

**DEPARTMENT OF CIVIL ENGINEERING****Academic Year 2024-25****Semester- EVEN****Structure of Course**

|   |                                  |
|---|----------------------------------|
| Class                                       | SY Civil semester IV             |
| Course Code and Course Title                | BTCVC403, Structural Mechanics I |
| Prerequisite/s                              | Mechanics of Solid               |
| Teaching Scheme: Lecture/Tutorial/Practical | 02/01/00                         |
| Credits                                     | 3                                |
| Evaluation Scheme: CA/MSE/ESE               | 20/20/60                         |

**Course Outcomes:**

| Course Outcomes (COs):<br>After successful completion of this course, the student will be able to: |   | Blooms Level |
|--|---|--------------|
| BTCVC403_1   | Describe the concept of structural analysis, degree of indeterminacy.                         | L2           |
| BTCVC403_2   | Calculate slopes and deflection at various locations for different types of beams.            | L3           |
| BTCVC403_3   | Identify determinate and indeterminate trusses and calculate forces in the members of trusses | L3           |
| BTCVC403_4   | Perform the distribution of the moments the in continuous beam and frame                      | L3           |

**Mapping of CO's with PO's and PSO's:**

| Course Outcomes | Program Outcomes |   |   |   |   |   |   |   |   |    |    |    | PSO1 | PSO2 | PSO3 |
|-----------------|------------------|---|---|---|---|---|---|---|---|----|----|----|------|------|------|
|                 | 1                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |      |      |      |
| BTCVC403_1      | 2                |   |   |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC403_2      | 3                | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC403_3      | 3                | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC403_4      | 3                | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |
| Total           | 11               | 6 | 6 |   |   |   |   |   |   |    |    | 8  | 8    | 8    | 8    |
| Average         | 2.75             | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC403        | 3                | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |

**CO Attainment Targets:**

| CO                  | 403_1 | 403_2 | 403_3 | 403_4 | 403_5 |
|---------------------|-------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |       |
| Target for CAY      |       |       |       |       |       |

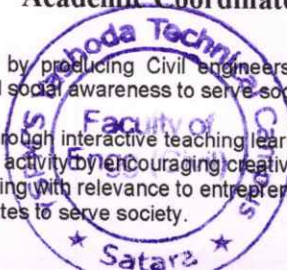
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Course CoordinatorVerified by  
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HOD**Vision:** To become centre of excellence by producing Civil Engineers having research and development activity, sound technical knowledge, professional skills and social awareness to serve society.**Mission:**

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M4: To develop social awareness in graduates to serve society.



**Department of Civil Engineering**

Academic Year 2023-24

Semester- EVEN

**Structure of Course**

|  |                        |
|--|------------------------|
| Class  | SY. Sem. -IV           |
| Course Code and Course Title                   | BTCVC405 Hydraulics II |
| Prerequisite/s                                 | BTCVC304               |
| Teaching Scheme:<br>Lecture/Tutorial/Practical | 02/01/02               |
| Credits  | 03                     |
| Evaluation Scheme: CA / MSE / ESE              | 20/20/60               |

**Course Outcomes:**

| Course Outcomes (COs):  |   | Blooms Level |
|---|---|--------------|
| Upon successful completion of this course, the student will be able to: |   |              |
| BTCVC405_1  | Design open channel sections in a most economical way.                                      | L3           |
| BTCVC405_2  | Know about the non-uniform flows in open channel and the characteristics of hydraulic jump. | L3           |
| BTCVC405_3  | Understand application of momentum principle of impact of jets on plane                     | L2           |
| BTCVC405_4  | To analyze and select the pumps and turbines as per requirements                            | L3           |

**Mapping of CO's with PO's and PSO's:**

| Course Outcomes | Programme Outcomes |   |   |   |   |   |   |   |   |    |    |     |      |       |       |
|-----------------|--------------------|---|---|---|---|---|---|---|---|----|----|-----|------|-------|-------|
|                 | 1                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12  | PSO1 | PSO 2 | PSO 3 |
| BTCVC405_1      | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 3   | 2    |       | 2     |
| BTCVC405_2      | 3                  | 2 |   |   |   |   |   |   |   |    |    | 2   | 2    |       | 2     |
| BTCVC405_3      | 3                  | 2 |   |   |   |   |   |   |   |    |    | 2   | 2    |       | 2     |
| BTCVC405_4      | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 3   | 3    |       | 2     |
| Total           | 12                 | 8 | 4 |   |   |   |   |   |   |    |    | 10  | 9    |       | 8     |
| Average         | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 2.5 | 2.25 | 2     | 2     |
| BTCVC405        | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 3   | 2.5  | 2     | 2     |

**CO Attainment Targets:**

| CO                  | 304_1 | 304_2 | 304_3 | 304_4 |
|---------------------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |
| Target for CAY      |       |       |       |       |

  
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**Department of Civil Engineering**  
Academic Year 2023-24

Semester- EVEN

**Structure of Course**

|   |                                     |
|---|-------------------------------------|
| Class                                       | SY. Sem. -IV                        |
| Course Code and Course Title                | <b>BTCVC406 Engineering Geology</b> |
| Prerequisite/s                              | Basic Civil Engineering             |
| Teaching Scheme: Lecture/Tutorial/Practical | 03/00/00                            |
| Credits                                     | 03                                  |
| Evaluation Scheme: CA / MSE / ESE           | 20/20/60                            |

**Course Outcomes:**


| Course Outcomes (COs):  | Blooms Level |
|---|--------------|
| Upon successful completion of this course, the student will be able to:   |              |
| <b>BTCVC406_1</b> Recognize the different land forms which are formed by various geological agents.                 | L3           |
| <b>BTCVC406_2</b> Identify the origin, texture and structure of various rocks and physical properties of mineral.   | L3           |
| <b>BTCVC406_3</b> Emphasize distinct geological structures which have influence on the civil engineering structure. | L3           |
| <b>BTCVC406_4</b> Understand how the various geological conditions affect the design parameters of structures.      | L2           |


**Mapping of CO's with PO's and PSO's:**

| Course Outcomes   | Programme Outcomes |    |   |   |   |    |    |   |   |    |    |     |      |     |     |
|-------------------|--------------------|----|---|---|---|----|----|---|---|----|----|-----|------|-----|-----|
|                   | 1                  | 2  | 3 | 4 | 5 | 6  | 7  | 8 | 9 | 10 | 11 | 12  | PSO1 | PSO | PSO |
| <b>BTCVC406_1</b> | 2                  | 2  |   |   |   | 2  | 2  |   |   |    |    | 2   | 2    | 2   | 2   |
| <b>BTCVC406_2</b> | 2                  | 2  |   |   |   | 2  | 2  |   |   |    |    | 2   | 2    | 2   | 2   |
| <b>BTCVC406_3</b> | 2                  | 2  |   |   |   | 2  | 2  |   |   |    |    | 2   | 2    | 2   | 2   |
| <b>BTCVC406_4</b> | 2                  | 2  |   |   |   | 2  | 2  |   |   |    |    | 2   | 2    | 2   | 2   |
| <b>Total</b>      | 8                  | 8  |   |   |   | 8  | 8  |   |   |    |    | 8   | 8    | 8   | 8   |
| <b>Average</b>    | 2                  | 2  |   |   |   | 2  | 2  |   |   |    |    | 2   | 2    | 2   | 2   |
| <b>BTCVC406</b>   | 2.5                | 2. |   |   |   | 2. | 2. |   |   |    |    | 2.5 | 2.5  | 2.5 | 2.5 |

**CO Attainment Targets:**

| CO                  | 406_1 | 406_2 | 406_3 | 406_4 |
|---------------------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |
| Target for CAY      |       |       |       |       |

  
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**Department of Civil Engineering**

Academic Year 2023-24

Semester- EVEN

**Structure of Course**

|  |                                   |
|--|-----------------------------------|
| Class  | SY. Sem. -IV                      |
| Course Code and Course Title                   | <b>BTCVL409 Hydraulics II LAB</b> |
| Prerequisite/s                                 | BTCVL308                          |
| Teaching Scheme:<br>Lecture/Tutorial/Practical | 02/01/02                          |
| Credits  | 01                                |
| Evaluation Scheme: CA / MSE / ESE              | 20/30                             |

**Course Outcomes:**

| Course Outcomes (COs):  |   | Blooms Level |
|---|---|--------------|
| Upon successful completion of this course, the student will be able to: |   |              |
| BTCVL409_1  | Understand various properties of fluids and measurement techniques. | L2           |
| BTCVL409_2  | Carry out calibrations of various flow measuring devices.           | L3           |
| BTCVL409_3  | Understand mechanism of hydraulic jump, various jets and pumps.     | L2           |
| BTCVL409_4  | Work effectively in team to perform and findings the results.       | L2           |

**Mapping of CO's with PO's and PSO's:**

| Course Outcomes | Programme Outcomes |   |   |   |   |   |   |   |   |    |    |    |      |       |       |
|-----------------|--------------------|---|---|---|---|---|---|---|---|----|----|----|------|-------|-------|
|                 | 1                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | PSO1 | PSO 2 | PSO 3 |
| BTCVL409.1      | 3                  |   |   |   |   |   |   | 2 | 2 |    |    | 2  | 3    | 2     | 2     |
| BTCVL409.2      | 3                  |   |   |   |   |   |   | 2 | 2 |    |    | 2  | 2    | 2     | 2     |
| BTCVL409.3      | 3                  |   |   |   |   |   |   | 2 | 2 |    |    | 2  | 2    | 2     | 2     |
| BTCVL409.4      |                    |   |   |   |   |   |   | 2 | 2 |    |    | 2  | 2    | 2     | 2     |
| <b>Total</b>    | 9                  |   |   |   |   |   |   | 8 | 8 |    |    | 8  | 9    | 8     | 8     |
| <b>Average</b>  | 3                  |   |   |   |   |   |   | 2 | 2 |    |    | 2  | 2.25 | 2     | 2     |
| BTCVC405        | 3                  |   |   |   |   |   |   | 2 | 2 |    |    | 2  | 2.5  | 2     | 2     |

**CO Attainment Targets:**

| CO                  | 409_1 | 409_2 | 409_3 | 409_4 |
|---------------------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |
| Target for CAY      |       |       |       |       |

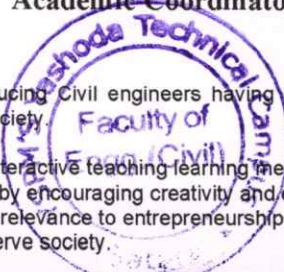
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**DEPARTMENT OF CIVIL ENGINEERING****Academic Year 2024-25****Semester- EVEN****Structure of Course**

|   |                                   |
|---|-----------------------------------|
| Class                                       | TY Civil semester VI              |
| Course Code and Course Title                | BTCVC601, Design of RC Structures |
| Prerequisite/s                              | Mechanics of Solid                |
| Teaching Scheme: Lecture/Tutorial/Practical | 02/01/00                          |
| Credits                                     | 3                                 |
| Evaluation Scheme: CA/MSE/ESE               | 20/20/60                          |

**Course Outcomes:**

| Course Outcomes (COs):   |   | Blooms Level |
|--|---|--------------|
| After successful completion of this course, the student will be able to: |   |              |
| BTCVC601_1   | Comprehend to the various design philosophies used for design of reinforced concrete.         | L2           |
| BTCVC601_2   | Analyze and design the reinforced concrete slab using limit state and working state method.   | L3           |
| BTCVC601_3   | Analyze and design the reinforced concrete beam using limit state and working state method.   | L3           |
| BTCVC601_4   | Analyze and design the reinforced concrete column using limit state and working state method. | L2           |

**Mapping of CO's with PO's and PSO's:**

| Course Outcomes | Program Outcomes |   |   |   |   |   |   |   |   |    |    |    |      |      |      |
|-----------------|------------------|---|---|---|---|---|---|---|---|----|----|----|------|------|------|
|                 | 1                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | PSO1 | PSO2 | PSO3 |
| BTCVC601_1      | 2                |   |   |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC601_2      | 3                | 3 | 2 |   |   | 2 |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC601_3      | 3                | 3 | 2 |   |   | 2 |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC601_4      | 3                | 3 | 2 |   |   | 2 |   |   |   |    |    | 2  | 2    | 2    | 2    |
| Total           | 11               | 9 | 6 |   |   | 6 |   |   |   |    |    | 8  | 8    | 8    | 8    |
| Average         | 2.75             | 3 | 2 |   |   | 2 |   |   |   |    |    | 2  | 2    | 2    | 2    |
| BTCVC601        | 3                | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2    | 2    | 2    |

**CO Attainment Targets:**

| CO                  | 601_1 | 601_2 | 601_3 | 601_4 | 601_5 |
|---------------------|-------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |       |
| Target for CAY      |       |       |       |       |       |

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Course Coordinator*Sachin*Verified by  
Academic Coordinator*Sachin*Approved by  
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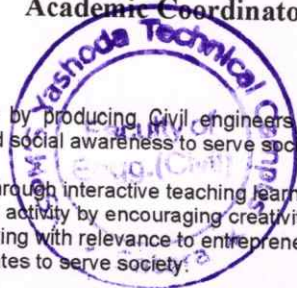
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**Department of Civil Engineering****Academic Year 2024-25****Semester- EVEN****Structure of Course**

|   |                                     |
|---|-------------------------------------|
| Class                                       | T.Y. Sem. -V                        |
| Course Code and Course Title                | BTCVC603 Transportation Engineering |
| Prerequisite/s                              | BTCVC305                            |
| Teaching Scheme: Lecture/Tutorial/Practical | 03/00/02                            |
| Credits                                     | 03                                  |
| Evaluation Scheme: CA / MSE / ESE           | 20/20/60                            |

**Course Outcomes:**


| Course Outcomes (COs):<br>Upon successful completion of this course, the student will be able to: |  | Blooms Level |
|---|--|--------------|
| BTCVC603_1  | Comprehend various types of transportation systems and their history of the development.     | L2           |
| BTCVC603_2  | Design highway geometrics.   | L3           |
| BTCVC603_3  | Determine the quality of Materials used for pavements.                                       | L2           |
| BTCVC603_4  | Comprehend to various types of pavements   | L2           |
| BTCVC603_5  | Design the pavements by considering various aspects associated with traffic safety measures. | L3           |

**Mapping of CO's with PO's and PSO's:**

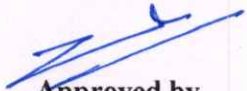
| Course Outcomes | Programme Outcomes |   |   |   |   |   |   |   |   |    |    |     |     |     |     |  |
|-----------------|--------------------|---|---|---|---|---|---|---|---|----|----|-----|-----|-----|-----|--|
|                 | 1                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12  | PS  | PSO | PSO |  |
| BTCVC603_1      | 3                  |   |   |   |   |   |   |   |   |    |    | 3   | 2   | 2   | 2   |  |
| BTCVC603_2      | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 2   | 3   | 2   | 2   |  |
| BTCVC603_3      | 3                  | 2 |   |   |   |   |   |   |   |    |    | 2   | 2   | 2   | 2   |  |
| BTCVC603_4      | 3                  | 2 |   |   |   |   |   |   |   |    |    | 2   | 2   | 2   | 2   |  |
| BTCVC603_5      | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 3   | 3   | 2   | 2   |  |
| Total           | 15                 | 8 | 4 |   |   |   |   |   |   |    |    | 12  | 12  | 10  | 10  |  |
| Average         | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 2.4 | 2.4 | 2   | 2   |  |
| BTCVC 603       | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 2.5 | 2.5 | 2   | 2   |  |

**CO Attainment Targets:**

| CO                  | 603_1 | 603_2 | 603_3 | 603_4 | 603_5 |
|---------------------|-------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |       |
| Target for CAY      |       |       |       |       |       |

  
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|   |   |
|---|---|
| Class                                       | TY Civil semester VI                    |
| Course Code and Course Title                | BTCVPE604F, Structural Audit            |
| Prerequisite/s                              | Concrete Technology, Material Testing & |
| Teaching Scheme: Lecture/Tutorial/Practical | 03/00/00                                |
| Credits                                     | 3                                       |
| Evaluation Scheme: CA/MSE/ESE               | 20/20/60                                |

Course Outcomes:

| Course Outcomes (COs):   |  | Blooms Level |
|--|--|--------------|
| After successful completion of this course, the student will be able to: |  |              |
| BTCVC604F_1  | Gain the knowledge of Bye laws, procedure of Structural audit and study the typical problems in structures | L2           |
| BTCVC604F_2  | Aware of causes and types of deterioration in structures.  | L2           |
| BTCVC604F_3  | Develop skills for use of various Non-destructive tests required during auditing of structures.            | L3           |
| BTCVC604F_4  | Strength evaluation of existing structures.  | L2           |
| BTCVC604F_5  | Acquire knowledge of legal procedure to conduct structural audits.   | L2           |
| BTCVC604F_6  | Prepare a Structural audit report  | L2           |

Mapping of CO's with PO's and PSO's:

| Course Outcomes   | Program Outcomes |             |   |          |          |           |            |          |          |          |          |            | PSO1       | PSO2     | PSO3     |
|-------------------|------------------|-------------|---|----------|----------|-----------|------------|----------|----------|----------|----------|------------|------------|----------|----------|
|                   | 1                | 2           | 3 | 4        | 5        | 6         | 7          | 8        | 9        | 10       | 11       | 12         |            |          |          |
| BTCVPE604F_1      | 3                |             |   | 2        |          | 2         | 3          | 2        |          |          |          | 3          | 2          | 2        | 2        |
| BTCVPE604F_2      | 3                |             |   |          |          | 2         | 2          |          |          |          |          | 3          |            |          |          |
| BTCVPE604F_3      | 3                | 3           |   | 2        | 3        |           |            |          |          |          |          | 2          | 3          | 2        | 2        |
| BTCVPE604F_4      | 3                | 2           |   |          |          | 2         | 2          |          |          |          |          | 2          | 2          |          |          |
| BTCVPE604F_5      | 2                | 2           |   |          |          | 2         | 2          | 2        |          |          | 2        | 3          | 2          |          |          |
| BTCVPE604F_6      | 3                | 2           |   |          |          | 2         | 2          |          | 2        | 2        | 2        | 2          | 2          |          |          |
| <b>Total</b>      | <b>17</b>        | <b>9</b>    |   | <b>4</b> | <b>3</b> | <b>10</b> | <b>11</b>  | <b>4</b> | <b>2</b> | <b>2</b> | <b>4</b> | <b>15</b>  | <b>11</b>  | <b>4</b> | <b>4</b> |
| <b>Average</b>    | <b>2.83</b>      | <b>2.25</b> |   | <b>2</b> | <b>3</b> | <b>2</b>  | <b>2.2</b> | <b>2</b> | <b>2</b> | <b>2</b> | <b>2</b> | <b>2.5</b> | <b>2.2</b> | <b>2</b> | <b>2</b> |
| <b>BTCVPE604F</b> | <b>3</b>         | <b>2</b>    |   | <b>2</b> | <b>2</b> | <b>2</b>  | <b>2</b>   | <b>2</b> | <b>2</b> | <b>2</b> | <b>2</b> | <b>2</b>   | <b>2</b>   | <b>2</b> | <b>2</b> |

CO Attainment Targets:

| CO                  | 604_1 | 604_2 | 604_3 | 604_4 | 604_5 |
|---------------------|-------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |       |
| Target for CAY      |       |       |       |       |       |

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|   |   |
|---|---|
| Class                                       | TY Civil semester VI                        |
| Course Code and Course Title                | BTCVC607, SDD of RC Structures Lab          |
| Prerequisite/s                              | Mechanics of Solid, Design of RC Structures |
| Teaching Scheme: Lecture/Tutorial/Practical | 00/00/02                                    |
| Credits                                     | 1   |
| Evaluation Scheme: CA/ESE                   | 20/30                                       |

Course Outcomes:

| Course Outcomes (COs): |   | Blooms |
|------------------------|---|--------|
| BTCVL607_1             | Calculate different loads and perform load combination analysis for different RC buildings as per codal provisions. | L3     |
| BTCVL607_2             | Apply the principles, procedures and current code requirements for the design of RC beams, columns, slab, Footings. | L3     |
| BTCVL607_3             | Work in a group for design oriented task related to project.  | L2     |
| BTCVL607_4             | Develop skills of technical report writing and comprehension of results etc.  | L2     |
| BTCVL607_5             | Apply the knowledge in real life problems   | L2     |

Mapping of CO's with PO's and PSO's:

| Course Outcomes | Program Outcomes |   |   |   |   |   |   |   |   |    |    |    | PSO1 | PSO2 | PSO3 |
|-----------------|------------------|---|---|---|---|---|---|---|---|----|----|----|------|------|------|
|                 | 1                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |      |      |      |
| BTCVL607_1      | 3                | 3 |   |   |   |   |   | 3 |   |    |    | 3  | 2    | 2    |      |
| BTCVL607_2      | 3                | 3 |   |   |   |   |   |   |   |    |    | 3  | 2    | 2    |      |
| BTCVL607_3      | 3                | 3 |   |   |   |   |   |   |   |    |    | 3  | 2    | 2    | 2    |
| BTCVL607_4      |                  |   |   |   |   |   |   | 3 | 3 |    |    | 3  | 2    |      | 2    |
| BTCVL607_5      |                  |   |   |   |   |   |   | 3 | 3 |    |    | 3  | 2    |      |      |
| <b>Total</b>    | 9                | 9 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 6  | 0  | 15 | 10   | 6    | 4    |
| <b>Average</b>  | 3                | 3 |   |   |   |   |   | 3 | 3 | 3  |    | 3  | 2    | 2    | 2    |
| <b>BTCVL607</b> | 3                | 3 |   |   |   |   |   | 3 | 3 | 3  |    | 3  | 2    | 2    | 2    |

CO Attainment Targets:

| CO                  | 607_1 | 607_2 | 607_3 | 607_4 | 607_5 |
|---------------------|-------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |       |
| Target for CAY      |       |       |       |       |       |

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HOD

**Vision:** To become centre of excellence by producing Civil engineers having research and development activity, sound technical knowledge, professional skills and social awareness to serve society.

**Mission:**

M1: To impart quality technical education through interactive teaching learning method.

M2: To promote research and development activity by encouraging creativity and exposure to real world problem.

M3: To mentor students for innovating thinking with relevance to entrepreneurship

M4: To develop social awareness in graduates to serve society.





**Department of Civil Engineering**

Academic Year 2023-24

Semester- EVEN

**Structure of Course**

|  |  |
|--|--|
| Class  | T.Y. Sem. -VI                          |
| Course Code and Course Title                   | BTCVL608Transportation Engineering LAB |
| Prerequisite/s                                 |  |
| Teaching Scheme:<br>Lecture/Tutorial/Practical | 03/00/02                               |
| Credits  | 01                                     |
| Evaluation Scheme: CA / MSE / ESE              | 20/30                                  |

**Course Outcomes:**

| Course Outcomes (COs):<br>Upon successful completion of this course, the student will be able to: |  | Blooms Level |
|---|--|--------------|
| BTCVL608_1  | Perform tests on various road construction materials.                                  | L3           |
| BTCVL608_2  | Perform CBR tests on local soils to determine subgrade properties needed for roadways. | L3           |
| BTCVL608_3  | Communicate effectively about laboratory work in both orally and writing               | L2           |
| BTCVL608_4  | Work effectively in team to perform and findings the results.                          | L2           |

**Mapping of CO's with PO's and PSO's:**

| Course Outcomes | Programme Outcomes |   |   |   |   |   |   |   |   |    |    |    | PS O1 | PSO 2 | PSO 3 |
|-----------------|--------------------|---|---|---|---|---|---|---|---|----|----|----|-------|-------|-------|
|                 | 1                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |       |       |       |
| BTCVL 608.1     | 3                  | 2 |   |   |   |   |   |   |   |    |    | 2  | 3     | 2     | 2     |
| BTCVL 608.2     | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2     | 2     | 2     |
| BTCVL 608.3     |                    |   |   |   |   |   |   |   | 2 | 3  |    | 2  |       |       |       |
| BTCVL 608.4     |                    |   |   |   |   |   |   |   | 3 | 3  |    | 2  |       |       |       |
| Total           | 6                  | 4 | 2 |   |   |   |   |   |   |    |    | 8  | 5     | 4     | 4     |
| Average         | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2.5   | 2     | 2     |
| BTCVC 603       | 3                  | 2 | 2 |   |   |   |   |   |   |    |    | 2  | 2.5   | 2     | 2     |

**CO Attainment Targets:**

| CO                  | 608 1 | 608 2 | 608 3 | 608 4 |
|---------------------|-------|-------|-------|-------|
| Previous Attainment | 3     | 3     | 3     | 3     |
| Target for CAY      | 3     | 3     | 3     | 3     |

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HOD- Civil**Vision:** To become centre of excellence by producing Civil Engineers having research and development activity, sound technical knowledge, professional skills and social awareness to serve society.**Mission:**

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**DEPARTMENT OF CIVIL ENGINEERING****Academic Year 2024-25****Semester- EVEN**Structure of Course

|   |                         |
|---|-------------------------|
| Class                                       | TY Civil semester VI    |
| Course Code and Course Title                | BTCVP609, Mini Project  |
| Prerequisite/s                              | Basic Civil Engineering |
| Teaching Scheme: Lecture/Tutorial/Practical | 00/00/02                |
| Credits                                     | 1                       |
| Evaluation Scheme: CA/ESE                   | 20/30                   |

Course Outcomes:

| Course Outcomes (COs):   |  | Blooms Level |
|--|--|--------------|
| After successful completion of this course, the student will be able to: |  |              |
| BTCVP609_1   | Identify thrust area in civil engineering and finalize problem statement.                        | L2           |
| BTCVP609_2   | Work and complete the methodology and give conclusion on the basis of results.                   | L2           |
| BTCVP609_3   | Work as an individual or in a team in development of technical projects.                         | L2           |
| BTCVP609_4   | Apply project management skills (scheduling work and working within the confines of a deadline). | L2           |
| BTCVP609_5   | Communicate technical information by means of report and presentation.                           | L2           |

Mapping of CO's with PO's and PSO's:

| Course Outcomes | Program Outcomes |   |   |   |   |   |   |   |   |    |    |    | PSO1 | PSO2 | PSO3 |
|-----------------|------------------|---|---|---|---|---|---|---|---|----|----|----|------|------|------|
|                 | 1                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |      |      |      |
| BTCVP609_1      | 3                | 3 |   | 2 |   |   | 2 | 3 |   |    |    | 3  | 2    | 2    |      |
| BTCVP609_2      | 3                | 3 |   | 2 | 2 |   |   |   |   |    |    | 3  | 2    | 2    | 2    |
| BTCVP609_3      | 3                | 3 |   |   |   | 2 |   |   |   |    |    | 3  | 2    | 2    | 2    |
| BTCVP609_4      |                  |   |   |   |   | 2 |   |   | 3 | 3  | 2  | 3  | 2    |      |      |
| BTCVP609_5      |                  |   |   |   |   |   |   |   | 3 | 3  |    | 3  | 2    |      |      |
| <b>Total</b>    | 9                | 9 |   | 4 | 2 | 4 | 2 | 3 | 6 | 6  | 2  | 15 | 10   | 6    | 4    |
| <b>Average</b>  | 3                | 3 |   | 2 | 2 | 2 | 2 | 3 | 3 | 3  | 2  | 3  | 2    | 2    | 2    |
| <b>BTCVP609</b> | 3                | 3 |   | 2 | 2 | 2 | 2 | 3 | 3 | 3  | 2  | 3  | 2    | 2    | 2    |

CO Attainment Targets:

| CO                  | 609_1 | 609_2 | 609_3 | 609_4 | 609_5 |
|---------------------|-------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |       |
| Target for CAY      |       |       |       |       |       |

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**DEPARTMENT OF CIVIL ENGINEERING****Academic Year 2024-25****Semester- EVEN**Structure of Course

|   |  |
|---|--|
| Class                                       | Final Year Civil semester VIII                         |
| Course Code and Course Title                | BTCVP803, Project Stage II                             |
| Prerequisite/s                              | Basic Civil Engineering, Mini Project, Project Phase I |
| Teaching Scheme: Lecture/Tutorial/Practical | 00/00/02   |
| Credits                                     | 12   |
| Evaluation Scheme: CA/ESE                   | 100/100  |

Course Outcomes:

| Course Outcomes (COs):   |  | Blooms Level |
|--|--|--------------|
| After successful completion of this course, the student will be able to: |  |              |
| BTCEP803_1   | Identify thrust area in civil engineering and finalize problem statement.                        | L2           |
| BTCEP803_2   | Work and complete the methodology and give conclusion on the basis of results.                   | L2           |
| BTCEP803_3   | Work as an individual or in a team in development of technical projects.                         | L2           |
| BTCEP803_4   | Apply project management skills (scheduling work and working within the confines of a deadline). | L2           |
| BTCEP803_5   | Communicate technical information by means of report and presentation.                           | L2           |

Mapping of CO's with PO's and PSO's:

| Course Outcomes | Program Outcomes |   |      |   |   |   |   |   |   |    |    |     | PSO1 | PSO2 | PSO3 |
|-----------------|------------------|---|------|---|---|---|---|---|---|----|----|-----|------|------|------|
|                 | 1                | 2 | 3    | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12  |      |      |      |
| BTCVP803_1      | 3                | 3 | 2    | 2 | 2 | 3 | 2 |   |   |    |    | 3   | 3    |      |      |
| BTCVP803_2      | 3                | 3 | 2    | 2 |   |   |   |   |   |    |    | 2   | 2    | 2    | 2    |
| BTCVP803_3      | 3                | 3 | 3    |   | 2 |   |   |   |   |    |    | 3   | 3    | 2    | 2    |
| BTCVP803_4      |                  |   |      |   |   |   |   | 3 | 3 | 3  | 3  | 3   | 3    |      | 2    |
| BTCVP803_5      |                  |   |      |   | 2 | 3 |   | 3 | 3 | 3  | 3  | 3   | 2    |      |      |
| Total           | 9                | 9 | 7    | 4 | 6 | 6 | 2 | 6 | 6 | 6  | 6  | 14  | 13   | 4    | 6    |
| Average         | 3                | 3 | 2.33 | 2 | 2 | 3 | 2 | 3 | 3 | 3  | 3  | 2.8 | 2.6  | 2    | 2    |
| BTCVP803        | 3                | 2 | 2    | 2 | 2 | 3 | 2 | 3 | 3 | 3  | 3  | 3   | 3    | 2    | 2    |

CO Attainment Targets:

| CO                  | 803_1 | 803_2 | 803_3 | 803_4 | 803_5 |
|---------------------|-------|-------|-------|-------|-------|
| Previous Attainment |       |       |       |       |       |
| Target for CAY      |       |       |       |       |       |

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