

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

2020-23

SEMESTER-III

MBAI301C ADVANCED HUMAN VALUES AND PROFESSIONAL ETHICS

			TEACHING & EVALUATION SCHEME										
SUBJECT		Т	PRACT										
CODE	SUBJECT NAME	END SEM University Exam	Two Term Exam	I cachers Assessment*	END SEM University Exam	Leachers Assessment*	LT	Т	Р	CREDITS			
MBA1301C	Advanced Human Values and Professional Ethics	60	20	20	-		4	-		4			

Legends: L - Lecture: T - Tutorial/Teacher Guided Student Activity; P - Practical: C - Credit; *Teacher Assessment shall be based on following components: Quiz/Assignment/Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objective

The objective of the course is to disseminate the theory and practice of moral code of conduct and familiarize the students with the concepts of "right" and "good" in individual, social and professional context

Examination Scheme

The internal assessment of the students' performance will be done out of 40 Marks. The semester Examination will be worth 60 Marks. The question paper and semester exam will consist of two sections A and B. Section A will carry 36 Marks and consist of five questions, out of which student will be required to attempt any three questions. Section B will comprise of one or more cases / problems worth 24 marks.

Course Outcomes

- 1. Help the students to understand right conduct in life.
- 2. To equip students with understanding of the ethical philosophies, principles, models that directly and indirectly affect personal and professional life.

Chairperson

Faculty of Studies

Indore

COURSE CONTENT

Unit I: Inculcating Values at Workplace

- 1. Values: Concept, Sources, Essence
- 2. Classification of Values.

Shairperson

Shri Valshnav Vidyapeath Vishwavidyalaya

3. Values in Indian Culture and Management: Four False Views, Value Tree

4. Eastern and Western Values; Values for Global Managers

Res Shri Valshnav Vidyopeeth Vishwavicyalaya, Indore

Boand of Studios Shri Valdunev Vidyapeeth Vishwavidyalave 19/12/2020



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

2020-23

Unit II: Professional Ethics

- 1. Ethics: Concept, Five P's of Ethical Power, Organisational Tools to Cultivate Ethics
- 2. Theories of Ethics: Teleological and Deontological
- 3. Benefits of Managing Ethics in an Organisation
- 4. Ethical Leadership

Unit III: Indian Ethos and Management Style

- 1. Indian Ethos and Workplace
- 2. Emerging Managerial Practices
- 3. Ethical Considerations in Decision Making and Indian Management Model
- 4. Core Strategies in Indian Wisdom and Ethical Constraints

Unit IV: Human Behavior - Indian Thoughts

- 1. Guna Theory
- 2. Sanskara Theory
- 3. Nishkama Karma
- 4. Yoga: Types, Gains; Stress and Yoga

Unit V: Spirituality and Corporate World

- 1. Spirituality: Concept, Paths to Spirituality
- 2. Instruments to achieve spirituality
- 3. Vedantic Approach to Spiritual and Ethical Development
- 4. Indian Spiritual Tradition.

Suggested Readings

- Kausahl, Shyam L. (2006). Business Ethics Concepts, Crisis and Solutions. New Delhi: Deep and Deep Publications Pvt. Limited
- 2. Murthy, C.S.V. (2012). Business Ethics -Text and Cases. Himalaya Publishing House: Mumbai
- 3. Chakraborty, S. K. (1999). Values and Ethics for Organizations. Oxford university press
- D.Senthil Kumar and A. SenthilRajan (2008). Business Ethics and Values. Himalaya Publishing House: Mumbai

restor

143.00

nerson

Faculty of Studies

Shri Vaisianav Vidyapeeth Vishwavidyalaya

Indore

Regist

Shri Vashnav Vidyapeeth Vishwavidyalaya, Indore

19/12/2020



Shri Vaishnav Institute of Technology Master of Technology (Geo Technical Engineering/ Transportation Engineering/ Water Resource Engineering) SEMESTER I

			TEACHING & EVALUATION SCHEME										
COURSE	Category	COURSE NAME	т	PRACT	Th	т	P	CRED ITS					
CODE			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*						
MTCE2101	BS	System Mathematics & Mathematical Modeling	60	20	20	-	-	3	0	0	3		

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

Course Objectives: - The course is designed to enable students to: • enhance ability to think in a critical manner • Formulate and develop mathematical arguments in a logical manner • Improve their skills in acquiring new understanding and experience • Acquire an understanding of advanced mathematical analysis.

Course Outcomes (COs):

After the successful completion of this course students will be able to:

- A. understand different aspects of system analysis.
- B. transform industrial problems into mathematical models.
- C. analyse the PERT/ CPM technics and dynamic programming in multistage solution problem with real life applications.
- D. apply the concept of the probabilities and simple linear regression model to real life examples and sampling plans in production process.

Chairperson Board of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

alla

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

		COURSE NAME	TEACHING & EVALUATION SCHEME										
COURSE CODE	Category		т	PRACT	Tb	Т	Р	CRED ITS					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*						
MTCE2101	BS	System Mathematics & Mathematical Modeling	60	20	20	-	-	3	0	0	3		

Syllabus

Unit I

Concept of a system and system analysis, Mathematical modeling, Introduction to Mathematical Programming Techniques viz. – Linear Programming, non – Linear programming, Dynamic Programming, game theory etc. Transportation problems their formulations and solutions.

Unit II

Linear programming, formulation, Graphical solution, Simplex method, BIG-M & Two Phase methods, Duality in LP, Revised simplex.

Unit-III

Network analysis, CPM-PERT techniques, Project Optimality analysis, Updating Dynamic programming, Stagecoach Problem and its D.P. solution.

Unit-IV

Measures of central tendency, Central Limit theorem, Statistical frequency distributions, Additional and multiplication law of probability, Bayes' Theorem, Binomial, Poisson, Normal, and 't', 'F'& Square Distributions, Tolerance limits, Confidence limits, Test of significance.

Unit-V

Linear and non-linear Regression analysis, Testing of Hypothesis, Acceptance sampling, Fundamentals of Simulation.

References:

- 1. Operation Research by Phillips & Ravindran
- 2. Operation Research by TAHA
- 3. Probability, Statistics & Decision in Civil Engineering by Benjamin & Cornell
- 4. Optimization by S.S. Rao

Chairperson Board of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination Shri Vaishnav Vidyapeeth

Vishwavidyalaya, Indore

Joint Règistrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore



(2021 - 2023)

			TEACHING & EVALUATION SCHEME										
COURSE CATE-		THEORY			PRACT								
CODE	GORY	COURSE NAME	END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	т	Р	CREDITS		
MTCE 2102	DCC	Material Science and Concrete Technology	60	20	20	30	20	2	1	2	4		

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

To gain the discrete knowledge of concrete and its technology, subject involves theoretical and practical approaches which helps in exploring the different kinds of concrete & its properties, so that students can understand the nature and their significance in the field of transportation Engineering

Course Outcomes (COs):

- To identify the functional role of ingredients of concrete and apply this knowledge to mix design philosophy
- 2. To acquire and apply fundamental knowledge in the fresh and hardened properties of concrete
- To evaluate the effect of the environment on service life performance, properties and failure modes of structural concrete and demonstrate techniques of measuring the Non-Destructive Testing of concrete structure
- 4. To develop an awareness of the utilization of waste materials as novel innovative materials for use in concrete

Syllabus

UNIT I

Solid Materials: Structure of solid materials, atoms and bonds, inter-atomic and intermolecular bonds, crystals; Classification of solids; Mechanism of elastic and plastic actions in tension, compression, pure bending, and torsion; Elastic and inelastic properties of solids; Dislocations; Strain hardening; Triaxial stress.

UNIT II

Creep: Components of creep fracture; Analysis of creep curves; Method of predicting creep strength; Designing of creep

Fatigue: Fatigue loading, mechanism, factors affecting creep fatigue properties; S.N. diagrams Hardness: Relation between hardness of different atomic structure measurement of hardness with other mechanical properties

Chairperson Board of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore Shri Vaishnav Institute of Technology and Science Choice Based Credit System (CBCS) in Light of NEP-2020 M.Tech. in Civil with Transportation Engineering (2021 - 2023)

	1										
		8		т	EACHIN	G &EVAI	UATIO	N SC	HEME	ŝ	
COURSE CATE-		т	HEORY		PRACT	ICAL					
CODE	GORY	COURSE NAME	END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	т	р	CREDITS
MTCE 2102	DCC	Material Science and	60	20	20	30	20	2	1	2	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit. *Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Concrete Technology

UNIT III

09 Hrs. Concrete Materials: Cement, manufacture, composition, structure, hydrated cement paste, heat of hydration, test for physical properties, different types of cements, and properties of aggregates Fresh Concrete: Workability, factors affecting, testing, vibration analysis of fresh concrete Strength of Concrete: Nature of strength, factors affecting, Autogenous heating, maturity of concrete, fatigue strength, impact strength.

UNIT IV

09 Hrs. Elasticity Shrinkage and Creep: Modulus of elasticity; Dynamic modulus; Poisons ratio; Early volume changes; Swelling, shrinkage, creep factors influencing creep nature; Rheological models; Effects and design for creep.

Durability of Concrete: Permeability of concrete; Thermal properties of concrete; Resistance of concrete to fire; Resistance to abrasion, electrical properties, acoustic properties, chemical attack.

UNIT V

Testing of Hardened Concrete: Destructive and nondestructive testing of concrete; tests on composition of hardened concrete; variation of test results, accelerated testing of concrete Mix Design: Basic consideration, Factors in choice of mix Proportion; Methods of mix design. I.B.C. Murdock; A.C.I. Method based on Road note No. 4

Text Books:

- 1. M.S. Shetty, Concrete Technology, S Chand publication, 2006
- 2. M. Neville and J.J. Brooks, Concrete Technology Prentice Hall, 2 edition, 17 June 2010
- 3. M.L Gambhir, Concrete Technology, Tata Mc Graw Hill Book Co. 2010

Reference Books:

- 1. R.K. Bansal, A Textbook of Strength of Materials, Laxmi Publications; Sixth edition, 2018
- 2. Pierre-Claude Aïtcin and Robert J Flatt, Science and Technology of Concrete Admixtures, Woodhead Publishing; 1 edition, 2015.

Chairperson **Board of Studies** Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

08 Hrs.

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore Shri Vaishnav Institute of Technology and Science Choice Based Credit System (CBCS) in Light of NEP-2020 M.Tech. in Civil with Transportation Engineering

(2021 - 2023)

			TEACHING & EVALUATION SCHEME										
COURSE CODE CATE- GORY	2	Т	HEORY		PRACT								
		COURSE NAME	END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers	L	т	Р	CREDITS		
MTCE 2102	DCC	Material Science and Concrete Technology	60	20	20	30	20	2	1	2	4		

gends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

List of Practical:

- 1. Basic test on cement and aggregate.
- 2. The assess quality of hardened concrete as per IS standard specification using rebound hammer
- 3. Non-destructive testing of concrete sample using Ultra Sonic Test

Chairperson **Board of Studies** Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore Shri Vaishnav Institute of Technology and Science Choice Based Credit System (CBCS) in Light of NEP-2020 M.Tech. in Civil with Transportation Engineering (2021-2023)

			TEACHING & EVALUATION SCHEME											
COUPER	COUDEE NAME		THEORY		PRACTICAL									
COURSE CATE- CODE GORY COURSE	COURSE NAME	END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	т	Р	CREDITS				
MTCE 2103	DCC	Soil Mechanics in Highway Engineering	60	20	20	30	20	2	0	2	3			

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

- To gain experience regarding the determination of properties of different types of soils and their behavior.
- 2. To provide an opportunity to learn how to measure the shear strength of the soil and its importance
- 3. To impart knowledge about the lateral earth pressure

Course Outcomes (COs):

- 1. Determine the index properties of the soil
- 2. To understand classification of soil.
- 3. Identify the suitability of the soil for different foundations

Syllabus:

UNIT I

Classification of Soils: IS classifications; AASHO classifications; CAA classifications CBR and Group Index: Laboratory and field determination of CBR value; Effect of soaking; Modulus of sub-grade reaction

UNIT II

Compaction: Theory of compaction, factors affecting compaction, effect of compaction on soil, properties, measurement of field compaction and field methods of compaction and control.

UNIT III

Bearing Capacity: Skemptons's analysis; Plate Load Test; Penetration Tests; Genera bearing capacity equation; Effect Of water table on bearing capacity

Stability of slopes: Types of slope failure; Bishop's slope stability analysis; Stability number

UNIT IV

Earth Pressures: Classical earth pressure theories; Effect of earth pressure on highway structures

Chairperson Board of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

06 Hrs.

06 Hrs.

06 Hrs.

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore Shri Vaishnav Institute of Technology and Science Choice Based Credit System (CBCS) in Light of NEP-2020 M.Tech. in Civil with Transportation Engineering

(2021 - 2023)

			TEACHING & EVALUATION SCHEME						:		
COURSE	CATE-		THEORY		PRACTICAL						
CODE	GORY	COURSE NAME	END SEM University Exam	Two Term Exam	Teachers ssessment*	END SEM University Exam	Teachers ssessment*	L	т	Р	CREDITS
MTCE 2103	DCC	Soil Mechanics in Highway Engineering	60	20	20	30	× 20	2	0	2	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

UNIT V

06 Hrs.

Soil Stabilization: Mechanics of stabilization; Mechanical, electrical, cement, lime, bitumen and chemical stabilization

Drainage: Vertical sand drains; Surface and sub-surface drainage for highways; Drainage for hill roads

Text Books:

- 1. Singh Alam, Soil Engineering in Theory and Practice, Asia Publishing House, 2012
- 2. Khanna S.K. and Justo, C.G., Highway Engineering, Khanna Publishers, Delhi, 2012
- 3. Punmia B.C., Soil Mechanics and Foundation Engineering, Laxmi Publications, 2016

Reference Books:

- 1. Venkat Ramaiah, Soil Mechanics, New Age International Pvt Ltd Publishers, 2015
- 2. IRC-49-1973, Recommended Practice for the Pulverization of B.C. for lime Stabilization
- 3. IRC-50-1973, Recommended Design for the use of Cement-Modified Soil in Road Constructions.
- 4. IRC-51-1992, Guideline for the use of Soil Lime Mixing Road Construction

List of Practicals:

- 1. Determination of the natural content of the given soil sample.
- 2. To determine the Density of soil by Core Cutter method
- 3. To determine the specific gravity of soil fraction passing 4.75 mm I.S sieve by density bottle.
- 4. To determine the particle size distribution of soil by Sieve Analysis.
- 5. To determine plastic limit, liquid limit, shrinkage limit of given soil sample.
- 6. To determine the shearing strength of the soil using the direct shear apparatus.
- 7. To find shear strength of a given soil specimen by Vane shear test.
- 8. To determine bearing capacity of soil using CBR Test

Chairperson **Board of Studies** Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination Shri Vaishnav Vidyapeeth

Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore Shri Vaishnav Institute of Technology and Science Choice Based Credit System (CBCS) in Light of NEP-2020 M.Tech. in Civil with Transportation Engineering

(2021 - 2023)

				HEME							
COURSE	CATE-		T	HEORY	0	PRACT	ICAL			1	
CODE	GORY	COURSE NAME	END SEM University Exam	Two Term Exam	Teachers	END SEM University Exam	Teachers ssessment*	Ľ	т	Р	CREDITS
MTCE 2104	DCC	Traffic Engineering	60	20	20	0	•	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

The aim of this course is to teach students about the traffic characteristic, traffic studies, highway capacity studies in traffic engineering

Course Outcomes (COs):

At the completion of the course the students will be able to

- 1. Understand the traffic characteristic.
- 2. Perceive the knowledge about traffic flow models.
- 3. Get knowledge about component parking and lighting.
- 4. Get knowledge about accident studies and highway capacity.

Syllabus:

UNIT I

Road User and Vehicle Characteristics: Road user; Vehicle Characteristics Surveys: Different types of survey and studies; Speed and volume study; Parking survey, types of parking, parking meters, design of parking places Accident surveys.

UNIT II

08 Hrs. Traffic Flow Models: Elements of traffic flow; Fundamental diagram of road traffic; Relationships between the variables; Greenshield's macroscopic stream model and microscopic flow models based on response; Stimulus approach, hydrodynamic analogy, queuing model.

UNIT III

08 Hrs. Non-signalized Intersections: At grade and grade separated intersection; Channelization warrants; Weaving action at intersections; Delay models; Theoretical models for determining weaving capacity; Design of intersection

UNIT IV

08 Hrs. Signalized Intersections: Different types of signals; Webster analysis; IRC method of signal design; Determination of effective green time; Optimum cycle time and timing diagram; Effect of left and right turning and heterogeneity; P.C.U. concepts; Ultimate capacity of whole intersection;

Chairperson **Board of Studies** Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore Shri Vaishnav Institute of Technology and Science Choice Based Credit System (CBCS) in Light of NEP-2020 M.Tech. in Civil with Transportation Engineering (2021-2023)

			TEACHING & EVALUATION SCHEME									
COURSE CATE- CODE GORY		THEORY			PRACT							
	1.1 (1993) 2.3 (2007) (1994)	COUDSE NAME	END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	т	Р	CREDITS	
MTCE 2104	DCC	Traffic Engineering	60	20	20	0	0	2	1	0	3	

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Delay calculation and optimum cycle length; QUE lengths at the commencement of green period; Coordination of traffic signals

UNIT V

Traffic Management: One way street system, two-way street system; Different traffic management methods; Flow operation; Closing side streets; Exclusive bus lanes; Intelligent vehicle system; Motor vehicle system

Text Books:

- 1. Louis J. Pignataro, Traffic Engineering: Theory and Practice, Prentice-Hall.
- 2. Kadiyali L.R., Traffic Engineering and Transport Planning, Khanna Publishers, 2010
- 3. IRC-65-1976, Recommended Practice for Traffic Rotaries.
- 4. IRC-SP-12-1973, Tentative Recommendation on the Provision of Parking space for urban area.

Reference Books:

- 1. D.R.Drew, Traffic Flow Theory, McGraw-Hill Book Company
- Wohl & Martin, Traffic System Analysis for Engineering & Planners, McGraw-Hill Book Company

Chairperson Board of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Chairperson Faculty of Studies Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Controller of Examination Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Joint Registrar Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore