Act 1970 – Industrial Disputes Act 1947 – Minimum Wages act1948 – Payment of Wages (1936) Amendment Act 2017– Payment of Bonus (1965)Amendment Act 2015– EPF Act 1952

Unit III - Welfare of Special Categories of Labor 12

Payment of Gratuity Act 1972 – Maternity Benefit Act 2017 – ESI Act 1948 - Child Labor – Female Labor – Contract Labor – Construction Labor – Agricultural Labor – Differently abled Labor– Social Assistance & Security

Unit IV - Industrial Conflicts & Collective Bargaining 12

Employees Compensation(Amendment) Act,2017 - Disputes – Impact – Causes – Strikes – Prevention – Industrial Peace – Government Machinery – Conciliation – Arbitration – Adjudication – Legal Framework of Collective Bargaining

Unit V - Labor Welfare & Industrial Safety 12

Concept – Objectives – Scope– Voluntary Welfare Measures – Statutory Welfare Measures –Causes of Accidents – Prevention – Safety Provisions – Industrial Health and Hygiene – Importance – Problems – Occupational Hazards – Diseases.

Total Hrs: 60

Course Outcomes

CO1: Students will know how to resolve industrial relations.

CO2: Students will know how to resolve human relations problems and

CO3: They would promote welfare of industrial labour.

CO4: Legal provisions for equal remuneration, gratuity, compensation, industrial employment and Apprenticeship

CO5: Legal provisions for EPF, ESI, Maternity, contract labours, and child labour prevention

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“B.D. Singh”, Labour Laws for Managers, Excel Books, 2017.

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CO1	3	2	1	3	3	1	2	1	3	2	2	1
CO2	3	3	3	3	3	3	2	2	2	1	2	1
CO3	3	3	3	3	3	2	1	1	2	1	2	1
CO4	3	3	2	3	3	1	1	2	3	3	3	2
CO5	3	3	3	3	3	2	1	1	2	3	2	2

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818BTT01	BIOETHICS, IPR AND ENTREPRENEURSHIP	L	T	P	C
		3	0	0	3

OBJECTIVES

At the end of the course, the students should be able to:

- To create awareness about IPR and Engineering ethics
- To follow professional ethics and practices in their careers
- To create awareness and responsibilities about the environment and society
- To enhance ethical knowledge
- To gain knowledge related to the ethical issue related to biotechnology

UNIT I **HISTORY OF BIOETHICS** **9**

Bioethics as a discipline – philosophical reflections on experimenting with human subjects - active and passive euthanasia; culture assumption in the history of Bioethics– medical ethics in India and America.

UNIT II **METHODS OF ETHICAL ANALYSIS** **9**

Ethical reasoning- philosophical, clinical and cultural dimensions; challenge of ethical relativism; methods of philosophical theories and principles- Equality and its implications; methods of casuistry and methods of narrative approaches

UNIT III **ETHICS IN BIOTECHNOLOGY** **9**

Ethics committee (hospital) – Inner working of an ethics committee; ethics consultation – skills, roles and training; Biosafety regulation-national and international guidelines; rDNA guidelines-guidelines for rDNA research activities, mechanism of implementation of biosafety guidelines

UNIT IV **PATENTING, IPR AND APPLICATIONS** **9**

Introduction to Intellectual property rights, types: patents, copy right, trade mark, trade secret, geographical indications, importance of IPR, Patenting and non-patenting life, TRIPS

UNIT V **ENTREPRENEURSHIP IN BIOTECHNOLOGY** **9**

The Significance of the Biotechnology Entrepreneur; The Integration of Two Distinctly Different Disciplines; Biotechnology Entrepreneurship Versus General Entrepreneurship; Entrepreneurship and Intrapreneurship; Essential Biotechnology Entrepreneurial Characteristics; Four Backgrounds of Biotechnology Entrepreneurs

TOTAL HOURS 45 PERIODS

COURSE OUTCOMES

Upon Completion of this course, students will be able to:

CO: 1 Touches on fundamental values, such as human dignity and the genetic integrity of humanity.

CO:2 Serve basic human needs such as human health, food and a safe environment,

CO:3 Raise human rights issues such as access to health and benefits from scientific progress

CO: 4 Concerns over equitable access to the fruits of new technologies, the consent of those involved in research, and protection of the environment.

CO:5 Obtaining a clear information on the entrepreneurship and understand their economic values



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TEXT BOOKS

1. Bioethics , second edition , Nancy S.Jecker , Albert R.Jonsen,RobertA,Pearlman.Jones and Bartlett Publishers,2003.
2. Singh K, “ Intellectual Property Rights on Biotechnology”, BCIL, New Delhi,2001.
3. M.K. Sateesh, “Bioethics and Biosafety”, I.K. International Publishing House pvt. Ltd, 2008.

REFERENCE BOOKS

1. Entrepreneurship Development – Poornima. M. Charantimath – Small Business Enterprises – PearsonEducation – 2006
2. Sasson A, “Biotechnologies and Development”, UNESCO Publications, 1998
3. Sasson A, “Biotechnologies in Developing countries present and future”, UNESCO Publishers, 1993

E BOOKS/ WEBLINKS

1. Biotechnology Entrepreneurship: Starting, Managing, and Leading Biotech by Craig Shimasaki



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3 0 0 3

COURSE OBJECTIVES

- To understand the Total Quality Management concept and principles, various tools available to achieve Total Quality Management.
- To understand the statistical approach for quality control.
- To create an awareness about ISO and QS certification process and its need for the industries.

UNIT – I INTRODUCTION

09

Definition of Quality, Dimensions of Quality, Quality Planning, Quality costs - Analysis Techniques for Quality Costs, Basic concepts of Total Quality Management, Historical Review, Principles of TQM, Leadership – Concepts, Role of Senior Management, Quality Council, Quality Statements, Strategic Planning, Deming Philosophy, Barriers to TQM Implementation.

UNIT – II TQM PRINCIPLES

09

Customer satisfaction – Customer Perception of Quality, Customer Complaints, Service Quality, Customer Retention, Employee Involvement – Motivation, Empowerment, Teams, Recognition and Reward, Performance Appraisal, Benefits, Continuous Process Improvement – Juran Trilogy, PDSA Cycle, 5S, Kaizen, Supplier Partnership – Partnering, sourcing, Supplier Selection, Supplier Rating, Relationship Development, Performance Measures – Basic Concepts, Strategy, Performance Measure.

UNIT – III STATISTICAL PROCESS CONTROL (SPC)

09

The seven tools of quality, Statistical Fundamentals – Measures of central Tendency and Dispersion, Population and Sample, Normal Curve, Control Charts for variables and attributes, Process capability, Concept of six sigma, New seven Management tools.

UNIT – IV TQM TOOLS

09

Benchmarking – Reasons to Benchmark, Benchmarking Process, Quality Function Deployment (QFD) – House of Quality, QFD Process, Benefits, Taguchi Quality Loss Function, Total Productive Maintenance (TPM) – Concept, Improvement Needs, FMEA – Stages of FMEA

UNIT – V QUALITY SYSTEMS

09

Need for ISO 9000 and Other Quality Systems, ISO 9000:2000 Quality System – Elements, Implementation of Quality System, Documentation, Quality Auditing, QS 9000, ISO 14000 – Concept, Requirements and Benefits.

TOTAL: 45 PERIODS

COURSE OUTCOMES

By the end of the course students will be able to

- CO1 Understand definition of quality, analysis techniques for quality costs, role of senior management and its functions.
- CO2 Understand the principles of TQM
- CO3 Understand the importance of seven tools of quality.
- CO4 Apply benchmarking tools.
- CO5 Explain importance of quality systems and need of quality systems.

TEXT BOOKS:

1. Dale H. Besterfield, Hemant Urdhwareshe, Mary Besterfield-Sacre, Carol Besterfield-Michna, Rashmi Urdhwareshe, Glen H. Besterfield, Total Quality Management, Pearson Education Asia, 3rd Edition, 2010.
2. James R.Evans& William M.Lidsay, The Management and Control of Quality, 6th Edition, South-Western (Thomson Learning), 2004.

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REFERENCES:

1. Feigenbaum.A.V., Total Quality Management, McGraw Hill, 1991.
2. Oakland.J.S. Total Quality Management, Butterworth – Heinemann Ltd., Oxford,1989.
3. Narayana V and Sreenivasan, N.S., Quality Management – Concepts and Tasks, New Age International, 2007.
4. Zeiri. Total Quality Management for Engineers, Wood Head Publishers, 1991.

Course Articulation Matrix:

Cos	Programme Outcomes											Programme Specific Outcome				
	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12	PSO1	PSO2	PSO3	
CO1				3								3	3			2
CO2								2				3	3			2
CO3								2				2	3			2
CO4								2				2	3			2
CO5						3	3				1	2	3			2

818CHE04

ENTREPRENEURSHIP DEVELOPMENT

L T P C

Dr. M.G.R. Nagar, Hosur – 635 130, Krishnagiri (Dt), Tamil Nadu, India. Phone: Office: 04344 – 260570, 261001-3, 261034. Fax: 04344 – 260573 Website : www.adhiyamaan.ac.in E-mail : principal@adhiyamaan.ac.in.

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3 0 0 3

COURSE OBJECTIVES

- To give fundamentals of entrepreneurship and enhance the creativity to develop new chemical product and processes.
- To gain knowledge about Technological investment transfer of technology and characteristics of entrepreneur.
- To create an awareness about production efficiency and reduce sickness.

UNIT – I INTRODUCTION 09

Introduction – productivity in India – resources – availability and mobilization – land, labour and capital – industrial growth in five year plan period – Human resource development

UNIT – II TECHNOLOGY AND INVESTMENT 09

Technology and investment – industrial climate in India – Technological investment transfer of technology, factors influencing technical investment, NRI, capital market in India, technocrats, role of educational institutions – psychology of Indian technocrats as entrepreneur, characteristics of entrepreneur.

UNIT – III ENTREPRENEURSHIP DEVELOPMENT PROGRAMS 09

Leadership – attitudes and aptitudes – qualities and development – risk taking and decision making – personal involvement value engineering techniques – value added products – value adding techniques – cost reduction techniques – waste control – alternate product application, functional value of the product – improvement and expansion.

UNIT – IV FINANCING 09

Procedures for getting subsidies & licenses from both centre & state governments. - key elements of developing project report for getting financial assistance-Institutions involved in getting financial assistance.

UNIT – V MARKETING 09

Marketing – India and International markets – market surveys – strategies and development of markets – need based marketing techniques. Business laws and regulations – company laws of India – taxation laws – labor laws – factories act – ESI act – workman compensation act.

TOTAL: 45 PERIODS

COURSE OUTCOMES

By the end of the course students will be able to

- CO1 Understand the principle of Entrepreneurship and enhance the creativity to develop new chemical product and processes.
- CO2 Analyze source of finance and financial management of new enterprises and prepare business plans.
- CO3 Apply the principles of operation management to improve production efficiency and reduce sickness
- CO4 Acquire sound knowledge about applications of various instruments in the required fields.
- CO5 Apply importance of Human resource development, Leadership, Procedures for getting subsidies & Marketing.

TEXT BOOKS:

1. Meredith G, Nelson R.E., and P.A. Nech. The Practice of Entrepreneurship, I.L.O Published Geneva, 1982
2. Dirk Larkran, R. Profit Improvement Technology, College Book Publishing Company, Canada, 1981.

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REFERENCES:

1. Sukumar Bhattacharya, Indian Direct, Taxes Wadhwa and Co., 1983.
2. Charantimath, Entrepreneurship Development & Small Business Enterprise, 1stEdition, Pearson Publications, 2009
3. Srivasthave, K.D., Commentaries on Factories Act, 1948.
4. Khanka S.S, Entrepreneurial Development, 16th Edition, Sultan Chand & Co., 2010
5. Vasant Desai, Dynamics of Entrepreneurial Development and Management, 13th Edition, Himalaya Publishing House, 2009.

Cos	Programme Outcomes											Programme Specific Outcome			
	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12	PSO 1	PSO2	PSO3
CO1						3	2	2	2	2		3	2		2
CO2						3				2	3	3			2
CO3						2					3	3			2
CO4						2						3	2		2
CO5						3		2	3	3	3	3			3

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718CHE08

INDUSTRIAL WASTE WATER TREATMENT

L T P C
3 0 0 3

COURSE OBJECTIVES

- To learn constituents associated with wastewater and their effects
- To learn fundamentals of biological treatment
- To learn most commonly applied wastewater treatment technologies for industrial wastes and classify the technologies based on the conventional series of primary, secondary, tertiary, and in-plant treatment

UNIT – I SOURCES AND TYPES OF INDUSTRIAL WASTEWATER 09

Sources and types of industrial wastewater – Characterization: Physical, Inorganic non metallic constituents, metallic constituents, organic constituents, biological Characteristic.

UNIT – II INTRODUCTION TO PROCESS SELECTION 09

Physical unit operation: Screening, coarse solid reduction, Mixing and flocculation, equalization, Gravity separation, Grit removal, Sedimentation, Neutralization, Clarification, Floatation.

Role of Chemical unit operations in wastewater treatment, Chemical unit Process: Chemical Coagulation, Chemical Precipitation – Heavy metal removal, Phosphorous removal, Chemical oxidation.

UNIT – III BIOLOGICAL TREATMENT 09

Composition and Classification, bacterial growth, Microbial growth, Aerobic biological oxidation, biological nitrification, Anaerobic fermentation and oxidation, Activated sludge process, Trickling filters, Rotating biological contactors, Combined aerobic treatment processes, Anaerobic treatment process, Anaerobic sludge blanket process, Attached growth process.

UNIT – IV ADVANCED WASTEWATER TREATMENT 09

. Depth filtration, surface filtration, Adsorption, Ion Exchange, advanced oxidation process, Photo catalysis, wet air oxidation, Evaporation, Disinfection Processes: Disinfection with chlorine, Disinfection with chlorine dioxide, Dechlorination, Disinfection with ozone.

UNIT – V EFFLUENT TREATMENT PLANTS 09

Individual and common Effluent Treatment plants – Zero effluent discharge systems – wastewater reuse – Disposal of effluent on land – Quantification, characteristics and disposal of Sludge.

Industrial process description, wastewater characteristics, source reduction options and waste treatment flow sheet for textiles – tanneries – pulp and paper – metal finishing – petrochemical – pharmaceuticals – thermal power plants.

TOTAL: 45 PERIODS

COURSE OUTCOMES

By the end of the course students will be able to

- CO1 Understand the fundamentals of wastewater treatments.
- CO2 Understand the common physical, chemical and biological unit operations encountered in treatment processes.
- CO3 Analyse various characteristics of wastewater.
- CO4 Able to understand importance of advanced waste water treatment processes.
- CO5 Able to understand various effluent treatment plants and find solutions.

TEXT BOOKS:

1. George Tchobanoglous, Franklin L. Burton, H.DavidStensel, Waste water Engineering Treatment and Reuse: Mc Graw Hill, 4th Edition, 2002.
2. Metcalf and Eddy. Wastewater Engineering, Treatment and reuse, Tata McGraw Hill Education, 4th Edition, 2003.

REFERENCES:

1. Water Environment Federation, Industrial Waste Water Management Treatment and Disposal, Tata-Graw Hill 3rd Edition, 2008.

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Course Articulation Matrix:

Cos	Programme Outcomes												Programme Specific Outcome		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1					1	2								2
CO2	1	2	2				2								2
CO3	1	2	2				2								2
CO4	2	1	1				2								2
CO5	3	3	3	1			2								2

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Course Code	Course Title	Hours/week			Credits	Maximum Marks		
		L	T	P		CA	EA	Total
718BME14	PROFESSIONAL ETHICS AND HUMAN VALUES	3	0	0	3	50	50	100

PROFESSIONAL ETHICS AND HUMAN VALUES:

Designation: Professional Elective

Pre-requisites: Nil

Course Objectives:

1. To generate an awareness on Human Values
2. To explore the Senses of 'Engineering Ethics
3. To instill Moral , Social Values and Loyalty
4. To realize Safety ,Responsibilities appreciate the rights of Others
5. To Analyze the various global issues

UNIT I HUMAN VALUES

9

Morals, Values and Ethics – Integrity – Work Ethic – Service Learning – Civic Virtue – Respect for Others – Living Peacefully – caring – Sharing – Honesty – Courage – Valuing Time – Co-operation – Commitment – Empathy – Self-Confidence – Character – Spirituality

UNIT II ENGINEERING ETHICS

9

Senses of 'Engineering Ethics' - variety of moral issued - types of inquiry - moral dilemmas - moral autonomy - Kohlberg's theory - Gilligan's theory - consensus and controversy – Models of Professional Roles - theories about right action - Self-interest - customs and religion - uses of ethical theories

UNIT III ENGINEERING AS SOCIAL EXPERIMENTATION

9

Engineering as experimentation - engineers as responsible experimenters - codes of ethics - a balanced outlook on law - the challenger case study

UNIT IV SAFETY, RESPONSIBILITIES AND RIGHTS

9

Safety and risk - assessment of safety and risk - risk benefit analysis and reducing risk - the three mile island and chernobyl case studies. Collegiality and loyalty - respect for authority - collective bargaining - confidentiality - conflicts of interest - occupational crime - professional rights - employee rights - Intellectual Property Rights (IPR) - discrimination.

UNIT V GLOBAL ISSUES

9



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Multinational corporations - Environmental ethics - computer ethics - weapons development - engineers as managers-consulting engineers-engineers as expert witnesses and advisors -moral leadership-sample code of Ethics like ASME, ASCE, IEEE, Institution of Engineers(India), Indian Institute of Materials Management, Institution of electronics and telecommunication engineers(IETE),India, etc.

TOTAL: 45 PERIODS

Course Outcomes:

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

1. Generate an awareness on Human Values and Ethics
2. Analyze the theories in Senses of 'Engineering Ethics
3. Inculcate Moral , Social Values and Loyalty
4. Identify the Safety ,Responsibilities and Appreciate the rights of Others
5. Reflect on the various global issues and sample code of Ethics.

TEXTBOOK

1. Mike Martin and Roland Schinzinger, “Ethics in Engineering”, McGraw-Hill, New York, 1996.
2. Govindarajan M, Natarajan S, Senthil Kumar V. S, “Professional Ethics and Human Values”, Prentice Hall of India, New Delhi, 2004.

REFERENCES

1. Charles D. Fleddermann, “Engineering Ethics”, Pearson Education/ Prentice Hall, New Jersey, 2004 (Indian Reprint)
2. Charles E Harris, Michael S. Protchard and Michael JRabins, “Engineering Ethics – Concepts and Cases”, Wadsworth Thompson Learning, United States, 2000 (Indian Reprint now available)
3. John R Boatright, “ Ethics and the Conduct of Business”, Pearson Education, New Delhi, 2003.
4. Edmund G Seebauer and Robert L Barry, “Fundamentals of Ethics for Scientists And Engineers”, Oxford University Press, Oxford, 2001.
5. **Dr. Naagarazan, RS** ,“Professional Ethics and Human Values”, New Age International (P) Ltd Publishers 2016



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718BTE01	CLINICAL RESEARCH AND DATABASE MANAGEMENT	L	T	P	C
		3	0	0	3

Prerequisite Probability and statistics, Health and Pharmaceutical Biotechnology

OBJECTIVES

At the end of the course, the students should be able to:

- Understand the roles and responsibilities of the clinical research teams
- To review the CRDM Start-up activities/documentation
- Learn about the research work
- Understand the concept of the trial out sources

UNIT I ETHICAL GUIDELINES 9

Ethical Guidelines for Biomedical Research on Human guidelines – student of specific principles for clinical evaluation – Human Genome project - DNA banking – prenatal diagnosis – principles in transplantation. regulatory affairs - GCP/ICH guidelines

UNIT II APPLICATIONS OF STATISTICS AND PROBABILITY 9

Application of Biostatistics in clinical Trial Management: Correlation-simple linear regression–multiple regressions–T-test-F-test–Chisquaretest-ANOVA–OnewayANOVA.Biostatistics and databaseManagement system.

UNIT III CONTRACT RESEARCHES 9

Contract research – delivery model – CR Business environment – CR Information research – Contract

research – Regulatory affairs of Contract research – Clinical trials environment

UNIT IV CLINICAL TRIALS OUT SOURCING 9

Clinical trials – protocol approval – Informed consent – responsibility of sponsor – investigator – ethicscommittee – types of clinical trials – structure & contents of clinical report. Data blinding & Randomization – Data Management – trial subjects recruiting; DRA (Drug regulatory affairs)- Process and Management of drug regulatory affairs in clinical trials.

UNIT V OUTSOURCING TRENDS-CASE STUDY OF MEDICAL CODING 9

Introduction of medical coding and billing – Role of International classification of diseases book in medical coding- CPT (Current Procedure Terminology codes)- HIPAA (Health information portability and accounting act) - HCPCS (Healthcare Common Procedure Coding System)- CPC (Certified Professional Coder)–Medical billing and medical transcription-Medical coding job marketing Business Process Outsourcing (BPO`s) companies-starting own business sectors of medical coding and billing.

TOTAL HOURS 45 PERIODS



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COURSE OUTCOMES

Upon Completion of this course, students will be able to:

CO1: Knowledge on handling human and animal trials subjected to regulations

CO2: Knowledge of biostatistics subjected to validation on drug development

CO3: Develop ability to describe clinical research documentation and protocol

CO4: Learned about the research work

CO5: Understand the concept of the trial out sources

TEXT BOOKS

1. ICMR, “Ethical guidelines for biological research on human subjects”, Indian council of Medical Research Press, New Delhi,2000.
2. International Classification of Diseases (ICD)- 10-CM, Code Book diagnoses code set to assist in ICD- 10 training and code clarification, Tata MC Graw Hill, New York, USA, 2012.
3. Knut Schoeder, “The 10 minutes Clinical Assessment”, Wiley Black well, Singapore, 2010

REFERENCE BOOKS

1. The drug and cosmetic rule. Schedule Y., “Requirements and guidelines for permission to import and/or manufacture of new drugs for sale or to undertake clinical trials”. Government of India, New Delhi,1945.
2. Machin, D. and Fayers, P., “Randomized clinical trials –Design, Practice and Reporting”, Wiley Blackwell, Singapore,2010.

EBOOKS/WEBLINKS

1. https://onlinecourses.nptel.ac.in/noc21_ge14/preview
2. <https://www.classcentral.com/course/datamanagement-540>

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818BTE02

TELEMEDICINE

L T P C

3 0 0 3

OBJECTIVES

At the end of the course, the students should be able to:

- Gain the basics of digital technology used in healthcare.
- Understand the various communication networks involved in healthcare system.
- Understand the ethics behind the digital healthcare.
- Learn the picture-based diagnosis techniques in healthcare.
- Understand the various applications of telemedicine.

UNIT I FUNDAMENTALS OF TELEMEDICINE 9

History of telemedicine - Definition of telemedicine - tele-health - tele-care – scope. Telemedicine – Systems - benefits & limitations of telemedicine.

UNIT II TYPE OF INFORMATION & COMMUNICATION 9

INFRASTRUCTURE FOR TELEMEDICINE

Audio – Video - Still images - Text and data - Fax-type of communications and network: PSTN, POTS, ANT, ISDN, internet, air/ wireless communications, GSM satellite, microwave, Mobile health and ubiquitous healthcare.

UNIT III ETHICAL AND LEGAL ASPECTS OF TELEMEDICINE 9

Confidentiality, patient rights and consent: confidentiality and the law, the patient-doctor relationship, access to medical records, consent treatment - data protection & security, *telemedicine malpractices*, jurisdictional issues, intellectual property rights.

UNIT IV PICTURE ARCHIVING AND COMMUNICATION SYSTEM 9

Introduction to radiology information system and ACS, DICOM, PACS strategic plan and needs assessment, technical Issues, PACS architecture.

UNIT V APPLICATIONS OF TELEMEDICINE 9

Teleradiology, telepathology, telecardiology, teleoncology, teledermatology, telesurgery, eHealth and Cyber Medicine.

TOTAL HOURS 45 PERIODS

COURSE OUTCOMES

Upon Completion of this course, students will be able to:

CO 1: Knowledge about the advances in healthcare system.

CO 2: Analyze the various modes of communication system in healthcare.

CO 3: Familiarize in the healthcare ethics.

CO 4: Acquaint with the use of picture capturing technologies in telemedicine.

CO 5: Examine the telemedicine applications in various fields.



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TEXT BOOKS

1. Norris A C, “Essentials of Telemedicine and Telecare”, John Wiley, New York, 2002.
2. Huang H K, “PACS and Imaging Informatics: Basic Principles and Applications”, John Wiley, New Jersey, 2010.
3. Khandpur R S, “TELEMEDICINE – Technology and Applications”, PHI Learning Pvt Ltd., New Delhi, 2017.
4. Darkins A W and Cary M A, Telemedecine and Telehealth: Principles, Policies, performance and pitfall. Springer, London, 2000

REFERENCE BOOKS

1. Olga Ferrer Roca and Marcelo Sosa Iudicissa, “Handbook of Telemedicine”, IOS Press, Netherland, 2002.
2. Khandpur R S, “Handbook of Biomedical Instrumentation”, Tata McGraw Hill, New Delhi, 2003.
3. Keith J Dreyer, Amit Mehta and James H Thrall, “Pacs: A Guide to the Digital Revolution”, Springer, New York, 2002.

EBOOKS/WEBLINKS

1. <https://www.pdfdrive.com/telemedicine-technologies-information-technologies-in-medicine-and-telehealth-e156716701.html>
2. <https://www.pdfdrive.com/essentials-of-telemedicine-and-telecare-d161127877.html>



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818BTTE06	TOTAL QUALITY MANAGEMENT	L	T	P	C
		3	0	0	3

OBJECTIVES

At the end of the course, the students should be able to:

- To focus on the basic roles, skills and functions of management, with special attention to managerial responsibility for effective and efficient achievement of goals.
- Enable the students to learn about increasing organizational effectiveness.
- Achieve optimum utilization of various resource and co-ordination between various department in the organization.
- Understanding and utilization of TQM tools & techniques
- To gain Management skills

UNIT I	INTRODUCTION	9
Introduction - Need for quality - Evolution of quality - Definition of quality - Dimensions of product and service quality –Definition of TQM-- Basic concepts of TQM –Gurus of TQM (Brief introduction) --TQM Framework- Barriers to TQM –Benefits of TQM.		
UNIT II	TQM PRINCIPLES	9
Leadership--The Deming Philosophy, Quality council, Quality statements and Strategic planning-- Customer Satisfaction –Customer Perception of Quality, Feedback, Customer complaints, Service Quality, Kano Model and Customer retention – Employee involvement – Motivation, Empowerment, Team and Teamwork, Recognition & Reward and Performance Appraisal--Continuous process improvement –Juran Trilogy, PDSA cycle, 5s and Kaizen - Supplier partnership – Partnering, Supplier selection, Supplier Rating and Relationship development.		
UNIT III	ORGANIZING	9
Organizing – Meaning and Structure – Span of Control – Line and Staff Relationships – Staffing –Sources of Recruitment – Selection Process – Training – Methods – Departmentation – Organization Charts		
UNIT IV	TQM TOOLS & TECHNIQUES	9
Quality circles – Quality Function Deployment (QFD) – Taguchi quality loss function – TPM – Concepts, improvement needs – Performance measures-- Cost of Quality – BPR/software include.		
UNIT V	CONTROLLING	9
Controlling in Management – Control Process – Innovation Management – Informational Technology in Management – Budgets – Techniques – Importance – Case Studies in General		



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Management-Benefits of ISO Registration—ISO 9000 Series of Standards—Sector-Specific Standards—AS 9100, TS16949 and TL 9000-- ISO 9001 Requirements—Implementation—Documentation—Internal Audits—Registration--ENVIRONMENTAL MANAGEMENT SYSTEM:

Introduction—ISO 14000 Series Standards—Concepts of ISO 14001— Requirements of ISO 14001—Benefits of EMS.

TOTAL HOURS 45 PERIODS

COURSE OUTCOMES

Upon Completion of this course, students will be able to:

CO 1: Discuss and describe the elements of effective management

CO 2: Apply the planning, organizing and control processes.

CO 3: Describe various theories related to the development of leadership skills, motivation techniques, team work and effective communication

CO 4: Analysis of TQM tools & techniques

CO 5: Controlling in Management skills

TEXT BOOKS

1. Gupta C.B.- Business Management, Sultan Chand & Sons, Revised Edition 2009.
2. Robbins S.R.- Management, Prentice Hall, 11th Edition, 2012.
3. Heinz Weihrich, Mark. V. Cannice& Herald Koontz-Management: A global and entrepreneurial

Perspective-Tata McGraw Hill-2008.

REFERENCE BOOKS

1. Harold Koontz And O'Donnel- Essentials of Management, McGrawHill-2009,
2. DinkarPagare -Business Management, Sultan Chand & Sons-2008
3. Tripathi P.C. and Reddy P.N - Principles of Management, TMH-2009, 4th Edition
4. Prasad L.M.- Principles and Practices of Management, 3rd Edition, Sultan Chand & Sons, 2008.

EBOOKS/WEBLINKS

1. <https://nptel.ac.in/courses/110/104/110104080/>
2. <https://nptel.ac.in/courses/110/104/110104085/>



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818CHT01

TOTAL QUALITY MANAGEMENT

L T P C

3 0 0 3

COURSE OBJECTIVES

- To understand the Total Quality Management concept and principles, various tools available to achieve Total Quality Management.
- To understand the statistical approach for quality control.
- To create an awareness about ISO and QS certification process and its need for the industries.

UNIT – I INTRODUCTION

09

Definition of Quality, Dimensions of Quality, Quality Planning, Quality costs - Analysis Techniques for Quality Costs, Basic concepts of Total Quality Management, Historical Review, Principles of TQM, Leadership – Concepts, Role of Senior Management, Quality Council, Quality Statements, Strategic Planning, Deming Philosophy, Barriers to TQM Implementation.

UNIT – II TQM PRINCIPLES

09

Customer satisfaction – Customer Perception of Quality, Customer Complaints, Service Quality, Customer Retention, Employee Involvement – Motivation, Empowerment, Teams, Recognition and Reward, Performance Appraisal, Benefits, Continuous Process Improvement – Juran Trilogy, PDCA Cycle, 5S, Kaizen, Supplier Partnership – Partnering, sourcing, Supplier Selection, Supplier Rating, Relationship Development, Performance Measures – Basic Concepts, Strategy, Performance Measure.

UNIT – III STATISTICAL PROCESS CONTROL (SPC)

09

The seven tools of quality, Statistical Fundamentals – Measures of central Tendency and Dispersion, Population and Sample, Normal Curve, Control Charts for variables and attributes, Process capability, Concept of six sigma, New seven Management tools.

UNIT – IV TQM TOOLS

09

Benchmarking – Reasons to Benchmark, Benchmarking Process, Quality Function Deployment (QFD) – House of Quality, QFD Process, Benefits, Taguchi Quality Loss Function, Total Productive Maintenance (TPM) – Concept, Improvement Needs, FMEA – Stages of FMEA

UNIT – V QUALITY SYSTEMS

09

Need for ISO 9000 and Other Quality Systems, ISO 9000:2000 Quality System – Elements, Implementation of Quality System, Documentation, Quality Auditing, QS 9000, ISO 14000 – Concept, Requirements and Benefits.

TOTAL: 45 PERIODS

COURSE OUTCOMES

By the end of the course students will be able to

- CO1 Understand definition of quality, analysis techniques for quality costs, role of senior management and its functions.
- CO2 Understand the principles of TQM
- CO3 Understand the importance of seven tools of quality.
- CO4 Apply benchmarking tools.
- CO5 Explain importance of quality systems and need of quality systems.

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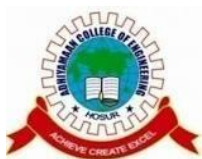
TEXT BOOKS:

1. Dale H. Besterfield, Hemant Urdhwareshe, Mary Besterfield-Sacre, Carol Besterfield-Michna, Rashmi Urdhwareshe, Glen H. Besterfield, Total Quality Management, Pearson Education Asia, 3rd Edition, 2010.
2. James R.Evans& William M.Lidsay, The Management and Control of Quality, 6th Edition, South-Western (Thomson Learning), 2004.

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1. Feigenbaum.A.V., Total Quality Management, McGraw Hill, 1991.
2. Oakland.J.S. Total Quality Management, Butterworth – Heinemann Ltd., Oxford,1989.
3. Narayana V and Sreenivasan, N.S., Quality Management – Concepts and Tasks, New Age International, 2007.
4. Zeiri. Total Quality Management for Engineers, Wood Head Publishers, 1991.

Cos	Programme Outcomes											Programme Specific Outcome			
	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12	PS O1	PSO2	PS O3
CO1				3							3	3			2
CO2								2			3	3			2
CO3								2			2	3			2
CO4								2			2	3			2
CO5						3	3			1	2	3			2



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818CHE12

PROFESSIONAL ETHICS AND HUMAN VALUES

L T P C
3 0 0 3

COURSE OBJECTIVES

- Create awareness on professional ethics and human values.
- Provide basic familiarity about engineers as responsible experimenters, research ethics, codes of ethics, industrial standards.
- Inculcate knowledge and exposure on different safety aspects of a process and intellectual property rights.

UNIT – I HUMAN VALUES

09

Morals, values and Ethics – Integrity – Work ethic – Service learning – Civic virtue – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing time – Cooperation – Commitment – Empathy – Self confidence – Character – Spirituality.

UNIT – II ENGINEERING ETHICS

09

Senses of ‘Engineering Ethics’ – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg’s theory – Gilligan’s theory – Consensus and Controversy – Models of professional roles - Theories about right action – Self-interest – Customs and Religion – Uses of Ethical Theories

UNIT – III ENGINEERING AS SOCIAL EXPERIMENTATION

09

Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law – The NASA’s Challenger Case Study

UNIT – IV SAFETY, RESPONSIBILITIES AND RIGHTS

09

Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk – The Three Mile Island and Chernobyl Case Studies Collegiality and Loyalty – Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination

UNIT – V GLOBAL ISSUES

09

Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development – Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors – Moral Leadership – Sample Code of Conduct

TOTAL: 45 PERIODS

COURSE OUTCOMES

By the end of the course students will be able to

- CO1 Implement awareness of professional ethics and human values.
- CO2 Pursue career with professional ethics by adopting ethical theories
- CO3 Work with more responsibility by understanding various social issues by adopting various industrial standards.
- CO4 Adopt various safety procedures in the professional environment and safe guard IPR.
- CO5 Judge role in various global issues and apply ethical principles to resolve situations

TEXT BOOKS:

1. Mike W. Martin and Roland Schinzinger, “Ethics in Engineering”, Tata McGraw Hill, New Delhi, 2003.
2. John R Boatright, “Ethics and the Conduct of Business”, Pearson Education, New Delhi, 2003.



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REFERENCES:

1. Charles B. Fleddermann, “Engineering Ethics”, Pearson Prentice Hall, New Jersey, 2004.
2. Charles E. Harris, Michael S. Pritchard and Michael J. Rabins, “Engineering Ethics – Concepts and Cases”, Thompson Wadsworth, A Division of Thomson Learning Inc., United States, 2000
3. Edmund G Seebauer and Robert L Barry, “Fundamentals of Ethics for Scientists and Engineers”, Oxford University Press, Oxford, 2001

Course Articulation Matrix:

Cos	Programme Outcomes											Programme Specific Outcome			
	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12	PSO 1	PSO2	PS O3
CO1						3		3	2	3		3			3
CO2						2		3	2			3			3
CO3						2		3				3			3
CO4						2	3	3				3			3
CO5						2		3				3			3



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318CET06	VALUE EDUCATION PROGRAM	L T P C
		3 0 0 3

OBJECTIVES

- Teach definition and classification of values.
- Explain Purusartha.
- Describe Sarvodaya idea.
- Summarize sustenance of life.
- Conclude views of hierarchy of values.

UNIT-1 DEFINITION AND CLASSIFICATION OF VALUES 09

DefInition-values-types of values – changing concepts of values values through various generous of literature

UNIT-2 INDIVIDUAL AND GROUP BEHAVIOUR 09

Personal values, self strength (self confidence), self assesments – self reliance, self discipline – self determination – self restraintment – humility – sympathy- compassion- attitude and forgiveness

UNIT-3 SOCIETIES IN PROGRAM 09

Defenition – communities – ancient and model agents – sense of survival – security – desire for comfort – sense of belongings – social consequences and responsibility

UNIT-4 SUSTENANCE OF LIFE 09

The Problem of Sustenance of value in the process of Social, Political and Technological Changes

UNIT-5 ENGINEERING ETHICS 09

Society of Engineers – care of ethics – Ethical issues – ethical and inethical practice – case studies – situational decision

TOTAL: 45 PERIODS

COURSE OUTCOMES:

After undergoing the course, the students will have ability to

- Co 1: Able to understand definition and classification of values.
Co 2: Able to understand purusartha
Co 3: Able to understand sarvodaya idea.
Co 4: Able to understand sustenance of life.
Co 5: COAble to understand views of hierarchy of values.



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TEXTBOOK:

1. AwadeshPradhan :MahamanakeVichara. (B.H.U., Vanarasi-2007)
2. Little, William, : An Introduction of Ethics (Allied Publisher, Indian Reprint 1955)

REFERENCES

1. William, K Frankena : Ethics (Prentice Hall of India, 1988)

Course Articulation Matrix (CAM)

Course Outcomes	Programme Outcomes (PO's)												(PSO's)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS O1	PS O2	PS O3
CO 1			1	1		1	2	3	3	3	3	3			
CO 2						1	2	3	2	2	3	2			
CO 3						1	1	2	2	3	2	3			
CO 4						1	2	1	1	2	3	2			
CO 5						1	2	2	3	3	3	3			



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	L	T	P	C
818EEE07 PROFESSIONAL ETHICS AND HUMAN VALUES	3	0	0	3

PREREQUISITE :Nil

COURSE OBJECTIVES

- To create an awareness on Human Values.
- To Analyze the Senses of ‘Engineering Ethics’.
- To instill Moral and Social Values and Loyalty.
- To appreciate the rights of others.
- To Analyze the various global issues.

UNIT I HUMAN VALUES 9

Morals, Values and Ethics – Integrity – Work Ethic – Service Learning – Civic Virtue – Respect for Others – Living Peacefully – caring – Sharing – Honesty – Courage – Valuing Time – Co-operation – Commitment – Empathy – Self-Confidence – Character – Spirituality.

UNIT II ENGINEERING ETHICS 9

Senses of 'Engineering Ethics' - variety of moral issues - types of inquiry - moral dilemmas - moral autonomy - Kohlberg's theory - Gilligan's theory - consensus and controversy – Models of Professional Roles - theories about right action - Self-interest - customs and religion - uses of ethical theories.

UNIT III ENGINEERING AS SOCIAL EXPERIMENTATION 9

Engineering as experimentation - engineers as responsible experimenters - codes of ethics - balanced outlook on law - the challenger case study.

UNIT IV SAFETY, RESPONSIBILITIES AND RIGHTS 9

Safety and risk - assessment of safety and risk - risk benefit analysis and reducing risk - the three mile island and chernobyl case studies. Collegiality and loyalty - respect for authority - collective bargaining - confidentiality - conflicts of interest - occupational crime - professional rights - employee rights - Intellectual Property Rights (IPR) - discrimination.

UNIT V GLOBAL ISSUES 9

Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development

-Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors

-Moral Leadership – Code of Conduct – Corporate Social Responsibility.

TOTAL:45 PERIODS

COURSE OUTCOMES

Upon successful completion of the course, the will be able to:

- CO1 Create an awareness on Human Values.
CO2 Analyze the Senses of ‘Engineering Ethics’.



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- CO3 Instill Moral and Social Values and Loyalty.
CO4 Appreciate the rights of Others.
CO5 Analyze the various global issues.

TEXT BOOKS

1. Mike Martin and Roland Schinzinger, “Ethics in Engineering”, McGraw-Hill, New York 1996.
2. Govindarajan M, Natarajan S, Senthil Kumar V. S, “Engineering Ethics”, Prentice Hall of India, New Delhi, 2004.

REFERENCES:

1. Charles D. Fleddermann, “Engineering Ethics”, Pearson Education / Prentice Hall, New Jersey, 2004 (Indian Reprint)
2. Charles E Harris, Michael S. Protchard and Michael J Rabins, “Engineering Ethics –Concepts and Cases”, Wadsworth Thompson Learning, United States, 2000 (Indian Reprint)
3. John R Boatright, “Ethics and the Conduct of Business”, Pearson Education, New Delhi, 2003.
4. Edmund G Seebauer and Robert L Barry, “Fundamentals of Ethics for Scientists and Engineers”, Oxford University Press, Oxford, 2001

COs	Programme Outcomes												Programme Specific Outcomes		
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
CO1	3	2						3					2		
CO2	3	2	2		2			3				2	2		2
CO3		3	2	2				3					2		2
CO4			3	3	3			2	2			2	2	2	
CO5			3	3	3				2			2	2	3	



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Department **Electronics & Communication Engineering** **Programme** **B.E-ECE** **Regulation** **2018**

Semester VII

Course Code	Course Name	Hours/Week			Credit	Maximum Marks		
		L	T	P		CA	EA	Total
618BAO03	Professional Ethics And Human Values	3	0	0	3	50	50	100

Prerequisite NIL

Course Objectives

At the end of the course ,the students should be able to:

- Distinguish the morality, integrity, honesty and spirituality.
- Explain the various theory which portray about the engineering ethics.
- Illustrate the industrial standard and responsibility of engineers.
- Discover the safety and rights of human in the working place.
- Drive the professional to aware of the global issues in the technological society

UNIT I HUMAN VALUES 9

Morals- Values and Ethics – Integrity – Work Ethic – Service Learning – Civic Virtue – Respect for Others – Living Peacefully – caring – Sharing – Honesty – Courage – Valuing Time – Co-operation – Commitment – Empathy – Self-Confidence – Character – Spirituality.

UNIT II ENGINEERING ETHICS 9

Senses of 'Engineering Ethics' - variety of moral issued - types of inquiry – moral dilemmas - moral autonomy - Kohlberg's theory - Gilligan's theory - consensus and controversy – Models of Professional Roles - theories about right action - Self-interest - customs and religion - uses of ethical theories.

UNIT III ENGINEERING AS SOCIAL EXPERIMENTATION 9

Engineering as experimentation - engineers as responsible experimenters - codes of ethics –industrial standards- a balanced outlook on law - the challenger case study

UNIT IV SAFETY- RESPONSIBILITIES AND RIGHTS 9

Safety and risk - assessment of safety and risk - risk benefit analysis and reducing risk - the three mile island and chernobyl case studies- Collegiality and loyalty - respect for authority - collective bargaining - confidentiality - conflicts of interest – occupational crime - professional rights - employee rights - Intellectual Property Rights (IPR) - discrimination.

UNIT V GLOBAL ISSUES 9

Multinational corporations -Corporate Social responsibility- Environmental ethics - computer ethics – weapons development - engineers as managers-consulting engineers-engineers as expert witnesses and advisors -moral leadership-sample code of Ethics like ASME- ASCE- IE- E-E- Institution of Engineers (IEI) India- Institution of Electronics and Telecommunication engineers(IETE) India-

Total Hours 45

Course Outcomes

Upon Completion of this course, students will be able to :

- Extrapolate and make awareness on the morality, integrity, honesty and spirituality.
- Judgement and assistance based on the ethical theory to tackle the moral issues.
- Professional reputation is witnessed due to the balanced outlook on law.



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- Develop safety and responsibilities for the development of the employee.
- Drive to be a moral leader with the analysis of the global issues in the engineering society.

Text Books

- 1 Mike Martin and Roland Schinzinger- “Ethics in Engineering”- Tata McGraw-Hill- - 1996-3 e
- 2 Govindarajan M- Natarajan S- Senthil Kumar V- S- “Engineering Ethics”- Prentice Hall of India- New Delhi- 2004.

Reference Books

- 1 R-S Nagarazan -”A textbook on Professional Ethics and Human Values” New Age International Publishers- New Delhi 2006.
- 2 Charles D- Fleddermann- “Engineering Ethics”- Pearson Education / Prentice Hall- New Jersey- 2004 (Indian Reprint).
- 3 Charles E Harris- Michael S- Protchard and Michael J Rabins- “Engineering Ethics – Concepts and Cases”- Wadsworth Thompson Learning- United States- 2000 (Indian Reprint now available).
- 4 John R Boatright- “Ethics and the Conduct of Business”- Pearson Education- New Delhi- 2003.



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Regulation 2018

DEPARTMENT OF INFORMATION TECHNOLOGY

Course Code	Course Title	Hours / Weeks			Credits	Maximum Marks		
		L	T	P		C	A	E
518BA003	ENGINEERING ETHICS AND HUMAN VALUES	3	0	0	3	5	5	10
						0	0	0

COURSE OBJECTIVE(S):

- Understand the moral values that ought to guide engineering profession or practice.
- Resolving moral issues in engineering.
- Justifying the moral judgements in engineering. It deals with set of moral problems and issues connected with engineering.

UNIT-I HUMAN VALUES

10

Morals, values and Ethics – Integrity – Work ethic – Service learning – Civic virtue – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing time – Cooperation – Commitment – Empathy – Self confidence – Character – Spirituality

UNIT-II ENGINEERING ETHICS

9

Scope of Engineering Ethics – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg’s theory – Gilligan’s theory – Consensus and Controversy – Models of professional roles - Self-interest – Ethical Egoism.

UNIT- III ENGINEERING AS SOCIAL EXPERIMENTATION

9

Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law – The Challenger Case Study.

UNIT-IV SAFETY, RESPONSIBILITIES AND RIGHTS

9

Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk – The Three Mile Island and Chernobyl Case Studies – Team Work and Loyalty - Respect for Authority – Collective



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Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination

UNIT-V GLOBAL ISSUES

8

Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development – Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors – Moral Leadership – Sample Code of Conduct.

TOTAL: 45

COURSE OUTCOMES:

At the end of the course, the students are able to

CO1:It ensures students sustained happiness through identifying the essentials of human values and skills.

CO2: It facilitates a correct understanding between profession and happiness

CO3: It helps students understand practically the importance of trust, mutually satisfying human behavior

CO4:It helps students enriching interaction with nature.

CO5: Ability to develop appropriate technologies and management patterns to create harmony in professional and personal life.

Mapping of CO's with PO and PSO

TEXT BOOKS:

1. Mike W. Martin and Roland Schinzinger, “Ethics in Engineering”, Tata McGraw Hill, New Delhi, 4th Edition, 2010.

REFERENCES:

1. Charles B. Fleddermann, “Engineering Ethics”, Pearson Prentice Hall, New Jersey, 2004.
2. Charles E. Harris, Michael S. Pritchard and Michael J. Rabins, “Engineering Ethics – Concepts and Cases”, Thompsonwadsworth, A Division of Thomson Learning Inc., United States, 2000.



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3. John R Boatright, “Ethics and the Conduct of Business”, Pearson Education, New Delhi, 2003
4. Edmund G Seebauer and Robert L Barry, “Fundamentals of Ethics for Scientists and Engineers”, OxfordUniversity Press, Oxford, 2001.

PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PS02	PSO3
C01								3	3				3		3
C02							3	3	3						3
C03							3	3	2						3
C04							2	3	2					2	3
C05								3	3				3		3



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618MEE02 PROFESSIONAL ETHICS AND HUMAN VALUES L T P C
3 0 0 3

COURSE OBJECTIVES:

- To understand the scope of ethics in engineering.
- To learn about research ethics, codes of ethics and industrial standards.
- To know about the concepts of engineers responsibility on safety and risk.
- To understand about the professional rights and crime.
- To gain the knowledge on multinational corporation ethics like business ethics, environmental ethics, computer ethics, etc.

UNIT I HUMAN VALUES AND ENGINEERING ETHICS 9

Objectives – Morals – Values – Ethics – Integrity – Work Ethics – Service learning – Virtues – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing Time – Co-operation – Commitment – Empathy – Self-confidence – Challenges in the Work place – Sprituality.

Sense of Engineering Ethics - Variety of moral issues - Types of inquiry - Moral dilemmas - Moral Autonomy - Kohlberg's theory - Gilligan's theory - Consensus and Controversy - Professions and Professionalism - Professional Ideals and Virtues - Uses of Ethical Theories.

UNIT II ENGINEERING AS SOCIAL EXPERIMENTATION 9

Engineering as experimentation - Engineers as responsible Experimenters - Research Ethics - Codes of Ethics - Industrial Standards - A Balanced Outlook on Law - The Challenger Case Study.

UNIT III ENGINEER'S RESPONSIBILITY FOR SAFETY 9

Safety and Risk - Assessment of Safety and Risk - Risk Benefit Analysis - Reducing Risk - The Government Regulator's Approach to Risk - Chernobyl Case Study and Bhopal gas tragedy.

UNIT IV RESPONSIBILITIES AND RIGHTS 9

Collegiality and Loyalty - Respect for Authority - Collective Bargaining - Confidentiality - Conflicts of Interest - Occupational Crime - Professional Rights - Employee Rights - Intellectual Property Rights (IPR) – Discrimination.

UNIT V GLOBAL ISSUES 9

Multinational Corporations - Business Ethics - Environmental Ethics - Computer Ethics - Role in Technological Development - Weapons Development - Engineers as Managers - Consulting Engineers - Engineers as Expert Witnesses and Advisors - Honesty - Moral Leadership - Sample Code of Conduct.

TOTAL HOURS: 45 PERIODS

COURSE OUTCOMES

CO1: The students will have awareness on engineering ethics and human values to instill moral and social values.

CO2: Students will be able to know about the importance and outcomes of experimentation of ethics with a case study.



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CO3: Students will be able to know about assessment of safety and risk.

CO4: The student will have an ability to develop the knowledge in the area of collegiality, loyalty, confidentiality and IPR.

CO5: The students are aware of about the global issues related to engineering.

TEXT BOOKS

1. Charles E Harris, Michael S Pritchard and Michael J Rabins, “Engineering Ethics - Concepts and Cases”, Wardsworth Publishing, 6th Edition, 2018.
2. Mike Martin and Roland Schinzinger, “Ethics in Engineering”, McGraw Hill, New York, 4th Edition, 2017.

REFERENCE BOOKS

1. John R Boatright, “Ethics and the Conduct of Business”, Pearson Education, 8th Edition, 2016.
2. M. Govindarajan, S.Natarajan, V.S. Senthil Kumar, “Engineering Ethics”, Prentice Hall of India Pvt. Ltd., New Delhi, 2013.
3. Subramaniam R, “Professional Ethics”, Oxford University Press, New Delhi, 2013.
4. Laura P Hartman and Joe Desjardins, “Business Ethics: Decision making for personal integrity and social responsibility”, McGraw Hill Education India Pvt. Ltd., New Delhi, 2013.
5. Charles D Fleddermann, “Engineering Ethics”, Prentice Hall, New Mexico, 4th Edition, 2011.
6. Edmund G Seebauer and Robert L Barry, “Fundamentals of Ethics for Scientists and Engineers”, Oxford University Press, 2008.
7. Gail D Baura, “Engineering Ethics: An Industrial Perspective”, Elsevier Academic Press, 2006.
8. Prof. (Col) P S Bajaj and Dr. Raj Agrawal, “Business Ethics - An Indian Perspective”, Dreamtech Press, 2004.
9. David Ermann and Michele S Shauf, “Computers, Ethics and Society”, Oxford University Press, 2003.



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Course Outcome		P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12	P S O 1	P S O 2	P S O 3
Co1	The students will have awareness on engineering ethics and human values to instill moral and social values.			2			2		3			2	2		2	1
Co2	Students will be able to know about the importance and outcomes of experimentation of ethics with a case study.					2			2		1				1	
Co3	Students will be able to know about assessment of safety and risk.			2			3								1	
Co4	The student will have an ability to develop the knowledge in the area of collegiality, loyalty, confidentiality and IPR.			2			2		3			3	1			
Co5	The students are aware of about the global issues related to engineering.			2			3								2	2