

| <b>Sharnbasva University, Kalaburagi</b><br><b>Scheme of Teaching and Examination 2023-24</b><br><b>As per NEP, Outcome Based Education(OBE) and Choice Based Credit System (CBCS)</b><br><b>(Effective from the academic year 2023-24)</b> |             |          |                                             |                                      |                     |          |          |                   |            |            |             |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|---------------------------------------------|--------------------------------------|---------------------|----------|----------|-------------------|------------|------------|-------------|-----------|
| <b>I SEMSTER M.Tech : Structural Engineering</b>                                                                                                                                                                                            |             |          |                                             |                                      |                     |          |          |                   |            |            |             |           |
| Sl. No                                                                                                                                                                                                                                      | Course Code |          | Course Title                                | Teaching Dept. & Paper Setting Board | Teaching Hours/week |          |          | Examination       |            |            |             | Credits   |
|                                                                                                                                                                                                                                             |             |          |                                             |                                      | L                   | T        | P        | Duration in hours | CIE Marks  | SEE Marks  | Total Marks |           |
| 1                                                                                                                                                                                                                                           | HCC-I       | 23SEC11  | Advanced Design of RC Structures            | CIV                                  | 3                   | 1        | 0        | 3                 | 50         | 50         | 100         | 04        |
| 2                                                                                                                                                                                                                                           | HCC-II      | 23SEC12  | Computational Structural Mechanics          | CIV                                  | 3                   | 1        | 0        | 3                 | 50         | 50         | 100         | 04        |
| 3                                                                                                                                                                                                                                           | CEC-I       | 23XXX13X | Core Elective Course-I                      | CIV                                  | 3                   | 0        | 0        | 3                 | 50         | 50         | 100         | 03        |
| 4                                                                                                                                                                                                                                           | CEC-II      | 23XXX14X | Core Elective Course-II                     | CIV                                  | 3                   | 0        | 0        | 3                 | 50         | 50         | 100         | 03        |
| 5                                                                                                                                                                                                                                           | HSM-I       | 23RM15   | Research Methodology and Ethics             | CIV                                  | 3                   | 0        | 0        | 3                 | 50         | 50         | 100         | 03        |
| 6                                                                                                                                                                                                                                           | LAB-I       | 23SECL16 | Advance Concrete Testing Laboratory         | CIV                                  | 0                   | 0        | 2        | 3                 | 50         | 50         | 100         | 01        |
| 7                                                                                                                                                                                                                                           | LAB-II      | 23SECL17 | Structural Analysis and Design Laboratory-I | CIV                                  | 0                   | 0        | 2        | 3                 | 50         | 50         | 100         | 01        |
| 8                                                                                                                                                                                                                                           | PW-I        | 23SEC18  | Project-I                                   | CIV                                  | 0                   | 0        | 4        | 3                 | 50         | 50         | 100         | 02        |
| <b>Total</b>                                                                                                                                                                                                                                |             |          |                                             |                                      | <b>15</b>           | <b>2</b> | <b>8</b> | <b>24</b>         | <b>400</b> | <b>400</b> | <b>800</b>  | <b>21</b> |

NOTE: Every regular student admitted to the 2 years post-graduation programme must select 3 online courses of 3 credit each from MOOCs[Swayam/NPTEL] shall clear all online courses spread through all semesters[1<sup>st</sup> to 4<sup>th</sup> ].

| Core Elective Course-I |                                          |
|------------------------|------------------------------------------|
| 23SEC131               | Structural Dynamics                      |
| 23SEC132               | Design of Precast & Composite Structures |
| 23SEC133               | Design Concepts of Substructures         |

| Core Elective Course-II |                                                     |
|-------------------------|-----------------------------------------------------|
| 23SEC141                | Design of Masonry Structures                        |
| 23SEC142                | Special Concrete                                    |
| 23SEC143                | Advanced Design of Pre-Stressed Concrete Structures |

**Sharnbasva University, Kalaburagi**  
**Scheme of Teaching and Examination 2023-24**  
**As per NEP, Outcome Based Education(OBE) and Choice Based Credit System (CBCS)**  
**(Effective from the academic year 2023-24)**

**II SEMSTER M.Tech : Structural Engineering**

| Sl. No       | Course Code |          | Course Title                                 | Teaching Dept. & Paper Setting Board | Teaching Hours/week                                                              |          |          | Examination       |            |            |             | Credits   |
|--------------|-------------|----------|----------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------|----------|----------|-------------------|------------|------------|-------------|-----------|
|              |             |          |                                              |                                      | L                                                                                | T        | P        | Duration in hours | CIE Marks  | SEE Marks  | Total Marks |           |
| 1            | HCC-III     | 23SEC21  | Advanced Design of Steel Structures.         | CIV                                  | 3                                                                                | 1        | 0        | 3                 | 50         | 50         | 100         | 04        |
| 2            | HCC-IV      | 23SEC22  | Earthquake Resistance Structures             | CIV                                  | 3                                                                                | 1        | 0        | 3                 | 50         | 50         | 100         | 04        |
| 3            | CEC-III     | 23XXX23X | Core Elective Course -III                    | CIV                                  | 3                                                                                | 0        | 0        | 3                 | 50         | 50         | 100         | 03        |
| 4            | CEC-IV      | 23XXX24X | Core Elective Course -IV                     | CIV                                  | 3                                                                                | 0        | 0        | 3                 | 50         | 50         | 100         | 03        |
| 5            | OEC-I       | 23OC25   | Open Elective- I                             | ONLINE                               | Classes & evaluation procedure as per the policy of the online courses provider. |          |          |                   |            |            | 100         | 03*       |
| 6            | LAB-III     | 23SECL26 | Advanced Civil Engineering Workshop          | CIV                                  | 0                                                                                | 0        | 2        | 3                 | 50         | 50         | 100         | 01        |
| 7            | LAB-IV      | 23SECL27 | Structural Analysis and Design Laboratory-II | CIV                                  | 0                                                                                | 0        | 2        | 3                 | 50         | 50         | 100         | 01        |
| 8            | PW-II       | 23SEC28  | Project-II                                   | CIV                                  | 0                                                                                | 0        | 4        | 3                 | 50         | 50         | 100         | 02        |
| <b>Total</b> |             |          |                                              |                                      | <b>12</b>                                                                        | <b>2</b> | <b>8</b> | <b>21</b>         | <b>350</b> | <b>350</b> | <b>800</b>  | <b>21</b> |

**NOTE:** Every regular student admitted to the 2 years post-graduation programme must select 3 online courses of 3 credit each from MOOCs[Swayam/NPTEL] shall clear all online courses spread through all semesters[1<sup>st</sup> to 4<sup>th</sup>].

\* Course opted by students having credits 3 or above will be considered as credit 3 only.

**Semester Project:** The project work shall be carried out individually. This may be hands-on practice, survey report, data collection and analysis, coding, mobile app development, field visit and report preparation, modelling of system, simulation, analyzing and authenticating, case studies, etc. CIE marks shall be awarded by a Guide/co-guide; Students can present the presentation based on the completed project. Participation in the presentation by all postgraduate students of the program shall be mandatory. The CIE marks awarded for Project work, shall be based on the evaluation of Project work and Report, Presentation skill and performance in Question-and-Answer session. Project work shall be considered as a head of passing for the award of degree. Those, who do not take-up/complete the Project shall be declared as fail in that course and have to complete the same during the subsequent semester when it is offered.

| Core Elective Course -III |                                        |
|---------------------------|----------------------------------------|
| 23SEC231                  | Stability of structure                 |
| 23SEC232                  | Repair & Rehabilitation of Structures. |
| 23SEC233                  | Finite Elements Method of Analysis     |

| Core Elective Course -IV |                                 |
|--------------------------|---------------------------------|
| 23SEC241                 | Design concept of substructures |
| 23SEC242                 | Design of Tall structures       |
| 23SEC243                 | Optimization Techniques         |

**Sharnbasva University, Kalaburagi**  
**Scheme of Teaching and Examination 2023-24**  
**As per NEP, Outcome Based Education(OBE) and Choice Based Credit System (CBCS)**  
**(Effective from the academic year 2023-24)**

**III SEMSTER M.Tech : Structural Engineering**

| Sl. No       | Course Code |          | Course Title              | Teaching Dept. & Paper Setting Board | Teaching Hours/ week                                                             |          |           | Examination       |            |            |             | Credits   |
|--------------|-------------|----------|---------------------------|--------------------------------------|----------------------------------------------------------------------------------|----------|-----------|-------------------|------------|------------|-------------|-----------|
|              |             |          |                           |                                      | L                                                                                | T        | P         | Duration in hours | CIE Marks  | SEE Marks  | Total Marks |           |
| 1            | OEC-V       | 23XXX31X | Core Elective Course -V   | CIV                                  | 3                                                                                | 0        | 0         | 3                 | 50         | 50         | 100         | 03        |
| 2            | OEC-II      | 23OC32   | Open Elective-II          | ONLINE                               | Classes & evaluation procedure as per the policy of the online courses provider. |          |           |                   |            |            | 100         | 03*       |
| 3            | OEC-III     | 23OC33   | Open Elective-III         | ONLINE                               | Classes & evaluation procedure as per the policy of the online courses provider. |          |           |                   |            |            | 100         | 03*       |
| 4            | HSM-II      | 23HSM34  | Fundamental of Management | CIV                                  | 3                                                                                | 0        | 0         | 3                 | 50         | 50         | 100         | 03        |
| 5            | PW-III      | 23SEC35  | Project-III               | CIV                                  | 0                                                                                | 0        | 4         | 3                 | 50         | 50         | 100         | 02        |
| 6            | PW-IV       | 23SEC36  | Research Project Phase-1  | CIV                                  | 0                                                                                | 0        | 8         | 3                 | 100        | 50         | 100         | 04        |
| <b>Total</b> |             |          |                           |                                      | <b>12</b>                                                                        | <b>0</b> | <b>12</b> | <b>18</b>         | <b>250</b> | <b>150</b> | <b>600</b>  | <b>18</b> |

**NOTE:** Every regular student admitted to the 2 years post-graduation programme must select 3 online courses of 3 credit each from MOOCs[Swayam/NPTEL] shall clear all online courses spread through all semesters[1<sup>st</sup> to 4<sup>th</sup> ].

\* Course opted by students having credits 3 or above will be considered as credit 3 only.

**Research Project Work Phase-1:**The project work shall be carried out individually. However, in case a disciplinary or interdisciplinary project requires more participants, then a group consisting of not more than three shall be permitted. Students in consultation with the guide/co-guide (if any) in disciplinary project or guides/co-guides (if any) of all departments in case of multidisciplinary projects, shall pursue a Literature Survey / Visit to industries / R & D to finalize the project topic and the preliminary requirements of the selected Project work. Each student shall prepare a relevant introductory project document and present a seminar. CIE marks shall be awarded by a guides/co-guide (if any). The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill, and performance in the Question-and-Answer session.

| Core Elective Course -V |                                    |
|-------------------------|------------------------------------|
| 23SEC311                | Design of Concrete Bridges         |
| 23SEC312                | Industrial Safety                  |
| 23SEC313                | Reliability Analysis of Structures |

| <b>Sharnbasva University, Kalaburagi</b><br><b>Scheme of Teaching and Examination 2023-24</b><br><b>As per NEP, Outcome Based Education(OBE) and Choice Based Credit System (CBCS)</b><br><b>Effective from the academic year 2023-24)</b> |             |         |                                                           |                                      |                     |          |           |                   |            |            |             |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------------------------------------------------|--------------------------------------|---------------------|----------|-----------|-------------------|------------|------------|-------------|-----------|
| <b>IV SEMSTER M.Tech : Structural Engineering</b>                                                                                                                                                                                          |             |         |                                                           |                                      |                     |          |           |                   |            |            |             |           |
| Sl. No                                                                                                                                                                                                                                     | Course Code |         | Course Title                                              | Teaching Dept. & Paper Setting Board | Teaching Hours/week |          |           | Examination       |            |            |             | Credits   |
|                                                                                                                                                                                                                                            |             |         |                                                           |                                      | L                   | T        | P         | Duration in hours | CIE Marks  | SEE Marks  | Total Marks |           |
| 1                                                                                                                                                                                                                                          | PW-V        | 23SEC41 | Research Project -II<br>(Final Desertion and Publication) | CIV                                  | 0                   | 0        | 24        | 3                 | 100        | 200        | 300         | 12        |
| 2                                                                                                                                                                                                                                          | INT         | 23SEC42 | Research Internship                                       | RELAV<br>ENT                         | 0                   | 0        | 16        | 3                 | 50         | 50         | 100         | 08        |
| <b>Total</b>                                                                                                                                                                                                                               |             |         |                                                           |                                      | <b>0</b>            | <b>0</b> | <b>40</b> | <b>06</b>         | <b>150</b> | <b>250</b> | <b>400</b>  | <b>20</b> |

**NOTE:** Every regular student admitted to the 2 years post-graduation programme must select 3 online courses of 3 credit each from MOOCs[Swayam/NPTEL] shall clear all online courses spread through all semesters[1<sup>st</sup> to 4<sup>th</sup>].

**Research Project Work Phase-2:** Students in consultation with the guide/co-guide (if any) in disciplinary project or guides/co-guides (if any) of all departments in case of multidisciplinary projects, shall continue to work of Project Work phase -1 to complete the Project work. Each student / batch of students shall prepare project document and present a seminar. The CIE marks awarded for project work phase -2, shall be based on the Design, Testing and Results Analysis Presentation, Thesis Writing, and performance in the Question-and-Answer session. SEE shall be at the end of IV semester. Project work evaluation and Viv Voce examination (SEE) is as follows:

- Internal examiner shall carry out the evaluation for 100 marks.
- External examiner shall carry out evaluation for 100 marks.
- The average of marks allotted by the internal and external examiners shall be the final marks of the project evaluation.
- Viva-voce examination of the project work shall be conducted jointly by internal and external examiners for 100 marks.

**Research Internship:** All the students shall undergo mandatory internship of 8-12 weeks. Those, who have not pursued /completed the internship, shall be declared as fail in the internship course and have to complete the same during subsequent University examinations after satisfying the internship requirements. The CIE and SEE components of the internship is as follows:

- Presentation on Internship (after 4-6 weeks from the date of commencement) (CIE) for 25 marks.
- Evaluation of Internship Report (CIE) for 25 marks.
- Viva-voce on Internship (SEE) for 50 marks.