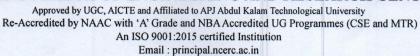


NEHRU COLLEGE OF ENGINEERING AND RESEARCH CENTRE





1.3.1 - Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

Sl No	Course Code	Course Name	Relevant Issues	Page number
1	MCN 201	Sustainable Engineering	Environment and Sustainability	3
2	EST 200	Environment and Sustainability	9	
3	HUT 200	Professional Ethics	Professional Ethics	15
4	MCN 202	Constitution of India	Gender& Human Values	23
5	HUN 102	Professional Communication	Human Values	29
6	HUT 101	Life Skills	Human Values	35
7	MCN 301	Disaster Management	Environment and Sustainability	41
8	20MBAMC2	Integrated Disaster Management	Environment and Sustainability	53
9	20MBA113	Ethics, Governance and Corporate Responsibility	Professional Ethics	56
10	20MBA115	Legal System for Business	Gender& Human Values	. 58



Principal

PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiruvilwamala, Thrissur - 680588



NEHRU COLLEGE OF ENGINEERING AND RESEARCH CENTRE (NAAC Re Accredited with A Grade, NBA Accredited Programmes) An ISO 9001-2015 Certified Institution



(Approved by AICTE, Affiliated to University of calicut and APJ Abdul Kalam Technological University, Kerala)

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

SI No	Course Code	Course Name	Relevant Issues
1	MCN 201	Sustainable Engineering	Environment and Sustainability
2	EST 200	Design and Engineering	Environment and Sustainability
3	HUT 200	Professional Ethics	Professional Ethics
4	MCN 202	Constitution of India	Gender& Human Values
5	HUN 102	Professional Communication	Human Values
6	HUT 101	Life Skills	Human Values
7	MCN 301	Disaster Management	Environment and Sustainability
8	20MBAMC2	Disaster Management	Environment and Sustainability
9	20MBA113	Ethics, Governance and Corporate Responsibility	Professional Ethics
10	20MBA115	Legal System for Business	Gender& Human Values





PRINCIPAL
Nehru College of Engineering an
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiruvilwamaia, Thrissur - 680588

HUMANITIES

SEMESTER -3



13_

PRINCIPAL

Nehru College of Engineering and Research Centre Pampacy, Thinivilwamala, Thiscor Dt. Pin - 650, 597, Kerota

CODE	CHICTAINIADI E ENGINEEDING	CATEGORY	L	T	P	CREDIT
MCN201	SUSTAINABLE ENGINEERING		2	0	0	NIL

Preamble: Objective of this course is to inculcate in students an awareness of environmental issues and the global initiatives towards attaining sustainability. The student should realize the potential of technology in bringing in sustainable practices.

Prerequisite: NIL

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the relevance and the concept of sustainability and the global initiatives in this direction.
CO 2.	Explain the different types of environmental pollution problems and their sustainable solutions
CO 3	Discuss the environmental regulations and standards
CO 4	Outline the concepts related to conventional and non-conventional energy
CO 5	Demonstrate the broad perspective of sustainable practices by utilizing engineering knowledge and principles

Mapping of course outcomes with program outcomes

PO 1 PO	2 PO 3 PO 4 PO 5 PO 6 PO 7 PO 8 PO 9 PO 10 11	PO 12
CO 1	2 2 3 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2
CO 2	- L. T	2
CO 3	14 - 3 - 7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	2
CO 4		2
CO 5	E., p. 2 3	2

Assessment Pattern

Mark distribution

Bloom's Category		Continuous A	ssessment Tests	End Semester Examination
	T. TA	ALL STORY	29 1	
Remember	** ** **	20	20	40
Understand	· 10/ · 40/4 · 3/6	*20.	*20	407
Apply	i : 13	10	* 10 * 10 * 10 * 10 * 10 * 10 * 10 * 10	20
Analyse	**	£. *.		
Evaluate		* 5	J. 27	SKIA, III
Create		1000	4.00	. **

Continuous Internal Evaluation Pattern:

Attendance

: 10 marks

Continuous Assessment Test (2 numbers)

: 25 marks

A -- !- -- -- -- ! O -- !- ! .

. 25 1141140

Assignment/Quiz/Course project : 15 marks

End Semester Examination Pattern: There will be two parts; Part A and Part B. Part A contain 10 questions with 2 questions from each module, having 3 marks for each question. Students should answer all questions. Part B contains 2 questions from each module of which student should answer any one. Each question can have maximum 2 sub-divisions and carry 14 marks.

ARMCIPAL1 Nehru College of

Renzu College of Engineering and Research Contrel Pampady, Tolluvilwamata, Thrissur D:

Pin - 660 597, Kerala

Syllabus

Sustainability- need and concept, technology and sustainable development-Natural resources and their pollution, Carbon credits, Zero waste concept. Life Cycle Analysis, Environmental Impact Assessment studies, Sustainable habitat, Green buildings, green materials, Energy, Conventional and renewable sources, Sustainable urbanization, Industrial Ecology.

Module 1

Sustainability: Introduction, concept, evolution of the concept; Social, environmental and economic sustainability concepts; Sustainable development, Nexus between Technology and Sustainable development, Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs), Clean Development Mechanism (CDM).

Module 2

Environmental Pollution: Air Pollution and its effects, Water pollution and its sources, Zero waste concept and 3 R concepts in solid waste management; Greenhouse effect, Global warming, Climate change, Ozone layer depletion, Carbon credits, carbon feading and carbon foot prints legal provisions for environmental protection.

Module 3

Environmental management standards: ISO 14001:2015 frame work and benefits, Scope and goal of Life Cycle Analysis (LCA), Circular economy, Bio-mimioking, Environment Impact Assessment (EIA), Industrial ecology and industrial symbiosis.

Module 4

Resources and its utilisation: Basic concepts of Conventional and non-conventional energy, General idea about solar energy, Fuel cells, Wind energy, Small hydro plants, bio-tuels, Energy derived from oceans and Geothermal energy.

Module 5

Sustainability practices: Basic concept of sustainable habitat, Methods for increasing energy efficiency in buildings, Green Engineering, Sustainable Urbanisation, Sustainable cities, Sustainable transport

Reference Books

- 1. Allen, D. T. and Shonnard, D. R. Sustainability Engineering: Concepts, Design and Case Studies, Prentice Hall.
- 2. Bradley. A.S; Adebayo, A.O. Mario, P. Engineering applications in sustainable design and development, Cengage learning
- 3. Environment Impact Assessment Guidelines, Notification of Government of India, 2006
- 4. Mackenthun, K.M., Basic Concepts in Environmental Management, Lewis Publication, London, 1998
- 5. ECBC Code 2007, Bureau of Energy Efficiency, New Delhi Bureau of Energy Efficiency Publications-Rating System, TERI Publications GRIHA Rating System
- 6.Ni bin Chang, Systems Analysis for Sustainable Engineering: Theory and Applications, McGraw-Hill Professional...
- 7. Twidell, J. W. and Weir, A. D., Renewable Energy Resources, English Language Book Society (ELBS).
- 8. Purohit, S. S., Green Technology An approach for sustainable environment, Agrobios Publication



PRINCHEAL

4 Nehru College of
Engineering and Research Centre
Fun - bolissi Folia

Course Contents and Lecture Schedule

No	Topic	No. of Lectures
1	Sustainability	22 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1.1	Introduction, concept, evolution of the concept	1
1.2	Social, environmental and economic sustainability concepts	1
1.3	Sustainable development, Nexus between Technology and Sustainable development	1 .
1.4	Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)	1. 188 SV
1.5	Clean Development Mechanism (CDM)	1 30
2	Environmental Pollution	
2.1	All Politition and its effection	1 . ****
2.2	Water pollution and its sources	1
2.3	Zero waste concept and 3-R concepts in solid waste management	1
2.4	Greenhouse effect, Global Warming, Climate change, Ozone layer depletion	
2.5	Carbon credits, carbon trading and carbon foot print.	11 (12)
2.6	Legal provisions for environmental protection	1.
3	Legal provisions for environmental protection. Environmental management standards	range min safet and
3.1	Environmental management standards	1.5
3.2	Environmental management standards ISO 14001 2015 frame work and benefits	11
3.3	Scope and Goal of Life Cycle Analysis (LCA)	
3.4	Circular economy, Bio-minicking	
3.5	Environment Impact: Assessment (EIA)	
3.6	Industrial Ecology Industrial Symbiosis	
4	Resources and its utilisation	
4.1	Basic concepts of Conventional and non-conventional energy	1
4.2	General idea about solar energy, Fuel cells	1 3
4.3	Wind energy, Small hydre plants, bio-fuels	11-3
.4.4	Energy derived from oceans and Geothermal energy	3] 3]
5	Sustainability Practices	a fi
5.1		I 💮
5.2	Methods for increasing energy efficiency of buildings	1
5.3	Green Engineering	1
5.4	Sustainable Urbanisation, Sustainable cities, Sustainable transport	1



Engineering and Research Centisur Dr. Pampady, Thirtill Wws680.639 his early Pin - 680 537, Kerala

Total Marks	CIE	ESE	ESE Duration
150	50	100	3 hours

Course Level Assessment Questions

Course Outcome 1 (CO1): Understand the relevance and the concept of sustainability and the global initiatives in this THE LOW THE WAR WAS AND THE WAY direction

1. Explain with an example a technology that has contributed positively to sustainable development.

- Middle

2. Write a note on Millennium Development Goals.

Course Outcome 2 (CO2): Explain the different types of environmental pollution problems and their sustainable solutions

- 1. Explain the 3R concept in solid waste management? TOTAL C
- 2. Write a note on any one environmental pollution problem and suggest a sustainable solution.
- 3. In the absence of green house effect the surface temperature of earth would not have been suitable for survival of life on earth. Comment on this statement

Course Outcome 3(CO3). Discuss the environmental regulations and standards

1. Illustrate Life Cycle Analysis with an example of your choice

- "Nature is the most successful designer and the most brilliant engineer that has ever evolved". Discuss.

Course Outcome 4 (CO4); Quiling the concepts related to conventional and non-conventional energy

- 1. Suggest a sustainable system to generate hot water in a residential building in tropical climate.
- 2. Enumerate the impacts of biomass energy on the environment.

Course Outcome 5 (CO5): Demonstrate the broad perspective of sustainable practices by utilizing engineering knowledge and principles.

*** 1. Suggest suitable measures to make the conveyance facilities used by your institution sustainable. Model Question paper

*** TABLE .

Part A

*** ** (Answer all questions. Each question carries 3 marks each)

- Define sustainable development.
- Write a short note on Millennium Development Goals. 200

1 3 mm

Describe carbon credit.

NEHRU

- Give an account of climate change and its effect on environment.
- Describe biomimicry? Give two examples.

(Bxplain the basic concept of Life Cycle Assessment.

Name three renewable energy sources.

Nehru College of Engineering and Research Centra Plampady, Thirdvilwamala, Thrissur Dt Pin - 680 597, Kerala

2

- 8. Mention some of the disadvantages of wind energy.
- 9. Enlist some of the features of sustainable habitat.
- 10. Explain green engineering.

Part B

(Answer one question from each module. Each question carries 14 marks)

- 11. Discuss the evolution of the conception sustainability. Comment on its relevance in the modern world.
 - OR
- 12. Explain Clean Development Mechanism.
- 13. Explain the common sources of water pollution and its harmful effects
 - OR
- 14. Give an account of solid waste management in cities.
- 15. Explain the different steps involved in the conduct of Environmental Impact Assessment
 - ÓR:
- 16. Suggest some methods to create public awareness on environmental issues.
- 17. Comment on the statement, "Almost all energy that man uses comes from the Sun".
 - OI

- 18. Write notes on:
 - a. Land degradation due to water logging.
 - b. Over exploitation of water.
- 19. Discuss the elements related to sustainable urbanisation

OR

20. Discuss any three methods by which you can increase energy efficiency in buildings.

PAICIPAL

Eagineering and Research Centre Pumpady Throvilwamala, Thrissur Di

Pin - 660 597, Kerala



HUMANITIES

CODE	COURSE NAME	CATEGORY	L	T	₽	CREDIT
			2	0	0	2
EST 200	DESIGN AND ENGINEERING	TO BE WASHING				The season

cite ap

Preamble:

The purpose of this course is to

- i) introduce the undergraduate engineering students the fundamental principles of design engineering,
- ii) make them understand the steps involved in the design process and
- iii) familiarize them with the basic tools used and approaches in design.

Students are expected to apply design thinking in learning as well as while practicing engineering, which is very important and relevant for today. Case studies from various practical situations will help the students realize that design is not only concerned about the function but also many other factors like customer requirements, economics, reliability, etc. along with a variety of life cycle issues.

The course will help students to consider aesthetics, ergonomics and sustainability factors in designs and also to practice professional ethics while designing.

Prerequisite:

Nil.The course will be generic to all engineering disciplines and will not require specialized preparation of prerequisites in any of the individual engineering disciplines.

Course Outcomes:

After the completion of the course the student will be able to

CO 1	Explain the different concepts and principles involved in design engineering.
CO 2	Apply design thinking while learning and practicing engineering.
CO 3	Develop innovative, reliable, sustainable and economically viable designs incorporating knowledge in engineering.

Mapping of course outcomes with program outcomes

	PO 1	PO 2	PO 3	PO 4	*PO 5	PO 6	PÖ 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	2	1				W.	1			1		
CO 2		2				1		1				2
CO 3		-	2			1	1		2	2		1



PRINCIPAL
NAhru College of
Engineering and Research Centre
Pampady, Thiravilwamata, Thrissur Dt.
Pin - 680 597, Karala

Assessment Pattern

Continuous Internal Evaluation (CIE) Pattern:

Attendance : 10 marks
Continuous Assessment Test (2 numbers) : 25 marks
Assignment/Quiz/Course project : 15 marks

End Semester Examination (ESE) Pattern; There will be two parts; Part A and Part B.

Part A

: 30 marks

part B

: 70 marks

Part A contains 10 questions with 2 questions from each module, having 3 marks for each question.

Students should answer all questions.

Part B contains 2 case study questions from each module of which student should answer any one.

Each question carry 14 marks and can have maximum 2 sub questions.

Mark distribution

- X		302		200.03	5a.	· 800:	200	SYSSES.	1			2.70kg	: 415		P. 100	W. 4	Mil Ty	16	. %	10 37	6:00		3-1		181	4
7.		To			8.0		_ 8		61	-	T. 7			CI		30	fiot .	3 11		CI	dir.	100	title of	iói	A	
	À:	IO	Ld	11	na	rK	5		L.		AU.			16.	- 111	ALL II	West N	1	Š.C	30	·	u	at	101	1	
R	F. 18	25.00	4.30			i.	W. I.		Rri.	208		2			* :X:		NJ.		10	7				.83-	1.11	1
	X.3	X1120	k:x	385.	(C)*(C)			00	~!×	14	1	ing	in:		ih .		, : 25	x: %				× . it			3 3	1
	***	15	M3	1 13			1		50		2		1	00	1		100	Eko	23	h	OI	irs		.**:	X81- 1.	*
1		1200	-	1×1	-7118	1. 34		,	-			,,			0	7.	- code x	Alexander of the same	*/	10	X.	+3			West of	
		20	:	die		,	NY.			2	- Tarm	· dia	12		il-s			30		. 3,200	. 14			N . VIII.		â
*	1.0	*****	-	CHINA.		NULL OF	37	1	20000	2000	M.57.11	-	333	-2002	- XY	3 -1 X ::	(A. 10)	00 1 F 100 F	-		A . W.			M MV	-	-

Bloom's Cate	gory	Continuous Asse	essment Tests 🦠	End Semester
		1	2*	Examination
Remember		1 1 €/3. 5 × 1	5	10
Understand	THE PARTY OF THE P	10	10	20
Apply		35	35	70
Analyse			mark to the property of	
Evaluate			4.1	
Create		- 1. The state of		

PRINCIPAL Nehru Cottoge of

mineering and Research Centre appears inicivity amala, Thrissur Di 3 Pin - 620 597, Kerala



Syllabus

新教行

Module 1

Design Process:- Introduction to Design and Engineering Design, Defining a Design Process-: Detailing Customer Requirements, Setting Design Objectives, Identifying Constraints, Establishing Functions, Generating Design Alternatives and Choosing a Design.

Module 2

Approach:-Introduction to Design Thinking, Iterative Design Thinking Process Stages: Empathize, Define, Ideate, Prototype and Test. Design Thinking as Divergent-Convergent Questioning. Design Thinking in a Team Environment.

Module 3

Communication (Languages of Engineering Design):-Communicating Design Designs Graphically, Communicating Designs Orally and in Writing Mathematical Modeling In Design, Prototyping and Proofing the Design.

Module 4

Design Engineering Concepts:-Project-based Learning and Problem-based Learning in Design Modular Design and Life Cycle Design Approaches. Application of Biomimicry, Aesthetics and Ergonomics in Design. Value Engineering, Concurrent Cise Engmeeting in Design. Engineering, and Reverse Engineering in Design.

Module 5

省或精母转要多数 青春樓立 CA WIN WE WAY Expediency, Economics and Environment in Design Engineering: Design for Production, Use, and Sustainability. Engineering Economics in Design. Design Rights, Ethics in Design A THE REAL PROPERTY.

Text Books

- 1) YousefHaik, Sangarappilla Sivaloganathan, Tamer M. Shahin, Engineering Design Process, Cengage Learning 2003, Third Edition, ISBN-10: 9781305253285,
- 2) Voland, G., Engineering by Design, Pearson India 2014, Second Edition, ISBN 9332535051

- 1. Philip Kosky, Robert Balmer, William Keat, George Wise, Exploring Engineering, Fourth Edition: An Introduction to Engineering and Design, Academic Press 2015, 4th Edition, ISBN: 9780128012420.
- 2. Clive L. Dym, Engineering Design: A Project-Based Introduction, John Wiley & Sons, New York 2009, Fourth Edition, ISBN: 978-1-118-32458-5
- 3. Nigel Cross, Design Thinking: Understanding How Designers Think and Work, Berg Publishers 2011, First Edition, ISBN: 978-1847886361

Ac Pally G., Beitz, W., Feldhusen, J., Grote, K.-H., Engineering Design: A Systematic Approach, Springer 2007, Third Edition, ISBN 978-1-84628-319-2

> Nehru College of Engineering and Research Centre Fainpagy, Thiruvilwamala, Thrissur Dt. Pin - 689 597, Kerala

Module 2

(13) Illustrate the design thinking approach for designing a bag for college students within a limited budget. Describe each stage of the process and the iterative procedure involved. Use hand sketches to support your arguments.

(14)Construct a number of possible designs and then refine them to narrow down to the best design for a drug trolley used in hospitals. Show how the divergent-convergent thinking helps in the process. Provide your rationale for each step by using hand sketches only.

Module 3

(15) Graphically communicate the design of a thermo flask used to keep hot coffee. Draw the detailed 2D drawings of the same with design detailing, material selection, scale drawings, dimensions tolerances, etc. Use only hand sketches.

(16)Describe the role of mathematical modelling in design engineering. Show how mathematics and physics play a role in designing a lifting mechanism to raise 100 kg of weight to a floor at a height of 10 meters in a construction site.

- Module 4 (17) Show the development of a nature inspired design for a solar poweredbus waiting shed beside a highway. Relate between natural and man-made designs. Use hand sketches to support your arguments.
- (18)Show the design of a simple sofa and then depict how the design changes when considering 1) aesthetics and 2) ergonomics into consideration. Give hand sketches and explanations to justify the changes in designs. Justin

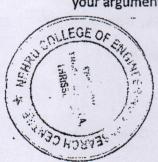
Module 5

- (19)Examine the changes in the design of a foot wear with constraints of 1) production methods, 2) life span requirement, 3) reliability issues and 4) environmental factors. Use hand sketches and give proper rationalization for the changes in design.
- (20)Describe the how to estimate the cost of a particular design using ANY of the following: i) a website, ii) the layout of a plant, iii) the elevation of a building, iv) anelectrical or 14 14 electronic system or device and v) a car.
- Show how economics will influence the engineering designs. Use hand sketches to support your arguments.

(5x14 marks = 70 marks)

Page 2 of 2

Engineering and Research Centre Pampady, Thiruvilwamala, Thrissur DI Pin - 680 597, Kerala



Model Question paper

Page 1 of 2
Reg No.:Name:
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD/FOURTH SEMESTER B.TECH DEGREE EXAMINATION
Course Code: EST 200
Course Name: DESIGN AND ENGINEERING
Max: Marks: 100Dyration: 3 Hours
PARTA
Answer all questions, each question carries 3 marks
Use only hand sketches
(1)Write about the basic design process.
(2) Describe how to finalize the design objectives.
(3) State the role of divergent convergent questioning in design thinking,
(4) Discuss how to perform design thinking in a team managing the conflicts.
(5) Show how engineering sketches and drawings convey designs:
(6) Explain the role of mathematics and physics in design engineering process.
(7) Distinguish between project-based learning and problem-based learning in design
engineering
(8) Describe how concepts like value engineering, concurrent engineering and reverse
engineering influence engineering designs?
(9) Show how designs are varied based on the aspects of production methods, life span,
reliability and environment?
(10) Explain how economics influence the engineering designs?
(10x3 marks = 30 marks)
Part B
Answer any ONE question from each module. Each question carry 14 marks
· · · · · · · · · · · · · · · · · · ·

Module 1

(11) Show the designing of a wrist watch going through the various stages of the design process. Use hand sketches to illustrate the processes.

design objectives were finalized considering the design constraints? (12) Find the customer requirements for designing a new car showroom. Show how the

Nehru College of Engineering and Research Centre Fampady Thiruvilwamala, Thrissur Dt. Pin - 680 557, Kecala

PRINCIPAL

Course Level Assessment Questions

Course Outcome 1 (CO1): Appreciate the different concepts and principles involved in design engineering.

- 1. State how engineering design is different from other kinds of design
- 2. List the different stages in a design process.
- 3. Describedesign thinking.
- 4. State the function of prototyping and proofing in engineering design.
- 5. Write notes on the following concepts in connection with design engineering 1) Modular Design,
- 2) Life Cycle Design, 3) Value Engineering, 4) Concurrent Engineering, and 5) Reverse Engineering
- 6. State design rights.

Course Outcome 2 (CO2) Apply design thinking while learning and practicing engineering.

- 1. Construct the iterative process for design thinking in developing simple products like a pen, umbrella, bag, etc.
- 2. Show with an example how divergent-convergent thinking helps in generating alternative designs and then how to narrow down to the best design.
- 3. Describe how a problem-based learning helps in creating better design engineering solutions.
- 4. Discuss as an engineer, how ethics play a decisive role in your designs

Course Outcome 3(CO3): Develop innovative, reliable, sustainable and economically viable designs incorporating different segments of knowledge in engineering.

- 1. Illustratethe development of any simple product by passing through the different stages of design process
- 2. Show thegraphical design communication with the help of detailed 2D or 3D drawings for any simple product.
- 3. Describe how to develop new designs for simple products through bio-mimicry.



PRINCIPAL
Nehru College of
Engineering and Research Centre
Pempady, Thirtvilwamaia, Thrissur Dt.
Pin + 680 697, Kerala

Code.	Course Name	L	T	P	Hrs	Credit
HUT 200	Professional Ethics	2	0	0	2	2

<u>Preamble:</u>To enable students to create awareness on ethics and human values.

Prerequisite: Nil

Course Outcomes: After the completion of the course the student will be able to

CO 1	Understand the core values that shape the ethical behaviour of a professional,
CO 2	Adopt a good character and follow an ethical life.
CO 3	Explain the role and responsibility in technological development by keeping personal ethics and legal ethics.
CÒ 4	Solve moral and ethical problems through exploration and assessment by established experiments.
CO 5	Apply the knowledge of human values and social values to contemporary ethical values and global issues.

Mapping of course outcomes with program outcomes

		Mark Sall Com	5 MW WW. "	788 22: 134	the will	44.5		8	PROPERTY OF	who with the world	ASS. A	
	PO	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1	PO1	PO1
	1	* 1 1 1 1 1 1 1 1 1 1	He 18.3		# 1	1.4. 1. 8.			46 1 1	0	1	2
CO1				. A.	Arrive M			2	4	5 4 Cal	2	
CO 2			Maria de la composición dela composición de la composición dela composición dela composición dela composición de la composición dela composición de la composición dela composición de	S	THE THE PERSON AND A	A STAN	104 9 V	2	(Marror (A)		2	
CO3		Reference to	** 783.41 ***		\$ 4. K.	A TOWN ON	水 雅 湖	3	'à '		2	
CO4					in the	1 84		3			- 2	
CO 5		:		5 ·	· · · · · · · · · · · · · · · · · · ·			3	· · · · · · · · · · · · · · · · · · ·		2	
		19.16			12 M 🛬		4:0 n- 3		60761			
Assessi	ment I	Pattern	* * *		* 1 .	3	· · · · · ·					

Bloom's category	Continuou 1	s Assessment T	ests with the second se	End Semester Exam
Remember	15		15	30
Understood	20		20	40
Apply	15		15	30

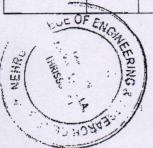
* -35 37

Mark distribution

Mark distri	bution		
Total Marks	CIE	ESE	ESE Duration
150	50	100	3 hours

PHINCIPAL Mahru College of

Engineering and Research Centre Pampady, Thirevilwamala, Thrissur Dt. Pin - 680 597, Kerala



	products using bio-mimicry and train students to bring out new nature inspired designs.						
5	Module 5: Expediency, Economics and Environment in Design						
	Engineering						
5.1	Design for Production, Use, and Sustainability.						
	How designs are finalized based on the aspects of						
	production methods, life span, reliability and						
	environment?						
5.2	Engineering Economics in Design.						
	How to estimate the cost of a particular design and how						
	will economics influence the engineering designs?						
5.3	Design Rights.						
	What are design rights and how can an engineer put it						
	into practice?						
5.4	Ethics in Design						
	How do ethics play a decisive role in engineering design?						
5.5	Case Studies: Design for Production, Use, and						
	Sustamability.						
	Conduct exercises using simple products to show how designs						
	change with constraints of production methods, life span						
	requirement, reliability issues and environmental factors.						
	Second Series Examination						



PHINCIPAL

Pangineering and Research Centre Pampady, Thiruvilwamala, Thessur Dt. Pin • 680 597, Kerala

Syllabus

Module 1 - Human Values.

Morals, values and Ethics - Integrity- Academic integrity-Work Ethics- Service Learning- Civic Virtue-Respect for others- Living peacefully- Caring and Sharing- Honestly- courage-Cooperation commitment-Empathy-Self Confidence -Social Expectations

Module 2 - Engineering Ethics & Professionalism.

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

Module 3- Engineering as social Experimentation.

M & AND M

Engineering as Experimentation - Engineers as responsible Experimenters- Codes of Ethics- Plagiarism-A balanced outlook on law-Challenges case study- Bhopaligas tragedy.

Module 4- Responsibilities and Rights.

Collegiality and loyalty - Managing conflict- Respect for authority- Collective bargaining- Confidentiality-Role of confidentiality in moral integrity-Conflicts of interest- Occupational crime- Professional rights-Employee right-IPR Discrimination.

Module 5- Global Ethical Issues.

Multinational Corporations- Environmental Ethics- Business Ethics- Computer Ethics -Role in Technological Development-Engineers as Managers- Consulting Engineers- Engineers as Expert witnesses and advisors-Moral leadership.

Text Book

- 1. M Govindarajan, S Natarajan and V S Senthil Kumar, Engineering Ethics, PHI Learning Private Ltd, New Delhi 2012.
- 2. R S Naagarazan, A text book on professional ethics and human values, New age international (P) limited, New Delhi 2006.

Reference Books

MEHRI

1. Mike W Martin and Roland Schinzinger, Ethics in Engineering,4th edition, Tata McGraw Hill Publishing Company Pvt Ltd, New Delhi,2014.

20224 W##33

- 2. Charles D Fleddermann, Engineering Ethics, Pearson Education/ Prentice Hall of India, New Jersey, 2004.
- 3. Charles E Harris, Michael S Protchard and Michael J Rabins, Engineering Ethics- Concepts and You sases, Wadsworth Thompson Learning, United states, 2005.

OF ENGINEERS, Wadsworth Thompson Learning, Charles, Carrier, Madsworth Thompson Learning, Charles, Carrier, Ca

4 # # # # B B

PRINCIPAL
Nohru College of
Engineering and Research Contra
Pampady, Thirdy wamala, Thirdy Pin ~660 597, Kerara

(8+6 = 14 marks)

MODULE II

- 13.a) Explain the three main levels of moral developments, deviced by Kohlberg.
 - b) Differentiate moral codes and optimal codes.

(10+4 = 14 marks)

BRANCH TRANSPORT AND THE OUT TO SEE THE SECOND SECO

- 14. a) Extrapolate the duty ethics and right ethics.
 - b) Discuss in detail the three types of inquiries in engineering ethics

(8+6 = 14 marks)

MODULEIII

- 15.a) Summarize the following features of morally responsible engineers.
 - (i) Moral autonomy

(ii) Accountability

b)Explain the rights of employees:

(8+6 = 14 marks)

Or

- 16. a) Explain the reasons for Chernobyl mishap?
 - b) Describe the methods to improve collegiality and loyalty

(8+6=14 marks)

MODULE IV

- 17.a) Execute collegiality with respect to commitment, respect and connectedness.
 - b) Identify conflicts of interests with an example.

(8+6 = 14 marks)

Or

- 18. a) Explain in detail about professional rights and employee rights.
 - b) Exemplify engineers as managers.

MODULEV

- 19.a) Evaluate the technology transfer and appropriate technology
- b) Explain about computer and internet ethics.

(8+6 = 14 marks)

10

- 20. a) Investigate the causes and effects of acid rain with a case study.
 - b) Conclude the features of ecocentric and biocentric ethics.

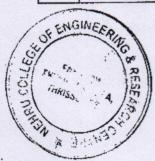
(8+6 = 14 marks)



PRINCE AL.
Nichru Culiege of
Engineering and Research Centre
Pampady, Thiruvilwamala, Thrissur Dt.
Pin - 650 597, Kerala

Course Contents and Lecture Schedule

SL.N	Topic	No. of Lectures
0		25
1	Module 1 - Human Values.	Kadama.
1.1	Morals, values and Ethics, Integrity, Academic Integrity, Work Ethics	1
1.2	Service Learning, Civic Virtue, Respect for others, Living pedcefully	1
1.3	Caring and Sharing, Honesty, Courage, Co-operation commitment	2
1.4	Empathy, Self Confidence, Social Expectations	1
2	Module 2- Engineering Ethics & Professionalism.	
2.1	Senses of Engineering Ethics, Variety of moral issues, Types of inquiry	1
2.2	Moral dilemmas, Moral Autonomy, Kohlberg's theory	1 (1)
2.3	Professionalism, Models of professional roles, Theories about right action	
2.4	Self interest-Customs and Religion, Uses of Ethical Theories	1 1
3	Module 3. Engineering as social Experimentation.	70 - 70 - 70 - 70 - 70 - 70 - 70 - 70 -
3.1	Engineering as Experimentation, Engineers as responsible Experimenters	1
3.2	Codes of Ethics, Plagiarism, A balanced outlook on law	2
3.3	Challenger case study, Bhopal gas tragedy	2 3
4	Module 4- Responsibilities and Rights.	
4.1	Collegiality and loyalty, Managing conflict, Respect for authority	1
4.2	Collective pargaining, Confidentiality, Role of confidentiality in moral integrity, Conflicts of interest	· 2h
4.3	Occupational crime, Professional rights, Employee right, IPR	2
5	Module 5- Global Ethical Issues.	
5.1	Multinational Corporations, Environmental Ethics, Business Ethics, Computer Ethics	2
5.2	Role in Technological Development Moral leadership	1
5.3	Engineers as Managers, Consulting Engineers, Engineers as Expert witnesses and advisors	2



PRINGLEAL
Nehru College of
Engineering and Research Cenfré
Fumpady, Thiruvilwamula, Thrissur Di
Pin - 680 597, Kerala

Model Question paper

QP CODE:		Reg No:
PAGES:3		Name :
	M TECHNOLOGICAL UNIVERSITY ECH DEGREE EXAMINATION, MC	NTH & YEAR
Max. Marks: 100	Course Name: PROFESSIONAL I (2019-Scheme)	
	(Answer all questions, each question	
 Interpret the two List out the mode Indicate the adva Point out the conf Identify the conf Recall confident 	and honesty. bout morals, values and ethics forms of self-respect. Is of professional roles attages of using standards. ditions required to define a valid consent licts of interests with an example? ality tures of biometric ethics.	
	PARTB	(10x3 = 30 marks)
(Answer one ful	I question from each module, each que	stion carries 14 marks)
11. a) Classify the rela	MODULE 1 ationship between ethical values and law?	PRACIPAL Nenru College of
LEGE OF SA Compare between	en caring and sharing. Or	(10+Engineering and Research Centre Pampady, Implivitivamata Trossur Ut. Pin - 680 557, Kerata
12. a) Exemplify a con	nprehensive review about integrity and respec	et for others.

Model Question paper

QP CODE:	Reg No:
PAGES:3	Name :
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSIT	
B. TECH DEGREE EXAMINATION, M	
Course Code: HUT 200 Course Name: PROFESSIONAI	ETHICS
Max. Marks: 100	Duration: 3 Hours
(2019-Scheme)	
(Answer all questions, each questions)	on-carries 3 marks)
1. Define empathy and honesty,	
2. Briefly explain about morals, values and ethics:	
3. Interpret the two forms of self-respect.	
4. List our the models of professional roles:	
5. Indicate the advantages of using standards.	
6. Point out the conditions required to define a valid conse	nt?
7. Identify the conflicts of interests with an example?	
8. Recall confidentiality	
9. Conclude the features of biometric ethics.	
10. Name any three professional societies and their role rele	vant to engineers.
	(10x3 = 30 marks)
PARTB	
(Answer one full question from each module, each question from each q	uestion carries 14 marks)
MODULET	
11. a) Classify the relationship between ethical values and law?	10
Compare between caring and sharing.	(10+4 = 14 marks)
Or 12. a) Exemplify a comprehensive review about integrity and res	Numru College of Research Centre
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Panipady, Thirdvilwamala, Tarissur Dt. Pin - 880 597, Keraia

Continuous Internal Evaluation Pattern:

10 marks Continuous Assessment Tests (2 Nos) 25 marks Assignments/Quiz 15 marks

End Semester Examination Pattern: There will be two parts; Part A and Part B. Part A contains 10 questions with 2 questions from each module, having 3 marks for each question. Students should answer all questions. Part B contains 2 questions from each module of which student should answer any one. Each question can have maximum 2 sub-divisions and carry 14 marks.

Course Level Assessment Questions

Course Outcome 1 (CO1):

- 1. Define integrity and point out ethical values
- 2. Describe the qualities required to live a peaceful life.
- 3. Explain the role of engineers in modern society.

Course Outcome 2 (CO2)

- 1. Derive the codes of ethics
- 2. Differentiate consensus and controversy.
- 3. Discuss in detail about character and confidence.

Course Outcome 3(CO3): 💸

- Course Outcome B(CO3):

 1. Explain the role of professional's ethics in technological development.
- 2. Distinguish between self interest and conflicts of interest.
- 3. Review on industrial standards and legal ethics

Course Outcome 4 (CO4):

- 1. Illustrate the role of engineers as experimenters.
- 2. Interpret the terms safety and risk.
- 3. Show how the occupational crimes are resolved by keeping the rights of employees.

Course Outcome 5 (CO5):

- 1. Exemplify the engineers as managers.
- 2. Investigate the causes and effects of acid rain with a case study.
- 3. Explorate the need of environmental ethics in technological development.

3. 7 M. .

W. W.

Engineering and mass, ren Centry Parapady, Thirovilwamaia, Thressur Dt. Pin - 680 597, Kerala



HUMANITIES

CODE	COURSE NAME	CATEGORY	L	T	P	CREDIT
MCN202	CONSTITUTION OF INDIA		2	0	0	NIL

Preamble:

The study of their own country constitution and studying the importance environment as well as understanding their own human rights help the students to concentrate on their day to day discipline. It also gives the knowledge and strength to face the society and people.

Prerequisite: Nil

Course Outcomes: After the completion of the course the student will be able to

CO 1	Explain the background of the present constitution of India and features.
CO 2	Utilize the fundamental rights and duties.
CO 3	Understand the working of the union executive, parliament and judiciary.
CO 4	Understand the working of the state executive, legislature and judiciary.
CO 5	Utilize the special provisions and statutory institutions.
CO 6	Show national and patriotic spirit as responsible citizens of the country

Mapping of course outcomes with program outcomes

		- AR 0.	5 M.J.	200 000		A. W.	4: 462: 4 7/4 3	1	1 100 7 843	W. W		
1	PO 1	PO 2	PO3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO	PO	PO
			100 Salas			1960 ; 187.	4			10	11	12
CO 1		n. 98 0			100	2	2	2	50	*2 *		
CO 2					9	3	*3	3		3		
CO3				* 7	*	3	2	3		3		
CO 4					**	3	2	3	£	3		
CO 5.					Special Section 1.	3-4	2	3	×	3		
CO 6					. 31	3	3	3	\$.	2		

Assessment Pattern

PRINCIPAL Nehru College of

Bloom's Category	Continuous	Assessment	Pin - 650 597, Keraja
	1	2	Carl No shall serve and a serve and
Remember	20	20	40
Understand	20	20	40
Apply (%)	10	10	20
Analyse E	San Dark San San		

Evaluate		
Create		

Mark distribution

Total	CIE	ESE	ESE Duration	
Marks	F 4.24			11178-1618 1
150	50	100	3 hours	

Continuous Internal Evaluation Pattern:

Attendance : 10 marks : Continuous Assessment Test (2 numbers) : 25 marks : Assignment/Quiz/Course project : 15 marks :

End Semester Examination Pattern: There will be two parts; Part A and Part B. Part A contain 10 questions with 2 questions from each module, having 3 marks for each question. Students should answer all questions. Part B contains 2 questions from each module of which student should answer any one. Each question can have maximum 2 sub-divisions and carry 14 marks:

Course Level Assessment Questions

Course Outcome 1 (CO1):

- 1 Discuss the historical background of the Indian constitution.
- 2 Explain the salient features of the Indian constitution.
- 3 Discuss the importance of preamble in the implementation of constitution.

Course Outcome 2 (CO2)

- 1 What are fundamental rights ? Examine each of them.
- 2 Examine the scope of freedom of speech and expression underlying the constitution.
- 3 The thumb impression of an accused is taken by the police against his will. He contends that this is a violation of his rights under Art 20(3) of the constitution. Decide.

Course Outcome 3(CO3):

OF ENGINEERS of the President to suspend the fundamental rights during emergency.

PRINCIPAL
Nehru Colorie of
Engineering and Fig.

Engineering and Figs. The Centre Pampuoy, Thiros - See Ott. Pin - E80 Seet, russaa

- 2 Explain the salient features of appeal by special leave.
- 3. List the constitutional powers of President.

Course Outcome 4 (CO4):

- 1 Discuss the constitutional powers of Governor.
- 2 Examine the writ jurisdiction of High court.
- 3 Discuss the qualification and disqualification of membership of state legislature.

Course Outcome 5 (CO5):

1 Discuss the duties and powers of comptroller of auditor general.

E 3 3

- 2 Discuss the proclamation of emergency.
- 3 A state levies tax or motor vehicles used in the state, for the purpose of maintaining roads in the state. X challenges the levy of the tax on the ground that it violates the freedom of interstate commerce guaranteed under Art 301. Decide.

Course Outcome 6 (CO6):

- 1 Explain the advantages of citizenship.
- 2 List the important principles contained in the directive principles of state policy.
- 3 Discuss the various aspects contained in the preamble of the constitution

Model Question paper

PART A

(Answer all questions. Each question carries 3 marks)

- 1 Define and explain the term constitution.
- 2 Explain the need and importance of Preamble.
- 3 What is directive principle of state policy?

4 Define the State.

5 List the functions of Attorney general of India.

PRINCIPAL

Nohru College of Engineering and Research Centre

Pampady, Thiruvilwamala, Thrissur Dt. Pin +680 597, Kerala

- 6 Explain the review power of Supreme court.
- 7 List the qualifications of Governor.
- 8 Explain the term and removal of Judges in High court.
- 9 Explain the powers of public service commission.
- 10 List three types of emergency under Indian constitution.

(10X3=30marks)

PART B

(Answer on question from each module. Each question carries 14 marks)

Module 1

- 11 Discuss the various methods of acquiring Indian citizenship.
- 12 Examine the salient features of the Indian constitution.

THE STATE OF THE S

Module 2

13 A high court passes a judgement against X. X desires to file a writ petition in the supreme court under Art32, on the ground that the judgement violates his fundamental rights.

Advise him whether he can do so.

14 What is meant by directive principles of State policy? List the directives.

Module3

- 15 Describe the procedure of election and removal of the President of India.
- 16 Supreme court may in its discretion grant special leave to appeal. Examine the situation.

Module 4

- 17 Discuss the powers of Governor.
- 18 X filed a writ petition under Art 226 which was dismissed. Subsequently, he filed a writ

of ENGINEER the unit position should be discussed as a line of the constitution, seeking the same remedy. The Government

argued that the writ petition should be dismissed, on the ground of res judicata. Decide.

FIRM THE

Module 5

PRINCIPAL
Nativu Coffage of
Engineering and Research Centre
Pampady, Thiruviwamaia, Thrissur Dt.
Pin. - 680 597, Kerala

19 Examine the scope of the financial relations between the union and the states.

20 Discuss the effects of proclamation of emergency.

(14X5=70marks)

Syllabus

Module 1 Definition, historical back ground, features, preamble, territory, citizenship.

Module 2 State, fundamental rights, directive principles, duties.

Module 3 The machinery of the union government.

Module 4 Government machinery in the states

Module 5 The federal system, Statutory Institutions, miscellaneous provisions.

Text Books

1 D D Basu, Introduction to the constitution of India, Lexis Nexis, New Delhi, 24e, 2019

2 PM Bhakshi, The constitution of India, Universal Law, 14e, 2017

Reference Books

1 Ministry of law and justice. The constitution of India, Govt of India, New Delhi, 2019.

2 JN Pandey, The constitutional law of India, Gentral Law agency, Allahabad, 51e, 2019

3 MV Pylee, India's Constitution, S Chand and company, New Delhi, 16e, 2016

Course Contents and Lecture Schedule

No	Topic	No. of Lectures
1	Module 1	
1.1	Definition of constitution, historical back ground, salient feature of the constitution.	s 1
1.2	Preamble of the constitution, union and its territory.	1 Pict of College of
1.3	Meaning of citizenship, types, termination of citizenship.	וליינים וויינים
2 LEG	Module 2	mpady, Thiruvilwainala, Thiss mpady, Thiruvilwainala, Thiss Pin - 680 597, kerala
6.4	Dentition of state, fundamental rights, general nature,	2
Take.	classification, right to equality ,right to freedom , right against	
- F	exploitation	

Right to freedom of religion, cultural and educational rights, right	2
to constitutional remedies. Protection in respect of conviction for	
offences.	120/19/11/2009
Directive principles of state policy, classification of directives,	2
fundamental duties.	
Module 3	•
The Union executive, the President, the vice President, the	2
council of ministers, the Prime minister, Attorney-General,	
functions.	\ \tag{\tag{\tag{\tag{\tag{\tag{\tag{
The parliament, composition, Rajya sabha, Lok sabha,	2
qualification and disqualification of membership, functions of	
parliament.	Service August Santa
Union judiciary, the supreme court, jurisdiction, appeal by special	
leave.	
Module 4	
The State executive, the Governor, the council of ministers, the	2.
Chief minister, advocate general, union Territories.	
The State Legislature, composition, qualification and	. 2
disqualification of membership, functions	
The state judiciary, the high court, jurisdiction, writs jurisdiction.	
Module 5	* * * * * * * * * * * * * * * * * * *
Relations between the Union and the States, legislative relation,	1
administrative relation, financial Relations, Inter State council,	. afacil-cassa
finance commission:	1.53
Emergency provision, freedom of trade commerce and inter	2
course, comptroller and auditor general of India, public Services,	
public service commission, administrative Tribunals.	
Official language, elections, special provisions relating to certain	2
classes, amendment of the Constitution.	
	Directive principles of state policy, classification of directives, fundamental duties. Module 3 The Union executive, the President, the vice President, the council of ministers, the Prime minister, Attorney-General, functions. The parliament, composition, Rajya sabha, Lok sabha, qualification and disqualification of membership, functions of parliament. Union judiciary, the supreme court, jurisdiction, appeal by specialleave. Module 4 The State executive, the Governor, the council of ministers, the Chief minister, advocate general, union Territories. The State Legislature, composition, qualification and disqualification of membership, functions. The state judiciary, the high court, jurisdiction, writs jurisdiction. Module 5 Relations between the Union and the States, legislative relation, administrative relation, financial Relations, Inter State council, finance commission. Emergency provision, freedom of trade commerce and intercourse, comptroller and auditor general of India, public Services, public service commission, administrative Tribunals. Official language, elections, special provisions relating to certain

PRINCIPAL

Nehru College of
Engineering and Research Centre
Linuxly, Incuviwamala, Thrissur Di
Pin - 680 597, Kerala



HUN	PROFESSIONAL COMMUNICATION	CATEGORY	L	T	P	CREDIT
102		MNC	2	0	2	

Preamble: Clear, precise, and effective communication has become a *sine qua non* in today's information-driven world given its interdependencies and seamless connectivity. Any aspiring professional cannot but master the key elements of such communication. The objective of this course is to equip students with the necessary skills to listen, read, write, and speak so as to comprehend and successfully convey any idea, technical or otherwise, as well as give them the necessary polish to become persuasive communicators.

Prerequisite: None

Course Outcomes: After the completion of the course the student will be able to

CO 1	Develop vocabulary and language skills relevant to engineering as a profession
CO 2	Analyze, interpret and effectively summarize a variety of textual content
CO 3	Create effective technical presentations
CO 4	Discuss a given technical/non-technical topic in a group setting and arrive at generalizations/consensus
CO 5	identify drawbacks in listening patterns and apply listening techniques for specific needs
CO 6	Create professional and technical documents that are clear and adhering to all the necessary conventions

Mapping of course outcomes with program outcomes

1	PO 1	PO.2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO	PO	PO
1		= :	10 Pr 10 A 100	/ 3	a .A	:	**************************************	i Y		10	11	12
CO 1		4,	***	1 / 10 h	1 1 1	g the s				3		2
CO 2		.: 4:	- A (4)	A 33.7		Par p		II	Www.	1		3
CO 3		:	****			1	*	÷ 17 1 4:	1	3		
CO 4			284-370					× 4. 00		3		1 .
CO 5		1	1 14	. 12 . 12 . AV. AV.			** **********************************	1 1 60 0	2	3		
CO 6	1		. '?	# W %	r,	1	9 .	34.0 4	1	3		

Mark distribution

CIE	ESE	ESE Duration		
50	50	2 hours		

PRINCIPAL OF

Nohru College of
Engineering and Research Centre
Pampady, Thiruvilwamala, Thrissur Dt.
Pin - 880 597, Kerala



Continuous Internal Evaluation

Total Marks: 50

Attendance

: 10 marks

Regular assessment

: 25 marks

Series test (one test only, should include verbal aptitude for placement and higher studies, this test

will be conducted for 50 marks and reduced to 15)

· 15 marks

Regular assessment Project report presentation and Technical presentation through PPT

Listening Test

: 7.5 marks : 5 marks

Group discussion/mack job interview

: 7.5 marks

Resume submission

5 marks

End Semester Examination

Total Marks: 50, Time: 2 hrs

Course Level Assessment Questions

Course Outcome 1 [CO1]:

1. List down the ways in which gestures affect verbal communication. A TO THE PARTY

2. Match the words and meanings Ambiguous promotion Bona fide referring to whole Holistic not clear

Exaltation genuine

3. Expand the following Compound Nouns a. Water supply. b. Object recognition. c. Steam

TO MERC

4.25.43

**

Course Outcome 2 (CO2)

1. Read the passage below and prepare notes: ...

Mathematics, rightly viewed, possesses not only truth, but supreme beauty—a beauty cold and austere, like that of sculpture, without appeal to any part of our weaker nature, without the gorgeous trappings of painting or music, yet sublimely pure, and capable of a stern perfection such as only the greatest art can show. The true spirit of delight, the exaltation, the sense of being more than man, which is the touchstone of the highest excellence, is to be found in mathematics as surely as in poetry. What is best in mathematics deserves not merely to be learnt as a task, but to be assimilated as a part of daily thought, and brought again and again before the mind with everrenewed encouragement. Real life is, to most men, a long second-best, a perpetual compromise between the ideal and the possible; but the world of pure reason knows no compromise, no practical limitations, no barrier to the creative activity embodying in splendid edifices the passionate o little however, have mathematicians aimed at beauty, that hardly anything in their work has had propose. Much, owing to irrepressible instincts, which were better than avowed PRIPAL Nehru College. aspiration after the perfect from which all great work springs. Remote from human passions, remote

Pin - 680 597, Kerala

beliefs, has been moulded by an unconscious taste; but much also has been spoilt by false notions of what was fitting. The characteristic excellence of mathematics is only to be found where the reasoning is rigidly logical: the rules of logic are to mathematics what those of structure are to architecture. In the most beautiful work, a chain of argument is presented in which every link is important on its own account, in which there is an air of ease and lucidity throughout, and the premises achieve more than would have been thought possible, by means which appear natural and inevitable, Literature embodies what is general in particular circumstances whose universal significance shines through their individual dress; but mathematics endeavours to present whatever is most general in its purity, without any irrelevant trappings.

Salary of

How should the teaching of mathematics be conducted so as to communicate to the learner as much as possible of this high ideal? Here experience must, in a great measure, be our guide; but some maxims may result from our consideration of the ultimate purpose to be achieved.

- From "On the teaching of mathematics" Bertrand Russell
- 2. Enumerate the advantages and disadvantages of speed reading, Discuss how it can impact comprehension.

1 0004

Course Outcome 3(CO3):

1. What are the key elements of a successful presentation?

- 2. Elucidate the importance of non-verbal communication in making a presentation
- 3. List out the key components in a technical presentation.

Course Outcome 4 (CO4):

- 1. Discuss: 'In today's world, being a good listener is more important than being a good
- 2. Listen to a video/live group discussion on a particular topic, and prepare a brief summary of the proceedings.
- 3. List the do's and don'ts in a group discussion.

Course Outcome 5 (CO5):

- 1. Watch a movie clip and write the subtitles for the dialogue.
- 2. What do you mean by barriers to effective listening? List ways to overcome each of these.
- 3. What are the different types of interviews? How are listening skills particularly important in Skype/telephonic interviews?

Course Outcome 6 (CO6):

- 1. Explain the basic structure of a technical report.
- 2. You have been offered an internship in a much sought-after aerospace company and are very excited about it. However, the dates clash with your series tests. Write a letter to the Manager - University Relations of the company asking them if they can change the dates to coincide with your vacation.
- 3. You work in a well-reputed aerospace company as Manager University Relations. You are in charge of offering internships. A student has sent you a letter requesting you to change the dates allotted to him since he has series exams at that time. But there are no vacancies available during the period he has requested for. Compose an e-mail informing him of this and suggest that he try to arrange the matter with his college.

Nehru College of Engineering and Research Centre Pampady, Thiruvilwamala, Thrissur 24. Pin - 680 597, Kerala

Syllabus

Module 1

Use of language in communication Significance of technical communication Vocabulary Development: technical vocabulary, vocabulary used in formal letters/emails and reports, sequence words, misspelled words, compound words, finding suitable synonyms, paraphrasing, verbal analogies. Language Development: subject-verb agreement, personal passive voice, numerical adjectives, embedded sentences, clauses, conditionals, reported speech, active/passive voice.

Technology-based communication: Effective email messages, slide presentations, editing skills using software. Modern day research and study skills: search engines, repositories, forums such as Git Hub, Stack Exchange, OSS communities (MOOC, SWAYAM, NPTEL), and Quora; Plagiarism

Reading, Comprehension, and Summarizing: Reading styles, speed, valuation, critical reading, reading and comprehending shorter and longer technical articles from journals, newspapers, identifying the various transitions in a text, SQ3R method, PQRST method, speed reading. Comprehension: techniques, understanding textbooks, marking and underlining. Note-taking: recognizing non-verbal cues.

Module 3

Oral Presentation: Voice modulation, tone, describing a process, Presentation Skills: Oral presentation and public speaking skills, business presentations, Preparation: organizing the material, self-Introduction, introducing the topic, answering questions, individual presentation practice, presenting visuals effectively.

Debate and Group Discussions: Introduction to Group Discussion (GD), differences between GD and debate; participating GD, understanding GD, brainstooming the topic, questioning and clarifying, GD strategies, activities to improve GD skills A ALL A

Module 4

Listening and Interview Skills Listening: Active and Passive listening, listening: for general content, to fill up information, intensive listening, to specific information, to answer, and to understand. Developing effective listening skills, barriers to effective listening, listening to longer technical talks, listening to classroom lectures, talks on engineering /technology, listening to documentaries and making notes, TED talks.

Interview Skills: types of interviews, successful interviews, interview etiquette, dress code, body language, telephone/online (skype) interviews, one-to-one interview & panel interview, FAQs related to job interviews COLLEGE OF

Nehru College of neering and Research Centre edy, Thirdvilwamala, Thrissur Dt. Pin - odu 597, Kerala

Module 5

Formal writing: Technical Writing: differences between technical and literary style. Letter Writing (formal, informal and semi formal), Job applications, Minute preparation, CV preparation (differences between Bio-Data, CV and Resume), and Reports. Elements of style, Common Errors in Writing: describing as process, use of sequence words. Statements of Purpose, Instructions, Checklists,

Analytical and issue-based Essays and Report Writing: basics of report writing; Referencing Style (IEEE Format), structure of a report; types of reports, references, bibliography.

Lab Activities

Written: Letter writing, EV, writing, Attending a meeting and Minute Preparation, Vocabulary 3327

Spoken: Phonetics, MMFS (Multimedia Feedback System), Mirroring, Elevator Pitch, telephone etiquette, qualities of a good presentation with emphasis on body language and use of visual aids.

Listening: Exercises based on audio materials like radio and podcasts. Listening to Song, practice and

Reading: Speed Reading, Reading with the help of Audio Visual Aids, Reading Comprehension Skills Mock interview and Debate/Group Discussion: concepts, types, Do's and don'ts-intensive practice Reference Books

- 1. English for Engineers and Technologists (Combined edition, Vol. 1 and 2), Orient Blackswan 2010.
- 2. Meenakshi Raman and Sangeetha Sharma, "Technical Communication: Principles and Practice", 2nd Edition, Oxford University Press, 2011

 3. Stephen E. Lucas, "The Art of Public Speaking", 10th Edition; McGraw Hill Education, 2012.
- Ashraf Rizvi, "Effective Technical Communication", 2nd Edition, McGraw Hill Education, 2017.
- William Strunk Ir. & E.B. White, "The Elements of Style", 4th Edition, Pearson, 1999.
- David F. Beer and David McMurrey, Guide to writing as an Engineer, John Willey. New York, 2004.
- Goodheart-Willcox, "Professional Communication", First Edition, 2017.
- 8. Training in Interpersonal Skills: Tips for Managing Reople at Work, Pearson Education, India, 6 edition, 2015.
- 9. The Ace of Soft Skills: Attitude, Communication and Etiquette for Success, Pearson Education; 1 edition, 2013.
- 10. Anand Ganguly, "Success in Interview", RPH, 5th Edition, 2016.
- 11. Raman Sharma, "Technical Communications", Oxford Publication, London, 2004.

PRINCIPAL Nehru College of Engineering and Research Centre Pampady, Thiruvilwamala, Thrissur Dt. Pin - 580 597, Kerala

HUN	LIFE SKILLS	CATEGORY	L	Т	P	CREDIT	YEAR OF INTRODUCTION
101		MNC	2	0	2		2019

Preamble: Life skills are those competencies that provide the means for an individual to be resourceful and positive while taking on life's vicissitudes. Development of one's personality by being aware of the self, connecting with others, reflecting on the abstract and the concrete, leading and generating change, and staying rooted in time-tested values and principles is being aimed at. This course is designed to enhance the employability and maximize the potential of the students by introducing them to the principles that underly personal and professional success, and help them acquire the skills needed to apply these principles in their lives and careers.

Prerequisite: None

Course Outcomes: After the completion of the course the student will be able to

CO 1	Define and Identify different life skills required in personal and professional life
CO 2	Develop an awareness of the self and apply well-defined techniques to cope with emotions and stress.
CO 3	Explain the basic mechanics of effective communication and demonstrate these through presentations.
CO 4	Take part in group discussions
CO 5	Use appropriate thinking and problem solving techniques to solve new problems
CO 6	Understand the basics of teamwork and leadership

Mapping of course outcomes with program outcomes

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO	PO.	PO
										10	11	12
CO 1						2		1	2	2	1	3
CO 2									3			2
CO 3	0.04 1.0					1			1	3		
CO 4		19								3		1
CO 5		3	2	1								
CO 6						1			3			

Mark distribution

Total Marks	CIE	ESE	ESE Duration
100	50	50	2 hours



Transmers would

PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiruvilwamala, Thrissur - 680588

(ix) Answer the question at the end of the case

Course Level Assessment Questions

Course Outcome 1 (CO1):

- 1. List 'life skills' as identified by WHO
- 2. What do you mean by effective communication?
- 3. What are the essential life skills required by a professional?

Course Outcome 2 (CO2)

- 1. Identify an effective means to deal with workplace stress.
- 2. How can a student apply journaling to stress management?
- 3. What is the PATH method? Describe a situation where this method can be used effectively.

Course Outcome 3(CO3):

- **1.** Identify the communication network structure that can be observed in the given situations. Describe them.
 - (a) A group discussion on development.
 - (b) An address from the Principal regarding punctuality.
 - (c) A reporter interviewing a movie star.
 - (d) Discussing the answers of a test with a group of friends.
- 2. Elucidate the importance of non-verbal communication in making a presentation
- 3. Differentiate between kinesics, proxemics, and chronemics with examples.

Course Outcome 4 (CO4):

- 1. How can a participant conclude a group discussion effectively?
- 2. 'Listening skills are essential for effectively participating in a group discussion.' Do you agree? Substantiate your answer.

Course Outcome 5 (CO5):

- 1. Illustrate the creative thinking process with the help of a suitable example
- 2. Translate the following problem from verbal to graphic form and find the solution: In a quiz, Ananth has 50 points more than Bimal, Chinmay has 60 points less than Ananth, and Dharini is 20 points ahead of Chinmay. What is the difference in points between Bimal and Dharini?



PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)

Nila Gardens, Pampady Thiruvilwamala, Thrissur - 680588 3. List at least five ways in which the problem "How to increase profit?" can be redefined

Course Outcome 6 (CO6):

1. A group of engineers decided to brainstorm a design issue on a new product. Since no one wanted to disagree with the senior members, new ideas were not flowing freely. What group dynamics technique would you suggest to avoid this 'groupthink'? Explain the procedure.

- 2. "A group focuses on individual contribution, while a team must focus on synergy." Explain.
- 3. Identify the type of group formed / constituted in each of the given situations
 - a) A Police Inspector with subordinates reporting to him
 - b) An enquiry committee constituted to investigate a specific incident
 - c) The Accounts Department of a company
 - d) A group of book lovers who meet to talk about reading

Syllabus

Module 1

Overview of Life Skills: Meaning and significance of life skills, Life skills identified by WHO: Self-awareness, Empathy, Critical thinking, Creative thinking, Decision making, problem solving, Effective communication, interpersonal relationship, coping with stress, coping with emotion.

Life skills for professionals: positive thinking, right attitude, attention to detail, having the big picture, learning skills, research skills, perseverance, setting goals and achieving them, helping others, leadership, motivation, self-motivation, and motivating others, personality development, IQ, EQ, and SQ

Module 2

Self-awareness: definition, need for self-awareness; Coping With Stress and Emotions, Human Values, tools and techniques of SA: questionnaires, journaling, reflective questions, meditation, mindfulness, psychometric tests, feedback.

Stress Management: Stress, reasons and effects, identifying stress, stress diaries, the four A's of stress management, techniques, Approaches: action-oriented, emotion-oriented, acceptance-oriented, resilience, Gratitude Training,

Coping with emotions: Identifying and managing emotions, harmful ways of dealing with emotions, PATH method and relaxation techniques.



PRINCIPAL

Nehru College of Engineering and Research Centre (Autonomous)

Nila Gardens, Pampady

Thiruvilwamala, Thrissur - 680588

Morals, Values and Ethics: Integrity, Civic Virtue, Respect for Others, Living Peacefully. Caring, Sharing, Honesty, Courage, Valuing Time, Time management, Co operation, Commitment, Empathy, Self-Confidence, Character, Spirituality, Avoiding Procrastination, Sense of Engineering Ethics.

Module 3

21st century skills: Creativity, Critical Thinking, Collaboration, Problem Solving, Decision Making, Need for Creativity in the 21st century, Imagination, Intuition, Experience, Sources of Creativity, Lateral Thinking, Myths of creativity, Critical thinking Vs Creative thinking, Functions of Left Brain & Right brain, Convergent & Divergent Thinking, Critical reading & Multiple Intelligence.

Steps in problem solving: Problem Solving Techniques, Six Thinking Hats, Mind Mapping, Forced Connections. Analytical Thinking, Numeric, symbolic, and graphic reasoning. Scientific temperament and Logical thinking.

Module 4

Group and Team Dynamics: Introduction to Groups: Composition, formation, Cycle, thinking, Clarifying expectations, Problem Solving, Consensus, Dynamics techniques, Group vs Team, Team Dynamics, Virtual Teams. Managing team performance and managing conflicts, Intrapreneurship.

Module 5

Leadership: Leadership framework, entrepreneurial and moral leadership, vision, cultural dimensions. Growing as a leader, turnaround leadership, managing diverse stakeholders, crisis management. Types of Leadership, Traits, Styles, VUCA Leadership, Levels of Leadership, Transactional vs Transformational Leaders, Leadership Grid, Effective Leaders.

Lab Activities

Verbal

Effective communication and Presentation skills.

Different kinds of communication; Flow of communication; Communication networks, Types of barriers; Miscommunication

Introduction to presentations and group discussions.

Learning styles: visual, aural, verbal, kinaesthetic, logical, social, solitary; Previewing, KWL table, active listening, REAP method

Note-taking skills: outlining, non-linear note-taking methods, Cornell notes, three column note taking.

Memory techniques: mnemonics, association, flashcards, keywords, outlines, spider diagrams and mind maps, spaced repetition.

Time management: auditing, identifying time wasters, managing distractions, calendars and checklists; Prioritizing - Goal setting, SMART goals; Productivity tools and apps, Pomodoro technique.

Non Verbal:

Non-verbal Communication and Body Language: Forms of non-verbal communication; Interpreting body-language cues; Kinesics; Proxemics; Chronemics; Effective use of body language, Communication in a multi cultural environment.



Continuous Internal Evaluation Total Marks: 50

Attendance : 10 marks
Regular assessment : 15 marks
Series test (one test only, should include first three modules) : 25 marks

Regular assessment

➤ Group Discussion (Marks: 9)

Create groups of about 6 students each and engage them on a GD on a suitable topic for about 20 minutes. Parameters to be used for evaluation are as follows:

Communication Skills : 3 marks
 Subject Clarity : 2 marks
 Group Dynamics : 2 marks
 Behaviours & Mannerisms : 2 marks

Presentation Skills (Marks: 6)

Identify a suitable topic and ask the students to prepare a presentation (preferably a power point presentation) for about 10 minutes. Parameters to be used for evaluation are as follows:

Communication Skills : 2 marks
 Platform Skills : 2 marks
 Subject Clarity/Knowledge : 2 marks

End Semester Examination Total Marks: 50

arks: 50 Time: 2 hrs.

Part A: Short answer question (25 marks)

There will be one question from each MODULE (five questions in total, five marks each). Each question should be written in about maximum of 400 words. Parameters to be used for evaluation are as follows:

- (i) Content Clarity/Subject Knowledge
- (ii) Presentation style
- (iii) Organization of content

Part B: Case Study (25 marks)

The students will be given a case study with questions at the end. The students have to analyze the case and answer the question at the end. Parameters to be used for evaluation are as follows:

- (i) Analyze the case situation
- (ii) Key players/characters of the case
- (iii) Identification of the problem (both major & minor if exists)
- (iv) Bring out alternatives
- (v) Analyze each alternative against the problem
- (vi) Choose the best alternative
- (vii) Implement as solution
- (viii) Conclusion



- series april

Reference Books

- 1. Shiv Khera, You Can Win, Macmillan Books, New York, 2003.
- Barun K. Mitra, "Personality Development & Soft Skills", Oxford Publishers, Third impression, 2017.
- 3. ICT Academy of Kerala, "Life Skills for Engineers", McGraw Hill Education (India) Private Ltd., 2016.
- 4. Caruso, D. R. and Salovey P, "The Emotionally Intelligent Manager: How to Develop and Use the Four Key Emotional Skills of Leadership", John Wiley & Sons, 2004.
- 5. Kalyana, "Soft Skill for Managers"; First Edition; Wiley Publishing Ltd, 2015.
- 6. Larry James, "The First Book of Life Skills"; First Edition, Embassy Books, 2016.
- 7. Shalini Verma, "Development of Life Skills and Professional Practice"; First Edition; Sultan Chand (G/L) & Company, 2014.
- 8. Daniel Goleman, "Emotional Intelligence"; Bantam, 2006.
- 9. Remesh S., Vishnu R.G., "Life Skills for Engineers", Ridhima Publications, First Edition, 2016.
- 10. Butterfield Jeff, "Soft Skills for Everyone", Cengage Learning India Pvt Ltd; 1 edition, 2011.
- 11. Training in Interpersonal Skills: Tips for Managing People at Work, Pearson Education, India; 6 edition, 2015.
- 12. The Ace of Soft Skills: Attitude, Communication and Etiquette for Success, Pearson Education; 1 edition, 2013.

Nila Gardens
Pampady
Thirusiwamala
Thrissur-680588

R

T

MCN	DISASTER	Category	L	Т	P	CREDIT	YEAR OF INTRODUCTION		
301	MANAGEMENT	Non - Credit	2	0	0	Nil	2019		

Preamble: The objective of this course is to introduce the fundamental concepts of hazards and disaster management.

Prerequisite: Nil

Course Outcomes: After the completion of the course the student will be able to

CO1	Define and use various terminologies in use in disaster management parlance and organise each of these terms in relation to the disaster management cycle (Cognitive knowledge level: Understand).
CO2	Distinguish between different hazard types and vulnerability types and do vulnerability assessment (Cognitive knowledge level: Understand).
соз	Identify the components and describe the process of risk assessment, and apply appropriate methodologies to assess risk (Cognitive knowledge level: Understand).
CO4	Explain the core elements and phases of Disaster Risk Management and develop possible measures to reduce disaster risks across sector and community (Cognitive knowledge level: Apply)
CO5	Identify factors that determine the nature of disaster response and discuss the various disaster response actions (Cognitive knowledge level: Understand).
CO6	Explain the various legislations and best practices for disaster management and risk reduction at national and international level (Cognitive knowledge level: Understand).



Mapping of course outcomes with program outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO1		2				2				2		2
CO2	2	3	2		2	2	3			3		2
CO3	2	3	2	2	2	2	3			3	7	2
CO4	3.50	3.	3.	कांध्य का	oy2am	ou 2 cos	000 3					2
CO5	3	3		41. 3.4	2 P03	2	3	POs	 pr ,	· · · · · · · · · · · · · · · · · · ·	1.00	2
CO6	3					2	3	3	**			2

	Abstract POs defined by National Board of Accreditation				
PO#	Broad PO	PO#	Broad PO		
PO1	Engineering Knowledge	PO7	Environment and Sustainability		
PO2	Problem Analysis	PO8	Ethics		
PO3	Design/Development of solutions	PO9	Individual and team work		
PO4	Conduct investigations of complex problems	PO10	Communication		
PO5	Modern tool usage	PO11	Project Management and Finance		
PO6	The Engineer and Society	PO12	Life long learning		



Assessment Pattern

Bloom's Category	Continuous A	End Semester		
	Test 1 (Marks)	Test 2 (Marks)	Examination Marks	
Remember	10	10	20	
Understand	25	25	50	
Apply	15	15	30	
Analyze				
Evaluate				
Create				

Mark Distribution

Total Marks	CIE Marks	ESE Marks	ESE Duration
150	50	100	3 hours

Continuous Internal Evaluation Pattern:

Attendance : 10 marks

Continuous Assessment - Test : 25 marks

Continuous Assessment - Assignment : 15 marks

Internal Examination Pattern:

Each of the two internal examinations has to be conducted out of 50 marks. First series test shall be preferably conducted after completing the first half of the syllabus and the second series test shall be preferably conducted after completing remaining part of the syllabus. There will be two parts: Part A and Part B. Part A contains 5 questions (preferably, 2 questions each from the completed modules and 1 question from the partly completed module), having 3 marks for each question adding up to 15 marks for part A. Students should answer all questions from Part A.



Part B contains 7 questions (preferably, 3 questions each from the completed modules and 1 question from the partly completed module), each with 7 marks. Out of the 7 questions, a student should answer any 5.

End Semester Examination Pattern:

There will be two parts; Part A and Part B. Part A contains 10 questions with 2 questions from each module, having 3 marks for each question. Students should answer all questions. Part B contains 2 questions from each module of which a student should answer any one. Each question can have maximum 2 sub-divisions and carries 14 marks.



SYLLABUS

MCN 301 Disaster Management

Module 1

Systems of earth

Lithosphere- composition, rocks, soils; Atmosphere-layers, ozone layer, greenhouse effect, weather, cyclones, atmospheric circulations, Indian Monsoon; hydrosphere- Oceans, inland water bodies; biosphere

Definition and meaning of key terms in Disaster Risk Reduction and Management- disaster, hazard, exposure, vulnerability, risk, risk assessment, risk mapping, capacity, resilience, disaster risk reduction, disaster risk management, early warning systems, disaster preparedness, disaster prevention, disaster mitigation, disaster response, damage assessment, crisis counselling, needs assessment.

Module 2

Hazard types and hazard mapping; Vulnerability types and their assessment- physical, social, economic and environmental vulnerability.

Disaster risk assessment –approaches, procedures

Module 3

Disaster risk management -Core elements and phases of Disaster Risk Management

Measures for Disaster Risk Reduction – prevention, mitigation, and preparedness.

Disaster response- objectives, requirements; response planning; types of responses.

Relief; international relief organizations.

Module 4

Participatory stakeholder engagement; Disaster communication- importance, methods, barriers; Crisis counselling

Capacity Building: Concept – Structural and Non-structural Measures, Capacity Assessment; Strengthening Capacity for Reducing Risk

Nila Gardens
Pampady
Thiruvilwamala
Thrissur - 680588

Module 5

Common disaster types in India; Legislations in India on disaster management; National disaster management policy; Institutional arrangements for disaster management in India.

The Sendai Framework for Disaster Risk Reduction- targets, priorities for action, guiding principles

Reference Text Book

- 1. R. Subramanian, Disaster Management, Vikas Publishing House, 2018
- 2. M. M. Sulphey, Disaster Management, PHI Learning, 2016
- 3. UNDP, Disaster Risk Management Training Manual, 2016
- 4. United Nations Office for Disaster Risk Reduction, Sendai Framework for Disaster Risk Reduction 2015-2030, 2015

Sample Course Level Assessment Questions

Course Outcome 1 (CO1):

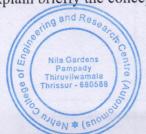
- 1. What is the mechanism by which stratospheric ozone protects earth from harmful UV rays?
- 2. What are disasters? What are their causes?
- 3. Explain the different types of cyclones and the mechanism of their formation
- 4. Explain with examples, the difference between hazard and risk in the context of disaster management
- 5. Explain the following terms in the context of disaster management (a) exposure (b) resilience (c) disaster risk management (d) early warning systems, (e) damage assessment (f) crisis counselling (g) needs assessment

Course Outcome 2 (CO2):

- 1. What is hazard mapping? What are its objectives?
- 2. What is participatory hazard mapping? How is it conducted? What are its advantages?
- 3. Explain the applications of hazard maps
- 4. Explain the types of vulnerabilities and the approaches to assess them

Course Outcome 3 (CO3):

1. Explain briefly the concept of 'disaster risk'



PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiravilwamala, Thrissur - 680588

6

- 2. List the strategies for disaster risk management 'before', 'during' and 'after' a disaster
- 3. What is disaster preparedness? Explain the components of a comprehensive disaster preparedness strategy

Course Outcome 4 (CO4):

- 1. What is disaster prevention? Distinguish it from disaster mitigation giving examples
- 2. What are the steps to effective disaster communication? What are the barriers to communication?
- 3. Explain capacity building in the context of disaster management

Course Outcome 5 (CO5):

- 1. Briefly explain the levels of stakeholder participation in the context of disaster risk reduction
- 2. Explain the importance of communication in disaster management
- 3. Explain the benefits and costs of stakeholder participation in disaster management
- 4. How are stakeholders in disaster management identified?

Course Outcome 6 (CO6):

- 1. Explain the salient features of the National Policy on Disaster Management in India
- 2. Explain the guiding principles and priorities of action according to the Sendai Framework for Disaster Risk Reduction
- 3. What are Tsunamis? How are they caused?
- 4. Explain the earthquake zonation of India



Teaching Plan

	Module 1	5 Hours
1.1	Introduction about various Systems of earth, Lithosphere- composition, rocks, Soils; Atmosphere-layers, ozone layer, greenhouse effect, weather	1 Hour
1.2	Cyclones, atmospheric circulations, Indian Monsoon; hydrosphere- Oceans, inland water bodies; biosphere	1 Hour
1.3	Definition and meaning of key terms in Disaster Risk Reduction and Management- disaster, hazard,	1 Hour
1.4	Exposure, vulnerability, risk, risk assessment, risk mapping, capacity, resilience, disaster risk reduction, Disaster risk management, early warning systems	1 Hour
1.5	Disaster preparedness, disaster prevention, disaster, Mitigation, disaster response, damage assessment, crisis counselling, needs assessment.	1 Hour
	Module 2	5 Hours
2.1	Various Hazard types, Hazard mapping; Different types of Vulnerability types and their assessment	1 Hour
2.2	Vulnerability assessment and types, Physical and social vulnerability	1 Hour
2.3	Economic and environmental vulnerability, Core elements of disaster risk assessment	1 Hour
2.4	Components of a comprehensive disaster preparedness strategy approaches, procedures	1 Hour
2.5	Different disaster response actions	1 Hour
	Module 3	5 Hours
3.1	Introduction to Disaster risk management, Core elements of Disaster Risk Management	1 Hour
3.2	Phases of Disaster Risk Management, Measures for Disaster Risk	1 Hour
	Reduction	



3.4	Disaster response- objectives, requirements. Disaster response planning; types of responses.	1 Hour
3.5	Introduction- Disaster Relief, Relief; international relief organizations.	1 Hour
	Module 4	5 Hours
4.1	Participatory stakeholder engagement	1 Hour
4.2	Importance of disaster communication.	1 Hour
4.3	Disaster communication- methods, barriers. Crisis counselling	1 Hour
4.4	Introduction to Capacity Building. Concept – Structural Measures, Non-structural Measures.	1 Hour
4.5	Introduction to Capacity Assessment, Capacity Assessment; Strengthening, Capacity for Reducing Risk	1 Hour
	Module 5	5 Hours
5.1	Introduction-Common disaster types in India.	1 Hour
5.2	Common disaster legislations in India on disaster management	1 Hour
5.3	National disaster management policy, Institutional arrangements for disaster management in India.	1 Hour
5.4	The Sendai Framework for Disaster Risk Reduction and targets	1 Hour
5.5	The Sendai Framework for Disaster Risk Reduction-priorities for action, guiding principles	1 Hour



Model Question paper

QP CODE:	PAGES:3
Dag No.	Name
Reg No:	Name:

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, MONTH & YEAR

Course Code: MCN 301

Course Name: Disaster Management

Max.Marks:100 Duration: 3 Hours

PARTA

Answer all Questions. Each question carries 3 Marks

- 1. What is the mechanism by which stratospheric ozone protects earth from harmful UV rays?
- 2. What are disasters? What are their causes?
- 3. What is hazard mapping? What are its objectives?
- 4. Explain briefly the concept of 'disaster risk'
- 5. List the strategies for disaster risk management 'before', 'during' and 'after' a disaster
- 6. What is disaster prevention? Distinguish it from disaster mitigation giving examples
- 7. Briefly explain the levels of stakeholder participation in the context of disaster risk reduction
- 8. Explain the importance of communication in disaster management
- 9. What are Tsunamis? How are they caused?
- 10. Explain the earthquake zonation of India

Part B

Answer any one Question from each module. Each question carries 14 Marks



PRINCIPAL
Nehru College of Engineering and
Research Centre (Autonomous)
Nila Gardens, Pampady
Thiruvilwamala, Thrissur - 680588

8

11.	a. Explain the different types of cyclones and the mechanism of their formation	[10]
disast [4]	b. Explain with examples, the difference between hazard and risk in the confermanagement	ontext of
	OR	
12. Ex	xplain the following terms in the context of disaster management	[14]
	sposure (b) resilience (c) disaster risk management (d) early warning systems, (e) sment (f) crisis counselling (g) needs assessment) damage
13.	a. What is participatory hazard mapping? How is it conducted? What are its adva	ntages?
		[8]
	b. Explain the applications of hazard maps	[6]
	OR	
14.	Explain the types of vulnerabilities and the approaches to assess them	[14]
15.	a. Explain the core elements of disaster risk management	[8]
	b. Explain the factors that decide the nature of disaster response	[6]
	OR	
16.	a. What is disaster preparedness? Explain the components of a comprehensive preparedness strategy	e disaster [6]
	b. Explain the different disaster response actions	[8]
17.	a. Explain the benefits and costs of stakeholder participation in disaster managen	nent [10]
	b. How are stakeholders in disaster management identified?	[4]
	OR	
18.	a. What are the steps to effective disaster communication? What are the b communication?	arriers to
	b. Explain capacity building in the context of disaster management 9 PRINCIPAL	[7]
	Nila Gardens Pampady PRINCIPAL	

O WITHON # (SUON)

19. Explain the salient features of the National Policy on Disaster Management in India

[14]

OR

20. Explain the guiding principles and priorities of action according to the Sendai Framework for Disaster Risk Reduction [14]



20MBANC2	INTEGRATED DISASTER	CATEGORY	L	Т	P	CREDIT
	MANAGEMENT	No Credit Course	1	0	1	0

Course Objectives

The Disaster Management Practice is intended to familiarize the learners with the significance, importance, causes and impacts of disasters. This course deals specifically with the essentials of disaster preparedness and focuses on techniques for effective community involvement, as well as highlighting ways of gathering relevant disaster-related information and its effective dissemination.

Expected Outcome

The course discusses various approaches and strategies to be used for effective and timely disaster preparedness and mitigation. This course also focuses on appropriate measures for proper management of health and casualty, and reconstruction and rehabilitation techniques.

COs

CO1	Understand foundations of disasters and associated natural and social phenomenon
CO2	Develop familiarity with disaster activities from incident response to recovery operations.
CO3	Integrated stakeholders role in disaster preparedness and mitigation plans
CO4	Deployment of community involvement as an essential part of disaster management and Business Continuity Planning after Disaster Recovery
CO5	Deployment of humanitarian assistance to mitigate the effects disaster in the aftermath

Course Plan

Module	Topics	Mode of Teaching
1	Understanding Disasters: Disaster: Meaning, Factors and Significance; Understanding Disasters: Causes and Effects; Disasters: A Global View; Disaster Profile of India - Regional and Seasonal; Typology of Disasters – Geological Disasters-Hydro-Meteorological Disasters Biological Disasters; Technological Disasters and Manmade Disasters; Global Disaster Trends; Emerging Risks of Disasters; Climate Change and Urban Disasters.	Lecture/Practical
	Demarcate disaster vulnerable zones of Kerala due to various disaster threats in varying colors/intensity and prepare a map	





Projects on Cost estimation for cleaning debris, restoring water and electricity connections on a war-foot basis

100 A

Projects on Innovative methods of rapid cleaning using mechanized systems

Textbooks

- 1. Harsh K. Gupta, "Disaster Management", UniversitiesPress(India Pvt Ltd), 2003
- 2. R. Subramanian, "Disaster Management", Vikas Publishing, 2018
- 3. Kevin Roebuck, Business Continuity and Disaster Recovery, Emereo Pty. Ltd
- 4. Alex Fullick, Testing Disaster Recovery and Business Continuity Plans: How to Plan and Execute Successful Tests, 2015

References

- 5. Thomas D. Schneid, Larry Collins, "Disaster Management and Preparedness", CRC Press, 2000
- 6. Martin MulliganandYasoNadarajah, "Rebuilding communities in the wake of disaster", Routledge, 2012
- 7. John C. Pine, "Technology in Emergency Management", Wiley, 2006
- 8. Anna K. Schwab, David J. Brower and Katherine Eschelbach"Hazard Mitigation and Preparedness", Wiley,2007

PRINCIPAL

Nebru College of Engineering and Research Centre (Autonomous) NHa Gardens, Pame -

Thiruvilwamala, Thrisba







20MBA113	ETHICS, GOVERNANCE AND CORPORATE	CATEGORY	L	T	P	CREDIT
	RESPONSIBILITY	CORE	3	0	0	3
		THEORY				

Preamble: sensitize the student on the various ethical aspects concerning the functioning of business enterprises. The course aims to equip the students to be honest and be responsible to the society. The knowledge of the subject will improve ethical reasoning by correlating moral concepts to business practices. The course aims to create awareness among students on the importance of Corporate Governance and social responsibility.

Prerequisite: None

Course Outcomes: After the completion of the course the student will be able to

CO 1	Examine the importance of ethics in business
CO 2	Apply ethical decision making in business management
CO3	Analyze the importance of corporate governance
CO 4	Assess the developments in Corporate governance
CO 5	Create the sense of corporate social responsibility within oneself

Mapping of course outcomes with program outcomes

		PO 2	PO 3		PO 5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3

Assessment Pattern

Bloom's Category	Continuou (in %)	s Assessment Tests	Semester
	1	2014 2/	Examination (in %)
Remember	10	10	10
Understand	10	10	10
Apply	30	30	30
Analyse	30	30	30
Evaluate	10	10	10
Create	10	10	10





Mark distribution

Total Marks	CIE	ESE	ESE Duration
100	40	60	3 hours

Continuous Internal Evaluation Pattern:

: 4 marks

:16 marks

Continuous Assessment Test (2 numbers) Assignment/Quiz/Course project

:10 marks

Seminar and Discussion

:10 marks

	Syllabus
Module 1	Introduction to Ethics: Meaning & Nature of Business Ethics, Characteristics; Causes of unethical behaviour; Theories of Ethics; Indian Ethos and Values system- Indian Work Ethics; Law and Ethics Ethics Programme – code of ethics – ethics training – ethics committee – ethics officer, Ethics Audit, Transparency International - Whistle Blowing – classification
Module 2	 legal support to Whistle-Blower – Tips to successful Whistle Blowing Ethics in functional areas of business: Financial Management (Window dressing, misleading financial analysis, insider trading, churning) – Human Resource Management – (Discrimination– age, gender, race) sexual harassment, ethics at work place, issues affecting privacy of employees, fairness of employment contracts, occupational safety–Marketing Management – Pricing issues like Price discrimination, Price fixing, Price skimming, Ethics in advertising (surrogate, deceptive advertising), Distribution issues like tying arrangement, black market Production Management – Process issues like effluents, optimisation of resources like power & water, Product issues like additive & intrinsically hazardous products, genetically modified products, flawed products– Ethics in Information Technology Ethics in customer and vendor relationship
Module 3	Corporate Governance: - Definition - need for corporate governance - elements of good corporate governance - evidence of corporate governance from Arthashasthra -corporate governance theories -Agency Theory - Shareholder Theory - Stake Holder Theory -Stewardship Theory; Codes and guidelines for corporate governance
Module 4	Developments in corporate governance—in UK, US and India—board effectiveness—issues and challenges—role and types of directors—corporate board committees—corporate disclosure—emerging trends in corporate governance—corporate board duties—responsibilities and liabilities. Legal framework for corporate governance Companies Act
Module 5	Corporate Social Responsibility: Definition- Evolution- Need for CSR; Theoretical perspectives; Corporate citizenship; Business practices; Strategies for





CSR; Challenges and implementation

		CATEGORY	L	T	P	CREDIT
20MBA115	LEGAL SYSTEMS FOR BUSINESS	CORE	3	0	0	3
		THEORY				

Preamble: The course provides the student with basic information about the Indian legal system and dispute resolution, and their impact on business. The understanding of legal system is a prerequisite for better decision making. The course gives exposure to students in the areas of legal principles of business contract, aspects in the formation, running and winding up of business, the scope and the issues associated with partnerships, negotiable instruments and cyber law, application of sale of goods act and consumer protection act and different labour regulations in India.

Prerequisite: NIL

Course Outcomes: After the completion of the course the student will be able to

CO1	Examine fundamental legal principles of business contracts
CO2	Analyse the legal aspects in the formation, running and winding up of business
CO3	Analyze the scope and the issues associated with partnerships, negotiable instruments and cyber law
CO4	Evaluate and analyse the scope and application of sale of goods act and consumer protection act.
CO5	Equip the students with insights on different labour regulations in India

Mapping of course outcomes with program outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	2	3
CO2	3	3	3	3	3
CO3	3	3	2	3	3
CO4	3	3	3	3	3
CO5	3	2	3	30.	3

Assessment Pattern

Bloom's Category	Continuous (in %)	Assessment Tests	End Semester
	1	2	Examination (in %)
Remember	10	10	10
Understand	10	10	10
Apply	30	30	30
Analyse	30	30	30
Evaluate	10	10	10
Create	10	10	10





Mark distribution

Total Marks	CIE	ESE	ESE Duration
100	40	60	3 hours

Continuous Internal Evaluation Pattern:

Attendance: 4 marks

Continuous Assessment Test (2 numbers):16 marks

Assignment/Quiz/Course project: 10 marks

Seminar and Discussion: 10 marks

Syllabus

Syllabus	
Module 1	Sources of Law - Classification of Law, Natural Justice, History of Indian Judicial system, Indian Contract Act 1872: Definition (Sec 2); Essential elements of a contract - Offer, acceptance, Competency to enter in contracts (Sec 11 &12); Consent- free consent, coercion, undue influence, fraud, misrepresentation, mistake (Sec 13-23); Legality of object & consideration; Types of contracts; Performance of contracts; Void agreement (Sec 24-30); Quasi contracts, Discharge of contracts; Consequences of breach of contract (Sec 73-75) Bailment(S.148 - S.171 & S.180. Salient features of E-contract, Formation of E-contract and Types.
Module 2	The Companies Act 2013 - Characteristics of a company; Kinds of companies; Types of Companies, Formation-S.3, Promoter, Remuneration, Rights & Liabilities of a Promoter, Memorandum of Association (S.4, S.10, S.13), Form, Purpose, Clauses, Alteration. Articles of Association (S.5, S.10, S.14,) Provisions for Membership, Share & Share capital - Distinction between Memorandum & Articles, Incorporation (S.7, S.9, S.12), Prospectus - Public Offer S.25 - S.27, S.30 - S.40; & S.181) Pledge (S.173 - S.179) - Indemnity & Guarantee (S.124, 125 128 - 147) Distinguish Indemnity & Guarantee Laws of Agency Private Offer S.42- Meetings & proceedings; S.173 -S.195 Directors S. 149 - 152,164, 165. Boards powers and restrictions; S. 179, 180. Lifting of Corporate Veil. Doctrine of Ultra Vires, Winding up of companies – Modes S.270, 271, 304,
Module 3	The Indian Partnership Act, 1932- Types of Partnerships and types of Partners, Test of Partnership, Partnership deed, and Property of the firm, Limited Liability Partnership Negotiable instrument - Characteristics of Negotiable Instrument Presumption; Promissory Notes, Bills of Exchange & Cheques- Negotiation (Sec 46 to 60); Crossing of cheque&dishonour of cheque (Sec 138 to 142). Cyber Law - Overview of cyber law, Salient features of the IT Act, 2000, Cybercrime, Intellectual Property Rights.
Module 4	Sale of Goods Act (1930), (Sec 2 - 11) Conditions and warranties; (Sec12 - 17, 59) Rights of an unpaid seller. (S.45 - S.58) Title to goods - (S.27 - 30)-Rights & Duties of Buyer & Seller; (S.31 - 44). Consumer Protection Act (1986): Consumer dispute, restrictive trade practices, unfair trade practices; Central Consumer Protection Council, State Consumer Protection Council; Consumer Redressal Forum.
Module 5	Industrial Disputes Act, 1947,- Award and settlement- industrial Dispute- Workman Strikes and Lock-out:Lay-off - Retrenchment-Closure - Unfair Labour Practices and Role of Government. The Minimum Wages Act, 1948- Fixation of minimum rates of wages- working hours and determination of wages and claims. Factories Act, 1948- essential features, Safety, Health and Welfare measures. The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013- overview.

Nila Gardens Pampady Thiruvilwamala Thrissur - 680589

ese A bas en,

