2020-23

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

SEMESTER-III

MBAI301C ADVANCED HUMAN VALUES AND PROFESSIONAL ETHICS

SUBJECT CODE	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
		THEORY			PRACTICAL		L	T	P	CREDITS
		END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
MBAI301C	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.

COURSE CONTENT

Unit I: Inculcating Values at Workplace

1. Values: Concept, Sources, Essence
2. Classification of Values.
3. Values in Indian Culture and Management: Four False Views, Value Tree
4. Eastern and Western Values; Values for Global Managers

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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

1. 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
4. D.Senthil Kumar and A. SenthilRajan (2008). ***Business Ethics and Values.*** Himalaya Publishing House: Mumbai

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Master of Technology (Structural Engineering)

Semester I

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
MTCE 1101	BS	ADVANCED MATHEMATICS AND NUMERICAL ANALYSIS	60	20	20	0	0	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:
After the successful completion of this course students will be able to:

A. understand the concept of integral transform and apply it solve B.V.P.
B. demonstrate the ability to obtain numerical solution of PDF.
C. understand theory of integral equation to obtained solution of problems related to engineering.
D. apply calculus of variation and variational functionals.

Syllabus:

UNIT I

Numerical solution of Partial Differential Equation (PDE): Numerical solution of PDE of hyperbolic, parabolic and elliptic types by finite difference method.

UNIT II

Integral transforms: General definition; Introduction to Mellin, Hankel and Fourier transforms and fast Fourier transforms, application of transforms to boundary value problems in engineering.

UNIT III

Integral equations: Conversion of Linear Differential equation (LDE) to an integral equation (IE); Conversion of boundary value problems to integral equations using greens function; Solution of integral equation, IE of convolution type, Abels IE, integral differential equations, IE with separable variable, solution of Fredholm; Equation with separable kernels; Solution of Fredholm and Volterra equations by method of successive approximations.

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Master of Technology (Structural Engineering)

Semester I

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MTCE 1101	BS	ADVANCED MATHEMATICS AND NUMERICAL ANALYSIS	60	20	20	0	0	3	0	0	3

UNIT IV

Calculus of Variation: Functional and their variation; Eulers equation for function of one and two independent variables; Application to engineering problems.

UNIT V

FEM: Variational functional; Euler Lagrange's equation; Variational forms; Ritz methods, Galerkin's method; Discretization; Finite elements method for one dimensional problem.

Textbooks:

1. Higher Engineering Mathematics by B.V. Ramana, Tata Mc Hill.
2. Advance Engineering Mathematics by Ervin Kreszig, Wiley Easten Edd.
3. Applied Numerical Methods with MATLAB by Steven C Chapra, TMH
4. Numerical Methods in engineering, Salvadori and Baron

Reference Books:

1. CF Froberg, Introduction to numerical analysis.
2. SS Sastry, Introductory methods of numerical analysis
3. Krasnove, Kiselevanded Makarenho, Integral equations
4. Buchanan, Finite element Analysis (schaum Outline S), TMH
5. Krishnamurthy, Finite element analysis, TMH.

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MTCE 1102	DCC	Advanced Concrete Technology	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):

1. To understand the concrete material and their mechanism.
2. To study about the various parameters of fresh concrete
3. To design and developed special types of concrete.

Course Outcomes (COs):

Student will be able to

1. Acquire knowledge about cement and admixtures.
2. Understand the characteristics of fresh and hardened concrete.
3. Gain knowledge about different types of concrete.
4. Understand structural health monitoring using NDT

Syllabus

UNIT I **06 Hrs.**

Cement: Different types of cement and their properties; Physical tests of cement; Use of cement Admixtures: Different types of admixtures, their properties and uses.

UNIT II **06 Hrs.**

Properties of Concrete: Properties of fresh and hardened concrete; Workability, strength, durability, fatigue, creep, shrinkage, and permeability of concrete.

UNIT III **06 Hrs.**

High Performance Concrete: Definition and types of high-performance concrete: Mix Design of high-performance concrete.

UNIT IV **06 Hrs.**

Light weight Concrete: Definition and types of light weight concrete: Strength Density ratio; Mix design of light weight concrete.

UNIT V **06 Hrs.**

Non –Destructive Testing: Non-destructive testing- introduction; Structural health monitoring using non-destructive testing: Introduction to sensors used in structural health monitoring.

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MTCE 1102	DCC	Advanced Concrete Technology	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.

Text Books:

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

Reference Books:

1. R. Jones, Non-Destructive Testing of Concrete, Cambridge University Press.
2. Pierre-Claude Aïtcin and Robert J Flatt, Science and Technology of Concrete Admixtures, Woodhead Publishing, 2015.

List of Practicals:

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

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MTCE 1103	DCC	Theory and Design of Concrete Structures	60	20	20	0	0	2	1	0	3

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***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):
Student (A) will be able to analyze various loads acting on structure and design different components of RCC structure (B) at particular site (C) economically & safely.

Course Outcomes (COs):
Student will be able to

1. To provide a coherent development to the students for the courses in sector of reinforced concrete designing.
2. To present the foundations of many basic engineering concepts related designing of structures.
3. To give an experience in the implementation of designing concepts which are applied in field of structural engineering
4. To involve the application of scientific and technological principles of design of buildings according to limit state method of design

Syllabus:

UNIT I **08 Hrs.**
Design Philosophies: Introduction to various design philosophies; Merits and drawbacks of design philosophies; Code provision and their meaning; Introduction to pre-stressed concrete.

UNIT II **08 Hrs.**
Grid Structures: Types of R.C.C Grids; Behaviour; Design by approximate and exact methods.

UNIT III **08 Hrs.**
Flat Slab: Definition; Types; Behaviour; Direct design method; Equivalent frame method.

UNIT IV **08 Hrs.**
Circular Cylindrical Shells: Behaviour and design using ASCE Manual Method.

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MTCE 1103	DCC	Theory and Design of Concrete Structures	60	20	20	0	0	2	1	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit.
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UNIT V **08 Hrs.**

Concept of Ductility: Detailing of ductility as per IS13920 for earthquake loads

Text Books:

1. Chowdhary R and Chowdhary I, Geotechnical Slope Analysis, CRC Press, 2010
2. Y. M. Cheng and C. K. Lau, Slope Stability Analysis and Stabilization: New Methods and In-sight, CRC Press; 2008

Reference Books:

1. J. Michael Duncan, Soil Strength and Slope Stability, John Wiley & Sons; 2nd edition, 2014
2. Paul Guyer, An Introduction to Slope Stability Analysis, Independently Published, 2018

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MTCE 1104	DCC	Advanced Structural Analysis	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.

Course Educational Objectives (CEOs):
The objectives of the course are to build on the student's knowledge on the theory and application of structures in buildings and to introduce the students to concept of structural stability, methods in structural analysis.

Course Outcomes (COs):
1. Ability to analyze statically determinate trusses, beams, and frames and obtain internal loading
2. Ability to analyze cable and arch structures
3. Ability to obtain the influence lines for statically determinate and indeterminate structures
4. Ability to determine deflections of beams and frames using classical methods
5. Ability to solve statically indeterminate structures using classical methods
6. Ability to solve statically indeterminate structures using matrix (stiffness) method

Syllabus:

UNIT I **08 Hrs.**
Matrix Method (Flexibility Method): Force methods; Basic concepts; Evaluation of flexibility; transformation; Analysis of a single member of different types; Transformation of single member.

UNIT II **08 Hrs.**
Plane and Space Frames: Applications to plane and space structures with pin joints and rigid joints; Energy approach in flexibility method; Effect of support displacement.

UNIT III **08 Hrs.**
Matrix Method (stiffness Method): Displacement methods; Basic concepts; Evaluation of stiffness coefficients; Direct stiffness method; Energy approach in stiffness method; Effect of support displacement and temperature.

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UNIT IV **08 Hrs.**

Symmetrical and Anti-Symmetrical Problems: Stiffness of plane and space frames solution of problems; Comparison of force and displacement methods of solution.

UNIT V **08 Hrs.**

Space Frame: Tension coefficient method for analysis of pin jointed structural frames.

Text Books:

1. C.S. Reddy, Basic Structural Analysis, McGraw Hill Education; McGraw Hill Education, 2017
2. , Pandit, Structural Analysis: A matrix approach McGraw Hill Education, 2008

Reference Books:

1. V. K. Manicka Selvam, Elements of Matrix and Stability Analysis of Structures, Khanna Publishers; Seventh Edition, 2010
2. W Wearer Jr. & James M. Gere, Matrix Analysis of Framed Structures, CBS Publication, 2004

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