



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav School of Management**

**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**MBA+Ph.D. - III SEMESTER (2022-2024)**

**MBAI301C ADVANCED HUMAN VALUES AND PROFESSIONAL ETHICS**

| COURSE CODE | CATEGORY | COURSE 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    | AECC     | Advanced Human Values and Professional Ethics | 60                           | 20            | 20                   | -                       | -                    | 3 | - | - | 3       |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit; AECC- Ability Enhancement Compulsory Course

\***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.

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|                |          |                                                  | THEORY                        |                  |                         | PRACTICAL                     |                         | L | T | P | CREDITS |
|                |          |                                                  | END SEM<br>University<br>Exam | Two Term<br>Exam | Teachers<br>Assessment* | END SEM<br>University<br>Exam | Teachers<br>Assessment* |   |   |   |         |
| MBAI301C       | AECC     | Advanced Human Values<br>and Professional Ethics | 60                            | 20               | 20                      | -                             | -                       | 3 | - | - | 3       |

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

**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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# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Shri Vaishnav Institute of Technology

### Master of Technology in Civil (WRE, CTM, Transportation, Geotechnical)

#### SEMESTER I

| COURSE CODE | Category | COURSE NAME               | TEACHING & EVALUATION SCHEME |               |                      |            |                      |    |   |   |         |
|-------------|----------|---------------------------|------------------------------|---------------|----------------------|------------|----------------------|----|---|---|---------|
|             |          |                           | THEORY                       |               |                      | PRACTIC AL |                      | Th | T | P | CREDITS |
|             |          |                           | END SEM University Exam      | Two Term Exam | Teachers Assessment* | END SEM    | Teachers Assessment* |    |   |   |         |
| MTMACE 101  | BS       | Advanced Mathematics (CE) | 60                           | 20            | 20                   | -          | -                    | 3  | 0 | 0 | 3       |

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#### Course Educational Objectives (CEOs):

To introduce the students to advanced mathematics.

#### Course Outcomes (COs):

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

- understand the concept of vector space, subspace, basis, dimensions and their properties.
- find solution/numerical solution of PDE.
- explain fundamental principles of probability theory.
- understand the concept of Markov process and Queuing theory.
- analyze and solve linear programming models of real life situations.

## Syllabus

### UNIT – I

#### Linear Algebra

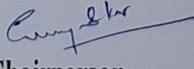
Vector Space, Subspace, Basis & dimensions, Change of basis, Linear transformation, Matrix representation of Linear transformation.

### UNIT – II

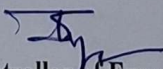
Numerical Solution of Partial Differential Equations:

  
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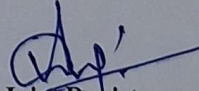
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|-------------|----------|---------------------------|------------------------------|---------------|---------------------|--------------------|---------------------|----|---|---|---------|
|             |          |                           | THEORY                       |               |                     | PRACTICAL          |                     | Th | T | P | CREDITS |
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Classification of second order equations, Finite difference approximation to derivatives, Elliptic equations, Solution of Laplace's equation, Solution of Poisson's equations, Parabolic equations, Solutions of Heat equations, Hyperbolic equations.

### UNIT – III

#### Probability & Statistics:

Probability, Compound probability, Discrete random variable, Binomial and Poisson distribution, Continuous random variable, Normal distribution, Sampling distribution, Theory of hypothesis.

### UNIT – IV

#### Stochastic Process & Queuing Theory:

Introduction of random or Stochastic processes, Markov processes, Markov chain, Queuing theory: M/M/1:  $\infty/\infty$ /FCFS, M/M/1: N/ $\infty$ /FCFS.

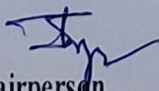
### UNIT – V

#### Linear programming:

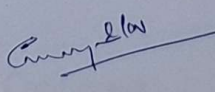
Introduction Linear programming problem, Matrix form of LPP, Basic solutions and Basic feasible solution, Graphical solution, Simplex method, BIG-M (penalty method) &, Two Phase methods, Duality in LPP.

#### Texts:

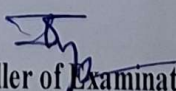
1. Higher Engg. Mathematics: B. S. Grewal, Khanna Publishers, Delhi
2. Higher Engg. Mathematics: E. Kreyzig, John Wiley & Sons (Asia) Pvt. Ltd.
3. Operation Research: S. D. Sharma, Kedar Nath and Ram Nath, Delhi.
4. Probability, Random variables & Random processes: Schaum's outlines.
5. Stochastic processes: J. Medhi, New age international publishers.
6. Calculus of finite differences and Numerical Analysis: Gupta and Malik.
7. Operation Research by Phillips & Ravindran.
8. Operation Research by TAHA.
9. Probability, Statistics & Decision in Civil Engineering by Benjamin & Cornell.

  
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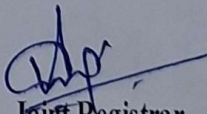
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**M.Tech. Construction Technology and Management**  
**(2022-2024)**

| COURSE CODE | CATE-GORY | COURSE 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* |   |   |   |         |
| MTCE 1102   | DCC       | Advanced Concrete Technology | 60                          | 20            | 20                   | 0                       | 0                    | 2 | 0 | 2 | 3       |

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**Course Educational Objectives (CEOs):**

On completion of this course the students will be able to

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):**

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.

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|             |           |                              | THEORY                      |               |                      | PRACTICAL               |                      | L | T | P | CREDITS |
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**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

**Text Books:**

1. M.S. Shetty, Concrete Technology, S Chand publication, 2018
2. M.L Gambhir, Concrete Technology, Tata Mc Graw Hill Book Co. 2017

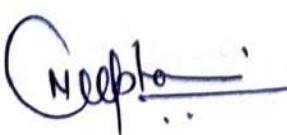
**References:**

1. M. Neville and J.J. Brooks, Concrete Technology, Prentice Hall, 2 edition, 2012
2. V.M. Malhotra and P.K. Mehta, Pozzolanic and Cementitious Materials: 1 (Advances in Concrete Technology), CRC Press, 2011

**List of Experiments:**

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 5101   | DCC       | Construction Planning and Management | 60                           | 20            | 20                   | 0                       | 0                    | 3 | 0 | 0 | 3       |

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**Course Educational Objectives (CEOs):**

On completion of this course the students will be able to know the modern trends in project management viz. design, construction, resource utilisation and cost estimation

**Course Outcomes (COs):**

1. Plan and develop project organization for executing construction projects
2. Prepare work break down plan and estimate resources requirements
3. Learn the techniques used for planning, scheduling and control of construction projects.
4. Apply the techniques for a real-world project and demonstrate the learning

**Syllabus**

**UNIT I**

**08 Hrs.**

Introduction: Phase of project, project management and its relevance, stakeholders of a project, structure of project organization, management levels, and traits of a project manager.

**UNIT II**

**08 Hrs.**

Construction Planning: Introduction, activities involved types of project plan, work breakdown structure. Planning terminologies, Critical path method, forward and backward pass, AOA, AON, Precedence Diagramming Method (PDM), PERT, Line of balance,

**UNIT III**

**08 Hrs.**

Project scheduling and resource levelling: Introduction, Resource allocation and levelling for unlimited resources, Resource allocation for limited resources, Multi resource allocation, Optimal scheduling.

**UNIT IV**

**08 Hrs.**

Project Monitoring and Control: Introduction, Project updating, Time Cost Trade off Analysis and Earned Value Analysis. IT tools for project data updating.

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**UNIT V**

**08 Hrs.**

Project Risk Management: Risk register, identification, evaluation, allocation, avoidance and sharing of risk. Delay Analysis and Case Studies.

**Text Books:**

1. Construction Planning and Management, Ketaki B Dalal, Charotar Publishing House Pvt. Ltd, 2019.
2. Construction Planning and Management, P.S.Gehlot B.B. Dhir, New Age International Publishers, 2018.
3. Construction project management: Theory and practice. Jha, Kumar Neeraj, Pearson Education India, 2015.

**References:**

1. Construction project scheduling and control. Mubarak, Saleh A, John Wiley & Sons, 2015.
2. Project management for engineering and construction. Oberlender, Garold D. McGraw-Hill Education, 2014, First Edition.
3. Construction project management. Clough, Richard H., Glenn A. Sears, and S. Keoki Sears. John Wiley & Sons, 2000, 4th Edition.

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| MTCE 5102   | DCC       | Construction Economics and Finance | 60                           | 20            | 20                   | 0                       | 0                    | 3 | 0 | 0 | 3       |

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**Course Educational Objectives (CEOs):**

On completion of this course the students will able to impart knowledge on cost analysis, economics accounting, contract bidding and awards.

**Course Outcomes (COs):**

Student will be able to

1. Prepare income, profit and loss statements and implement construction accounting.
2. Evaluate construction project economics, cost-benefit analysis and Breakeven Analysis.
3. Analyze and evaluate construction risks and uncertainties.
4. Manage working capital and employ budgeting and control.

**Syllabus:**

**UNIT I**

**07 Hrs.**

Engineering economics: Basic principles – Time value of money, Quantifying alternatives for decision making, Cash flow diagrams, Equivalence – Single payment in the future (P/F, F/P), Present payment compared to uniform series payments (P/ A, A/P), Future payment compared to uniform series payments (F/A, A/F), Arithmetic gradient, Geometric gradient.

**UNIT II**

**09 Hrs.**

Comparison of alternatives: Present, future and annual worth method of comparing alternatives, Rate of return, Incremental rate of return, Break-even comparisons, Capitalized cost analysis,

**UNIT III**

**08 Hrs.**

Benefit-cost analysis. Depreciation, Inflation and Taxes. Equipment economics: Equipment costs, Ownership and operating costs, Buy/ Rent/Lease options, Replacement analysis.

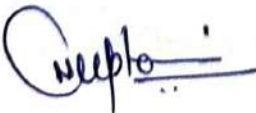
**UNIT IV**

**08 Hrs.**

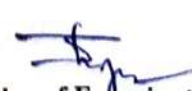
Cost estimating: Types of Estimates, Approximate estimates – Unit estimate, Factor estimate, Cost indexes, Parametric estimate, Life cycle cost.

  
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**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**M.Tech. Construction Technology and Management**  
**(2022-2024)**

| COURSE CODE | CATE-GORY | COURSE 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* |   |   |   |         |
| MTCE 5102   | DCC       | Construction Economics and Finance | 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.

**UNIT V**

**08 Hrs.**

Financial management: Construction accounting, Chart of Accounts, Financial statements – Profit and loss, Balance sheets, Financial ratios, Working capital management.

**Text Books:**

1. Danny Myers, Construction Economics: A New Approach, Taylor and Francis Publisher, 2016.
2. Bose, D. C., Fundamentals of Financial management, 2nd ed., PHI, New Delhi, 2010.
3. Prasanna Chandra, Projects: Planning, Analysis, Selection, Financing, Implementation and Review, Tata McGraw – Hill Education, 2009.
4. Peurifoy, R. L. and Oberlender, G. D., Estimating Construction Costs, 5th ed., Tata McGraw-Hill, New Delhi, 2004.

**References:**

1. Vazirani and Chandola, Construction Accounting and Finance, Dhanpat Rai Publications, 2011.
2. Ofori, G, The Construction Industry Aspects of its Economics and Management, Singapore University Press, 1990.
4. 2. Coombs W.E and W.J Palmer, Construction and Finance Management , Mc-Graw-Hill New Delhi.

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|             |           |                                                     | END SEM University Exam     | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |   |   |   |         |
| MTCE 5104   | DCC       | Construction Project Management Software Laboratory | 0                           | 0             | 0                    | 0                       | 50                   | 0 | 0 | 4 | 2       |

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**Course Educational Objectives (CEOs):**

The objective of this course is to study and understand the various fundamentals and process involve in construction project management using Microsoft project and Primavera software.

**Course Outcomes (COs):**

At the end of the course student will able to,

1. Prepare work break down structure of project and estimate resources required in a construction project.
2. Develop precedence diagram and network diagrams
3. Implement resource allocation and levelling using MSP and Primavera.
4. Perform simulation of construction projects using CM tool and demonstrate learnings

**Syllabus**

1. Introduction to MS Project (MSP) software and development of work breakdown structure of a project in MSP software.
2. Project planning, Scheduling and resource allocation using MSP software
3. Introduction to Primavera P6 software
4. Development of work breakdown structure of a project in Primavera software
5. Project planning, Scheduling and resource allocation using Primavera software
6. Comparative analysis between MSP and Primavera.
7. Case studies to implement the MSP and Primavera software.

**Text Books:**

1. The Project Managers Guide to Microsoft Project 2019, Cicala, G., Apress, Berkeley, CA 2020.
2. Manual for MS Project 2019 Step by Step, Lewis, C., Chatfield, C., & Johnson, T., Microsoft Press, 2019, First Edition.
3. Project Planning and Control Using Primavera P6, Harris, P.E., Eastwood Harris Pty Ltd, 2010.

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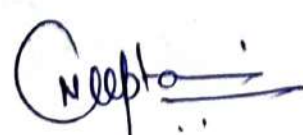
**\*Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**References:**

1. Project management body of knowledge (pmbok® guide), Guide, A., In Project Management
2. Institute, USA, 2008, 4th Edition.

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