

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2018 – 19

Outcome Based Education(OBE) and Choice Based Credit System (CBCS)

(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

III SEMESTER

| Sl. No | Course and Course Code | | Course Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | Credits |
|--------|------------------------|--|---|---------------------|----------------------|----------|--------------------|-------------------|-----------|-----------|-------------|---------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in hours | CIE Marks | SEE Marks | Total Marks | |
| | | | | | L | T | P | | | | | |
| 1 | BSC | 18MAT31 | Transform Calculus, Fourier Series and Numerical Techniques | Mathematics | 2 | 2 | -- | 03 | 40 | 60 | 100 | 3 |
| 2 | PCC | 18CV32 | Strength of Materials | Civil Engg. | 3 | 2 | -- | 03 | 40 | 60 | 100 | 4 |
| 3 | PCC | 18CV33 | Fluid Mechanics | Civil Engg. | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 4 | PCC | 18CV34 | Building Materials and Construction | Civil Engg. | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 5 | PCC | 18CV35 | Basic Surveying | Civil Engg. | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 6 | PCC | 18CV36 | Engineering Geology | Geology | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 7 | PCC | 18CVL37 | Computer Aided Building Planning & Drawing | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 8 | PCC | 18CVL38 | Building Materials Testing Laboratory | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 9 | HSMC | 18KVK39 | Vyavaharika Kannada (Kannada for communication)/ | HSMC | -- | 2 | -- | -- | 100 | -- | 100 | 1 |
| | | OR | | | | | | | | | | |
| | | 18KAK39 | Aadalitha Kannada (Kannada for Administration) | | | | | | | | | |
| | | OR | | | | | | | | | | |
| | | 18CPC39 | Constitution of India, Professional Ethics and Cyber Law | | | | | | | | | |
| | | Examination is by objective type questions | | | 1 | -- | -- | 02 | 40 | 60 | | |
| TOTAL | | | | | 17 | 08 | 04 | 24 | 420 | 480 | 900 | 24 |
| | | | | | OR | OR | | OR | OR | OR | | |
| | | | | | 18 | 10 | | 26 | 360 | 540 | | |

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

18KVK39Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK39 Aadalitha Kannada (Kannada for Administration) is for students who speak, read and write Kannada.

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

| | | | | | | | | | | | | |
|----|------|------------|----------------------------|-------------|----|----|----|----|----|----|-----|---|
| 10 | NCMC | 18MATDIP31 | Additional Mathematics - I | Mathematics | 02 | 01 | -- | 03 | 40 | 60 | 100 | 0 |
|----|------|------------|----------------------------|-------------|----|----|----|----|----|----|-----|---|

(a)The mandatory non – credit courses Additional Mathematics I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B. Tech programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured F grade. In such a case, the students have to fulfill the requirements during subsequent semester/s to appear for

SEE.

(b) These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

Courses prescribed to lateral entry B. Sc degree holders admitted to III semester of Engineering programs

Lateral entrant students from B.Sc. Stream, shall clear the non-credit courses Engineering Graphics and Elements of Civil Engineering and Mechanics of the First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

AICTE Activity Points to be earned by students admitted to BE/B. Tech/B. Plan day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours' requirement should be fulfilled. Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.



H.O.D.
Dept. of Civil Engineering
Alva's Institute of Engg. & Technology
Mijar, Moodbidri - 574 225



PRINCIPAL
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225, D.K.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

IV SEMESTER

| Sl. No | Course and Course code | | Course Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | Credits |
|--------|------------------------|------------|--|---------------------|----------------------|----------|--------------------|-------------------|-----------|-----------|-------------|---------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in hours | CIE Marks | SEE Marks | Total Marks | |
| | | | | | L | T | P | | | | | |
| 1 | BSC | 18MAT41 | Complex Analysis, Probability And Statistical Methods | Mathematics | 2 | 2 | -- | 03 | 40 | 60 | 100 | 3 |
| 2 | PCC | 18CV42 | Analysis of Determinate Structures | Civil Engg. | 3 | 2 | -- | 03 | 40 | 60 | 100 | 4 |
| 3 | PCC | 18CV43 | Applied Hydraulics | Civil Engg. | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 4 | PCC | 18CV44 | Concrete Technology | Civil Engg. | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 5 | PCC | 18CV45 | Advanced Surveying | Civil Engg. | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 6 | PCC | 18CV46 | Water Supply & Treatment Engineering | Civil Engg. | 3 | 0 | -- | 03 | 40 | 60 | 100 | 3 |
| 7 | PCC | 18CVL47 | Engineering Geology Laboratory | Geology | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 8 | PCC | 18CVL48 | Fluid Mechanics and Hydraulic Machines Laboratory | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 9 | HSMC | 18KVK39/49 | Vyavaharika Kannada (Kannada for Communication)/ | HSMC | -- | 2 | -- | -- | 100 | -- | 100 | 1 |
| | | OR | | | | | | | | | | |
| | | 18KAK39/49 | Aadalitha Kannada (Kannada for Administration) | | | | | | | | | |
| | | OR | | | | | | | | | | |
| | | 18CPC39/49 | Constitution of India, Professional Ethics and Cyber Law | | | | | | | | | |
| TOTAL | | | | | 17 | 08 | 04 | 24 | 420 | 480 | 900 | 24 |
| | | | | | OR | OR | | OR | OR | | | |
| | | | | | 18 | 10 | | 26 | 360 | 540 | | |

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

18KVK39/49Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK39/49Aadalitha Kannada (Kannada for Administration) is for students who speak, read and write Kannada.

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

| | | | | | | | | | | | | |
|----|------|------------|-----------------------------|-------------|----|----|----|----|----|----|-----|---|
| 10 | NCMC | 18MATDIP41 | Additional Mathematics - II | Mathematics | 02 | 01 | -- | 03 | 40 | 60 | 100 | 0 |
|----|------|------------|-----------------------------|-------------|----|----|----|----|----|----|-----|---|

(a)The mandatory non – credit courses Additional Mathematics I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B. Tech programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured F grade. In such a case, the students have to fulfill the requirements during subsequent semester/s to appear for SEE.


(b) These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

Courses prescribed to lateral entry B. Sc degree holders admitted to III semester of Engineering programs

Lateral entrant students from B.Sc. Stream, shall clear the non-credit courses Engineering Graphics and Elements of Civil Engineering and Mechanics of the First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.


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Mijar, Moodbidri - 574 225


PRINCIPAL
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Programme: CIVIL ENGINEERING


V SEMESTER

| Sl. No | Course and Course code | | Course Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | Credits |
|--------|------------------------|---------|--|--|----------------------|----------|--------------------|-------------------|-----------|-----------|-------------|---------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in hours | CIE Marks | SEE Marks | Total Marks | |
| | | | | | | | | | | | | |
| 1 | HSMC | 18CV51 | Construction Management & Entrepreneurship | Civil Engg. | L | T | P | | | | | |
| 2 | PCC | 18CV52 | Analysis of Indeterminate Structures | Civil Engg. | 2 | 2 | – | 03 | 40 | 60 | 100 | 3 |
| 3 | PCC | 18CV53 | Design of RC Structural Elements | Civil Engg. | 3 | 2 | – | 03 | 40 | 60 | 100 | 4 |
| 4 | PCC | 18CV54 | Basic Geotechnical Engineering | Civil Engg. | 3 | 2 | – | 03 | 40 | 60 | 100 | 4 |
| 5 | PCC | 18CV55 | Municipal Wastewater Engineering | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 6 | PCC | 18CV56 | Highway Engineering | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 7 | PCC | 18CVL57 | Surveying Practice | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 8 | PCC | 18CVL58 | Concrete and Highway Materials Laboratory | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 9 | HSMC | 18CIV59 | Environmental Studies | Civil/Environmental | | | | | | | | |
| | | | | [Paper setting Board: Civil Engineering] | 1 | -- | -- | 02 | 40 | 60 | 100 | 1 |
| TOTAL | | | | | 18 | 10 | 04 | 26 | 360 | 540 | 900 | 25 |

Note: PCC: Professional Core, HSMC: Humanity and Social Science.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.


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Programme: CIVIL ENGINEERING

VI SEMESTER

| Sl. No | Course and Course code | | Course Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | Credits |
|--------|------------------------|----------|--------------------------------------|---|----------------------|----------|--------------------|-------------------|-----------|-----------|-------------|---------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in hours | CIE Marks | SEE Marks | Total Marks | |
| | | | | | L | T | P | | | | | |
| 1 | PCC | 18CV61 | Design of Steel Structural Elements | Civil Engg. | 3 | 2 | -- | 03 | 40 | 60 | 100 | 4 |
| 2 | PCC | 18CV62 | Applied Geotechnical Engineering | Civil Engg. | 3 | 2 | -- | 03 | 40 | 60 | 100 | 4 |
| 3 | PCC | 18CV63 | Hydrology and Irrigation Engineering | Civil Engg. | 3 | 2 | -- | 03 | 40 | 60 | 100 | 4 |
| 4 | PEC | 18CV64X | Professional Elective -I | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 5 | OEC | 18CV65X | Open Elective -A | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 6 | PCC | 18CVL66 | Software Application Laboratory | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 7 | PCC | 18CVL67 | Environmental Engineering Laboratory | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 8 | EP | 18CVEP68 | Extensive Survey project | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 9 | Internship | -- | Internship | To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters. | | | | | | | | |
| TOTAL | | | | | 15 | 12 | 06 | 24 | 320 | 480 | 800 | 24 |

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -1


| Course code under 18CV64X | |
|---------------------------|--|
| 18CV641 | Matrix Method of Structural Analysis |
| 18CV642 | Solid Waste Management |
| 18CV643 | Alternate Building Materials |
| 18CV644 | Ground Improvement Techniques |
| 18CV645 | Railway, Harbours, Tunnelling & Airports |

Open Elective -A

| Course code under 18CV65X | |
|---------------------------|------------------------------|
| 18CV651 | Remote Sensing & GIS |
| 18CV652 | Traffic Engineering |
| 18CV653 | Occupational Health & Safety |

| | |
|---|--|
| 18CV654 | Sustainability Concepts in Civil Engineering |
| Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X). | |
| Selection of an open elective shall not be allowed if, | |
| <ul style="list-style-type: none"> • The candidate has studied the same course during the previous semesters of the programme. • The syllabus content of open elective is similar to that of the Departmental core courses or professional electives. • A similar course, under any category, is prescribed in the higher semesters of the programme. | |
| Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor. | |
| Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. | |
| AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card. | |


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VII SEMESTER

| VI SEMESTER | | | | | | | | | | | | |
|-------------|------------------------|---------|---|--|----------------------|----------|--------------------|-------------------|-----------|-----------|-------------|---------|
| Sl. No | Course and Course code | | Course Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | Credits |
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in hours | CIE Marks | SEE Marks | Total Marks | |
| | | | | | L | T | P | | | | | |
| 1 | PCC | 18CV71 | Quality Surveying and Contract Management | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 2 | PCC | 18CV72 | Design of RCC and Steel Structures | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 3 | PEC | 18CV73X | Professional Elective - 2 | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 4 | PEC | 18CV74X | Professional Elective - 3 | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 5 | OEC | 18CV75X | Open Elective -B | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 6 | PCC | 18CVL76 | Computer Aided Detailing of Structures | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 7 | PCC | 18CVL77 | Geotechnical Engineering Laboratory | Civil Engg. | -- | 2 | 2 | 03 | 40 | 60 | 100 | 2 |
| 8 | Project | 18CVP78 | Project Work Phase - 1 | | -- | -- | 2 | -- | 100 | -- | 100 | 1 |
| 9 | Internship | -- | Internship | (If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters) | | | | | | | | |
| TOTAL | | | | | 15 | 04 | 06 | 21 | 380 | 420 | 00 | 20 |

Note: PCC: Professional core, PEC: Professional Elective.

Professional Elective - 2

| Course code under 18CV73X | Course Title |
|---------------------------|-----------------------------------|
| 18CV731 | Theory of Elasticity |
| 18CV732 | Air Pollution and Control |
| 18CV733 | Pavement Materials & Construction |
| 18CV734 | Ground Water Hydraulics |
| 18CV735 | Masonry Structures |

Professional Electives - 3

| Course code under 18CV74X | Course Title |
|---------------------------|--------------------------------------|
| 18CV741 | Earthquake Engineering |
| 18CV742 | Design Concepts of Building Services |
| 18CV743 | Reinforced Earth Structures |

| | |
|---|---|
| 18CV744 | Design of Hydraulic Structures |
| 18CV745 | Urban Transport Planning |
| Open Elective -B | |
| Course code under 18CV75X | Course Title |
| 18CV751 | Finite Element Method |
| 18CV752 | Numerical Methods and Applications |
| 18CV753 | Environmental Protection and Management |
| <p>Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).</p> <p>Selection of an open elective shall not be allowed if,</p> <ul style="list-style-type: none"> • The candidate has studied the same course during the previous semesters of the programme. • The syllabus content of open elective is similar to that of the Departmental core courses or professional electives. • A similar course, under any category, is prescribed in the higher semesters of the programme. <p>Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.</p> | |
| <p>Project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.</p> <p>CIE procedure for Project Work Phase - 1: (i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates.</p> <p>(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.</p> <p>Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.</p> <p>AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.</p> | |



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Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
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Programme: CIVIL ENGINEERING

VIII SEMESTER

| Sl. No | Course and Course code | | Course Title | Teaching Department | Teaching Hours /Week | | | Examination | | | | |
|--------------|------------------------|---------|---------------------------------|--|----------------------|-----------|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in hours | CIE Marks | SEE Marks | Total Marks | Credits |
| | | | | | L | T | P | | | | | |
| 1 | PCC | 18CV81 | Design of Pre-stressed Concrete | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 2 | PEC | 18CV82X | Professional Elective - 4 | Civil Engg. | 3 | -- | -- | 03 | 40 | 60 | 100 | 3 |
| 3 | Project | 18CVP83 | Project Work Phase - 2 | Civil Engg. | -- | -- | 16 | 03 | 40 | 60 | 100 | 8 |
| 4 | Seminar | 18CVS84 | Technical Seminar | Civil Engg. | -- | -- | 2 | 03 | 100 | -- | 100 | 1 |
| 5 | Internship | 18CVI85 | Internship | Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.) | | | | 03 | 40 | 60 | 100 | 3 |
| TOTAL | | | | | 06 | -- | 18 | 15 | 260 | 240 | 500 | 18 |

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

| Course code under 18CV82X | Course Title |
|---------------------------|---------------------------------|
| 18CV821 | Bridge Engineering |
| 18CV822 | Prefabricated Structures |
| 18CV823 | Advanced Foundation Engineering |
| 18CV824 | Rehabilitation & Retrofitting |
| 18CV825 | Pavement Design |

Project Work

CIE procedure for Project Work Phase - 2:

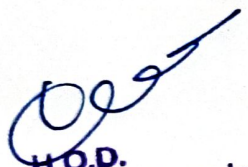
(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.


The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

- (i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.
- (ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.
- Internship:** Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.
- AICTE activity Points:** In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.
- Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).


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PRINCIPAL
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-2018

B.E: CIVIL ENGINEERING

III SEMESTER

| Sl. No. | Course Code | Title | Teaching Department | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|---------------|---|---------------------|--|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | Theory | Practical/ Drawing | Duration in hours | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17MAT31 | Engineering Mathematics –III* | Maths | 04 | | 03 | 60 | 40 | 100 | 4 |
| 2 | 17CV32 | Strength of Materials | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 3 | 17CV33 | Fluid Mechanics | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 4 | 17CV34 | Basic Surveying | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 5 | 17CV35 | Engineering Geology | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 3 |
| 6 | 17CV36 | Building Materials and Construction | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 4 |
| 7 | 17CVL37 | Building Materials Testing Laboratory | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 8 | 17CVL38 | Basic Surveying Practice | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 9 | 17KL/CPH39/49 | Kannada/Constitution of India, Professional Ethics and Human Rights | Humanities | 01 | | 01 | 30 | 20 | 50 | 01 |
| TOTAL | | | | Theory: 24hours Practical: 06 hours | | 25 | 510 | 340 | 850 | 28 |


1. Kannada/Constitution of India, Professional Ethics and Human Rights: 50 % of the programs of the Institution have to teach Kannada/Constitution of India, Professional Ethics and Human Rights in cycle based concept during III and IV semesters.


2. Audit Course:

(i) *All lateral entry students (except B.Sc candidates) have to register for Additional Mathematics – I, which is 03 contact hours per week.

| | | | | | | | | | | |
|---|------------|---------------------------|-------|----|--|----|----|----|----|----|
| 1 | 17MATDIP31 | Additional Mathematics –I | Maths | 03 | | 03 | 60 | -- | 60 | -- |
|---|------------|---------------------------|-------|----|--|----|----|----|----|----|

(ii) Language English (Audit Course) be compulsorily studied by all lateral entry students (except B.Sc candidates)


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SCHEME OF TEACHING AND EXAMINATION 2017-2018

B.E: CIVIL ENGINEERING

IV SEMESTER

| Sl. No. | Course Code | Title | Teaching Department | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|---------------|--|---------------------|--|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | Theory | Practical/ Drawing | Duration in hours | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17MAT41 | Engineering Mathematics –IV* | Maths | 04 | | 03 | 60 | 40 | 100 | 4 |
| 2 | 17CV42 | Analysis of Determinate Structures | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 3 |
| 3 | 17CV43 | Applied Hydraulics | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 4 | 17CV44 | Concrete Technology | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 5 | 17CV45 | Basic Geotechnical Engineering | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 6 | 17CV46 | Advanced Surveying | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 4 |
| 7 | 17CVL47 | Fluid Mechanics Laboratory | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 8 | 17CVL48 | Engineering Geology Laboratory | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 9 | 17KL/CPH39/49 | Kannada/Constitution of India, Professional Ethics and Human Rights | Humanities | 01 | | 01 | 30 | 20 | 50 | 01 |
| TOTAL | | | | Theory: 24hours Practical: 06 hours | | 25 | 510 | 340 | 850 | 28 |

1. Kannada/Constitution of India, Professional Ethics and Human Rights: 50 % of the programs of the Institution have to teach Kannada/Constitution of India, Professional Ethics and Human Rights in cycle based concept during III and IV semesters.


2.Audit Course:

(i) *All lateral entry students (except B.Sc candidates) have to register for Additional Mathematics – II, which is 03 contact hours per week.

| | | | | | | | | | | |
|---|------------|----------------------------|-------|----|--|----|----|----|----|----|
| 1 | 17MATDIP41 | Additional Mathematics –II | Maths | 03 | | 03 | 60 | -- | 60 | -- |
|---|------------|----------------------------|-------|----|--|----|----|----|----|----|

(ii) Language English (Audit Course) be compulsorily studied by all lateral entry students (except B.Sc candidates)

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B.E: CIVIL ENGINEERING

V SEMESTER

| Sl. No. | Course Code | Title | Teaching Department | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|-------------|--|---------------------|--|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | Theory | Practical/ Drawing | Duration in hours | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17CV51 | Design of RC Structural Elements | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 2 | 17CV52 | Analysis of Indeterminate Structures | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 3 | 17CV53 | Applied Geotechnical Engineering | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 4 | 17CV54 | Computer Aided Building Planning and Drawing | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 5 | 17CV55X | Professional Elective-1 | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 3 |
| 6 | 17CV56X | Open Elective-1 | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 3 |
| 7 | 17CVL57 | Geotechnical Engineering Laboratory | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 8 | 17CVL58 | Concrete and Highway Materials Laboratory | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| TOTAL | | | | Theory: 22hours Practical: 06 hours | | 24 | 480 | 320 | 800 | 26 |

| Professional Elective-1 | | Open Elective – 1*** (List offered by Civil Engg Board only) | |
|-------------------------|--|--|--|
| 17CV551 | Air pollution and Control | 17CV561 | Traffic Engineering |
| 17CV552 | Railways, Harbours, tunneling and Airports | 17CV562 | Sustainability Concepts in Engineering |
| 17CV553 | Masonry Structures | 17CV563 | Remote Sensing and GIS |
| 17CV554 | Theory of Elasticity | 17CV563 | Occupational Health and Safety |
| | | 17CV563 | NCC |

***Students can select any one of the open electives offered by any Department (Please refer to consolidated list of VTU for open electives).

Selection of an open elective is not allowed, if:

- The candidate has no pre – requisite knowledge.
- The candidate has studied similar content course during previous semesters.
- The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).

Registration to open electives shall be documented under the guidance of Programme Coordinator and Adviser.

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VI SEMESTER

| Sl. No. | Course Code | Title | Teaching Department | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|-------------|--|---------------------|---|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | Theory | Practical/ Drawing | Duration in hours | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17CV61 | Construction Management and Entrepreneurship | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 2 | 17CV62 | Design of Steel Structural Elements | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 3 | 17CV63 | Highway Engineering | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 4 | 17CV64 | Water Supply and Treatment Engineering | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 5 | 17CV65X | Professional Elective-2 | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 3 |
| 6 | 17CV66X | Open Elective-2 | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 3 |
| 7 | 17CVL67 | Software Application Laboratory | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 8 | 17CVL68 | Extensive Survey Project /Camp | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| TOTAL | | | | Theory:22hours Practical: 06 hours | | 24 | 480 | 320 | 800 | 26 |

| Professional Elective-2 | | Open Elective – 2*** (List offered by Civil Engg Board only) | |
|-------------------------|--------------------------------------|--|---|
| 17CV651 | Solid Waste Management | 17CV661 | Water Resource Management |
| 17CV652 | Matrix Method of Structural Analysis | 17CV662 | Environmental Protection and Management |
| 17CV653 | Alternative Building Materials | 17CV663 | Numerical Methods and Applications |
| 17CV654 | Ground Improvement Techniques | 17CV664 | Finite Element Analysis |

***Students can select any one of the open electives offered by any Department (Please refer to consolidated list of VTU for open electives).

Selection of an open elective is not allowed, if:

- The candidate has no pre – requisite knowledge.
- The candidate has studied similar content course during previous semesters.
- The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).

Registration to open electives shall be documented under the guidance of Programme Coordinator and Adviser.

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VII SEMESTER

| Sl. No. | Course Code | Title | Teaching Department | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|-------------|--|---------------------|--|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | Theory | Practical/ Drawing | Duration in hours | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17CV71 | Municipal and Industrial Waste Water Engineering | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 2 | 17CV72 | Design of RCC and Steel Structures | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 3 | 17CV73 | Hydrology and Irrigation Engineering | Civil Engg. | 04 | | 03 | 60 | 40 | 100 | 4 |
| 4 | 17CV74X | Professional Elective-3 | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 3 |
| 5 | 17CV75X | Professional Elective-4 | Civil Engg. | 03 | | 03 | 60 | 40 | 100 | 3 |
| 6 | 17CVL76 | Environmental Engineering Laboratory | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 7 | 17CVL77 | Computer Aided Detailing of Structures | Civil Engg. | 01-Hour Instruction 02-Hour Practical | | 03 | 60 | 40 | 100 | 2 |
| 8 | 17CVP78 | Project Work Phase-I + Project work Seminar | Civil Engg. | | 03 | -- | -- | 100 | 100 | 2 |
| TOTAL | | | | Theory:18 hours Practical and Project: 09 hours | | 21 | 420 | 380 | 800 | 24 |

| Professional Elective-3 | | Professional Elective-4 | |
|-------------------------|-------------------------------------|-------------------------|---|
| 17CV741 | Design of Bridges | 17CV751 | Urban Transportation and Planning |
| 17CV742 | Ground Water & Hydraulics | 17CV752 | Prefabricated Structures |
| 17CV743 | Design Concept of Building Services | 17CV753 | Rehabilitation and Retrofitting of Structures |
| 17CV744 | Structural Dynamics | 17CV754 | Reinforced Earth Structures |

1. Project Phase – I and Project Seminar: Comprises of Literature Survey, Problem identification, Objectives and Methodology. CIE marks shall be based on the report covering Literature Survey, Problem identification, Objectives and Methodology and Seminar presentation skill

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VIII SEMESTER


| Sl. No. | Course Code | Title | Teaching Department | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|-------------|---|---------------------|---|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | Theory | Practical/ Drawing | Duration in hours | SEE Marks | CIE Marks | Total Marks | |
| 1 | 17CV81 | Quantity Surveying and Contracts Management | Civil Engg. | 4 | - | 3 | 60 | 40 | 100 | 4 |
| 2 | 17CV82 | Design of Pre Stressed Concrete Elements | Civil Engg. | 4 | - | 3 | 60 | 40 | 100 | 4 |
| 3 | 17CV83X | Professional Elective-5 | Civil Engg. | 3 | - | 3 | 60 | 40 | 100 | 3 |
| 4 | 17CV84 | Internship/ Professional Practice | Civil Engg. | Industry Oriented | | 3 | 50 | 50 | 100 | 2 |
| 5 | 17CVP85 | Project Work-II | Civil Engg. | - | 6 | 3 | 100 | 100 | 200 | 6 |
| 6 | 17CVS86 | Seminar on current trends in Engineering and Technology | Civil Engg. | - | 4 | - | - | 100 | 100 | 1 |
| TOTAL | | | | Theory: 11 hours Project and Seminar: 10 hours | | 15 | 330 | 370 | 700 | 20 |

| Professional Elective -5 | |
|---------------------------------|----------------------------|
| 17CV831 | Earthquake Engineering |
| 17CV832 | Hydraulic Structures |
| 17CV833 | Pavement Design |
| 17CV834 | Advanced Foundation Design |

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period


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(Common to _____)


III SEMESTER

| Sl. No | Subject Code | Title | Teaching Hours / Week | | Examination | | | | Credits |
|--------------|--------------|---------------------------------------|-----------------------|--------------------|-------------|-------------------------|------------|-------------|-----------|
| | | | Theory | Practical/ Drawing | Duration | Theory/ Practical Marks | I.A. Marks | Total Marks | |
| 1 | 15CV31 | Engineering Mathematics – III | 04 | | 03 | 80 | 20 | 100 | 4 |
| 2 | 15CV32 | Strength of Materials | 04 | | 03 | 80 | 20 | 100 | 4 |
| 3 | 15CV33 | Fluid Mechanics | 04 | | 03 | 80 | 20 | 100 | 4 |
| 4 | 15CV34 | Basic Surveying | 04 | | 03 | 80 | 20 | 100 | 4 |
| 5 | 15CV35 | Engineering Geology | 04 | | 03 | 80 | 20 | 100 | 4 |
| 6 | 15CV36 | Building Materials and Construction | 04 | | 03 | 80 | 20 | 100 | 4 |
| 7 | 15CVL37 | Building Materials Testing Laboratory | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| 8 | 15CVL38 | Basic Surveying Practice | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| TOTAL | | | 24 | 6 | 24 | 640 | 160 | 800 | 28 |

Note:

| | |
|-----------------------------------|--|
| Core Subjects: | 15CV31, 15CV32, 15CV33, 15CV34, 15CV35, 15CV36 |
| Laboratory & Practice: | 15CVL37, 15CVL38 |


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(Common to _____)


IV SEMESTER

| Sl. No | Subject Code | Title | Teaching Hours / Week | | Examination | | | | Credits |
|--------------|--------------|---|-----------------------|---------------------|-------------|-------------------------|------------|-------------|-----------|
| | | | Theory | Practical / Drawing | Duration | Theory/ Practical Marks | I.A. Marks | Total Marks | |
| 1 | 15CV 41 | Engineering Mathematics – IV | 04 | | 03 | 80 | 20 | 100 | 4 |
| 2 | 15CV42 | Analysis of Determinate Structures | 04 | | 03 | 80 | 20 | 100 | 4 |
| 3 | 15CV43 | Applied Hydraulics | 04 | | 03 | 80 | 20 | 100 | 4 |
| 4 | 15CV 44 | Concrete Technology | 04 | | 03 | 80 | 20 | 100 | 4 |
| 5 | 15CV45 | Basic Geotechnical Engineering | 04 | | 03 | 80 | 20 | 100 | 4 |
| 6 | 15CV46 | Advanced Surveying | 04 | | 03 | 80 | 20 | 100 | 4 |
| 7 | 15CVL47 | Fluid Mechanics and Hydraulic Machines Laboratory | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| 8 | 15CVL48 | Engineering Geology Laboratory | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| TOTAL | | | 24 | 06 | 24 | 640 | 160 | 800 | 28 |

Note:

| | |
|-----------------------------------|--|
| Core Subjects: | 15CV 41, 15CV42, 15CV43, 15CV 44, 15CV45, 15CV46 |
| Laboratory & Practice: | 15CVL47, 15CVL48 |


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V SEMESTER

| Sl. No. | Subject Code | Title | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|--------------|--|----------------------|--------------------|-------------|-------------------------|------------|-------------|-----------|
| | | | Theory | Practical/ Drawing | Duration | Theory/ Practical Marks | I.A. Marks | Total Marks | |
| 1 | 15CV51 | Design of RC Structural Elements | 04 | | 03 | 80 | 20 | 100 | 4 |
| 2 | 15CV52 | Analysis of Indeterminate Structures | 04 | | 03 | 80 | 20 | 100 | 4 |
| 3 | 15CV53 | Applied Geotechnical Engineering | 04 | | 03 | 80 | 20 | 100 | 4 |
| 4 | 15CV54 | Computer Aided Building Planning and Drawing | 01 | 3D | 03 | 80 | 20 | 100 | 4 |
| 5 | 15CV55X | Professional Elective-1 | 03 | | 03 | 80 | 20 | 100 | 3 |
| 6 | 15CV56X | Open Elective-1 | 03 | | 03 | 80 | 20 | 100 | 3 |
| 7 | 15CVL57 | Geotechnical Engineering Laboratory | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| 8 | 15CVL58 | Concrete and Highway Materials Laboratory | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| TOTAL | | | 19 | 09 | 24 | 640 | 160 | 800 | 26 |

| Professional Elective 1 | | Open Elective 1 | |
|-------------------------|--|-----------------|--|
| 15CV551 | Air pollution and Control | 15CV561 | Traffic Engineering |
| 15CV552 | Railways, Harbours, tunneling and Airports | 15CV562 | Sustainability Concepts in Engineering |
| 15CV553 | Masonry Structures | 15CV563 | Remote Sensing and GIS |
| 15CV554 | Theory of Elasticity | 15CV564 | Occupational Health and Safety |
| | | 15NC565 | NCC |

- 1. Professional Elective:** Elective relevant to chosen specialization/ branch
- 2. Open Elective:** Electives from other technical and/or emerging subject areas


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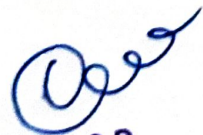
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B.E. CIVIL ENGINEERING

VI SEMESTER

| Sl. No. | Subject Code | Title | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|--------------|--|----------------------|--------------------|-------------|-------------------------|------------|-------------|-----------|
| | | | Theory | Practical/ Drawing | Duration | Theory/ Practical Marks | I.A. Marks | Total Marks | |
| 1 | 15CV61 | Construction Management and Entrepreneurship | 04 | | 03 | 80 | 20 | 100 | 4 |
| 2 | 15CV62 | Design of Steel Structural Elements | 04 | | 03 | 80 | 20 | 100 | 4 |
| 3 | 15CV63 | Highway Engineering | 04 | | 03 | 80 | 20 | 100 | 4 |
| 4 | 15CV64 | Water Supply and Treatment Engineering | 04 | | 03 | 80 | 20 | 100 | 3 |
| 5 | 15CV65X | Professional Elective 2 | 03 | | 03 | 80 | 20 | 100 | 3 |
| 6 | 15CV66X | Open Elective 2 | 03 | | 03 | 80 | 20 | 100 | 2 |
| 7 | 15CVL67 | Software Application Lab | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| 8 | 15CVP68 | Extensive Survey Project /Camp | | 1I+2P | 03 | 80 | 20 | 100 | 2 |
| TOTAL | | | 22 | 6 | 24 | 640 | 160 | 800 | 26 |

| Professional Elective-2 | | Open Elective-2 | |
|-------------------------|--------------------------------------|-----------------|---|
| 15CV651 | Solid Waste Management | 15CV661 | Water Resource Management |
| 15CV652 | Matrix Method of Structural Analysis | 15CV662 | Environmental Protection and Management |
| 15CV653 | Alternative Building Materials | 15CV663 | Numerical Methods and applications |
| 15CV654 | Ground Improvement Techniques | 15CV664 | Finite Element Analysis |


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VII SEMESTER

| Sl. No. | Subject Code | Title | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|--------------|--|----------------------|--------------------|-------------|------------|-------------------------|-------------|-----------|
| | | | Theory | Practical/ Drawing | Duration | I.A. Marks | Theory/ Practical Marks | Total Marks | |
| 1 | 15CV71 | Municipal and Industrial Waste Water Engineering | 04 | | 03 | 20 | 80 | 100 | 4 |
| 2 | 15CV72 | Design of RCC and Steel Structures | 04 | | 03 | 20 | 80 | 100 | 4 |
| 3 | 15CV73 | Hydrology and Irrigation Engineering | 04 | | 03 | 20 | 80 | 100 | 4 |
| 4 | 15CV74X | Professional Elective 3 | 03 | | 03 | 20 | 80 | 100 | 3 |
| 5 | 15CV75X | Professional Elective 4 | 03 | | 03 | 20 | 80 | 100 | 3 |
| 6 | 15CVL76 | Environmental Engineering Laboratory | | 1I+2P | 03 | 20 | 80 | 100 | 2 |
| 7 | 15CVL77 | Computer Aided Detailing of Structures | | 1I+2D | 03 | 20 | 80 | 100 | 2 |
| 8 | 15CVP78 | Project Phase I +Project Seminar | | 3 | | 100 | | 100 | 2 |
| TOTAL | | | 18 | 9 | 21 | 240 | 560 | 800 | 24 |

| Professional Elective 3 | | Professional Elective 4 | |
|-------------------------|-------------------------------------|-------------------------|---|
| 15CV741 | Design of Bridges | 15CV751 | Urban Transportation and Planning |
| 15CV742 | Ground Water & Hydraulics | 15CV752 | Prefabricated Structures |
| 15CV743 | Design Concept of Building Services | 15CV753 | Rehabilitation and Retrofitting of Structures |
| 15CV744 | Structural Dynamics | 15CV754 | Reinforced Earth Structures |

1. Project Phase-I + Seminar: Literature Survey, Problem Identification, objectives and Methodology, Submission of synopsis and seminar


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VIII SEMESTER

| Sl. No. | Subject Code | Title | Teaching Hours /Week | | Examination | | | | Credits |
|--------------|--------------|---|----------------------|--------------------|-------------|------------|-------------------------|-------------|-----------|
| | | | Theory | Practical/ Drawing | Duration | I.A. Marks | Theory/ Practical Marks | Total Marks | |
| 1 | 15CV81 | Quantity Surveying and Contracts Management | 4 | - | 3 | 20 | 80 | 100 | 4 |
| 2 | 15CV82 | Design of Pre Stressed Concrete Elements | 4 | - | 3 | 20 | 80 | 100 | 4 |
| 3 | 15CV83X | Professional Elective 5 | 3 | - | 3 | 20 | 80 | 100 | 3 |
| 4 | 15CV84 | Internship/Professional Practice | Industry Oriented | | 3 | 50 | 50 | 100 | 2 |
| 5 | 15CVP85 | Project Work | - | 6 | 3 | 100 | 100 | 200 | 6 |
| 6 | 15CVS86 | Seminar on current trends in Engineering and Technology | - | 4 | - | 100 | - | 100 | 1 |
| TOTAL | | | 11 | 10 | 15 | 310 | 390 | 700 | 20 |

Professional Elective 5

| | |
|---------|----------------------------|
| 15CV831 | Earthquake Engineering |
| 15CV832 | Hydraulic Structures |
| 15CV833 | Pavement Design |
| 15CV834 | Advanced Foundation Design |


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**SCHEME OF TEACHING & EXAMINATION
BE CIVIL ENGINEERING
III SEMESTER**

| Sl. No | Subject Code | Title | Teaching Dept. | Teaching hours /week | | Examination | | | |
|--------|--------------|--|----------------|----------------------|-----------|---------------|-----------------------|------------------------------------|---------------------------------|
| | | | | Th. | Pr. | Dur- ation | I.A. Max. Marks | Theory/ Pract. Max. Marks | Total Marks Max. Marks |
| 1 | 10 MAT 31 | Engineering Mathematics –III | Maths | 4 | -- | 3 | 25 | 100 | 125 |
| 2 | 10 CV 32 | Building Materials and Construction Technology | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 3 | 10 CV 33 | Strength of Materials | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 4 | 10 CV 34 | Surveying – I | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 5 | 10 CV 35 | Fluid Mechanics | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 6 | 10 CV 36 | Applied Engineering Geology | Civil/Geo. | 4 | -- | 3 | 25 | 100 | 125 |
| 7 | 10 CVL 37 | Civil Engg. Material Testing Laboratory | Civil | --- | 3 | 3 | 25 | 50 | 75 |
| 8 | 10 CVL 38 | Surveying Practice – I | Civil | --- | 3 | 3 | 25 | 50 | 75 |
| | | | Total | 22 | 08 | 24 | 200 | 700 | 900 |



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 Dept. of Civil Engineering
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**SCHEME OF TEACHING & EXAMINATION
BE CIVIL ENGINEERING
IV SEMESTER**

| S. No | Subject Code | Title | Teaching Dept. | Teaching hours /week | | Examination | | | |
|-------|--------------|--|----------------|----------------------|-----------|---------------|--------------------|------------------------------------|---------------------------------|
| | | | | Th. | Pr. | Dur- ation | I.A. Max. Marks | Theory/ Pract. Max. Marks | Total Marks Max. Marks |
| 1 | 10 MAT 41 | Engineering Mathematics –IV | Maths | 4 | -- | 3 | 25 | 100 | 125 |
| 2 | 10 CV 42 | Concrete Technology | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 3 | 10 CV 43 | Structural Analysis – I | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 4 | 10 CV 44 | Surveying – II | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 5 | 10 CV 45 | Hydraulics and Hydraulic Machines | Civil | 4 | -- | 3 | 25 | 100 | 125 |
| 6 | 10 CV 46 | Building Planning & Drawing | Civil | 1 | 6 | 4 | 25 | 100 | 125 |
| 7 | 10 CVL 47 | Surveying Practice-II Laboratory | Civil | --- | 3 | 3 | 25 | 50 | 75 |
| 8 | 10 CVL 48 | Applied Engineering Geology Laboratory | Civil/Geo. | --- | 3 | 3 | 25 | 50 | 75 |
| | | | Total | 21 | 12 | 25 | 200 | 700 | 900 |


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**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
V SEMESTER**


| Sl. No. | Subject Code | Title of the Subject | Teaching Dept. | Teaching Hrs / Week | | Duration (Hrs) | Examination | | |
|--------------|--------------|---|----------------|---------------------|-----------|----------------|-------------|--------------------|------------|
| | | | | Theory | Practical | | IA | Theory / Practical | Total |
| 1 | 10 AL 51 | Management & Entrepreneurship | Any Dept. | 04 | - | 03 | 25 | 100 | 125 |
| 2 | 10 CV 52 | Design of RCC Structural Elements | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 3 | 10 CV 53 | Structural Analysis – II | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 4 | 10 CV 54 | Geotechnical Engineering. – I | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 5 | 10 CV 55 | Hydrology and Irrigation Engineering | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 6 | 10 CV 56 | Transportation Engineering – I | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 7 | 10 CVL 57 | Hydraulics and Hydraulic Machinery Lab. | Civil | -- | 03 | 03 | 25 | 50 | 75 |
| 8 | 10 CVL 58 | Computer Aided Design Lab. | Civil | -- | 03 | 03 | 25 | 50 | 75 |
| TOTAL | | | | 24 | 06 | 24 | 200 | 700 | 900 |


**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
VI SEMESTER**

| Sl. No. | Subject Code | Title of the Subject | Teaching Dept. | Teaching Hrs / Week | | Duration (Hrs) | Examination | | |
|--------------|--------------|--|----------------|---------------------|-----------|----------------|-------------|--------------------|------------|
| | | | | Theory | Practical | | IA | Theory / Practical | Total |
| 1 | 10 CV 61 | Environmental Engineering - I | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 2 | 10 CV 62 | Design & Drawing of RC structures | Civil | 02 | 03 | 04 | 25 | 100 | 125 |
| 3 | 10 CV 63 | Transportation Engineering – II | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 4 | 10 CV 64 | Geotechnical Engineering. – II | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 5 | 10 CV 65 | Hydraulic Structures and Irrigation Design-Drawing | Civil | 02 | 03 | 04 | 25 | 100 | 125 |
| 6 | 10 CV 66x | Elective-I (Group A) | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 7 | 10 CVL 67 | Geotechnical Engineering. Lab. | Civil | -- | 03 | 03 | 25 | 50 | 75 |
| 8 | 10 CVL 68 | Extensive Survey Viva Voce | Civil | -- | 03 | 03 | 25 | 50 | 75 |
| TOTAL | | | | 20 | 12 | 25 | 200 | 700 | 900 |

Elective-I (Group A)

| | | | |
|-----------|---|-----------|-----------------------------------|
| 10 CV 661 | Theory of Elasticity | 10 CV 665 | Ground Water Hydrology |
| 10 CV 662 | Alternative Building Materials and Technologies | 10 CV 666 | Rural Water Supply and Sanitation |
| 10 CV 663 | Ground Improvement Techniques | 10 CV 667 | Traffic Engineering |
| 10 CV 664 | Advanced Surveying | | |


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**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
VII SEMESTER**

| Sl. No. | Subject Code | Title of the Subject | Teaching Dept. | Teaching Hrs / Week | | Examination | | | |
|---------|--------------|--|----------------|---------------------|-----------|----------------|-------|--------------------|-------|
| | | | | Theory | Practical | Duration (Hrs) | Marks | | |
| | | | | | | | 1A | Theory / Practical | Total |
| 1 | 10 CV 71 | Environmental Engineering.-II | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 2 | 10 CV 72 | Design of Steel Structures | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 3 | 10 CV 73 | Estimation and Valuation | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 4 | 10 CV 74 | Design of Pre Stressed Concrete Structures | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 5 | 10 CV 75x | Elective-II (Group B) | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 6 | 10 CV 76x | Elective-III (Group C) | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 7 | 10 CVL 77 | Environmental Engineering. Lab | Civil | -- | 03 | 03 | 25 | 50 | 75 |
| 8 | 10 CVL 78 | Concrete and Highway Materials lab. | Civil | -- | 03 | 03 | 25 | 50 | 75 |
| TOTAL | | | | 24 | 06 | 24 | 200 | 700 | 900 |

Elective-II (Group B)

| | |
|-----------|--------------------------------------|
| 10 CV 751 | Matrix Method of Structural Analysis |
| 10 CV 752 | Advanced Design of RC Structures |
| 10 CV 753 | Design of Masonry Structures |
| 10 CV 754 | Earth and Earth Retaining Structures |
| 10 CV 755 | Highway Geometric Design |
| 10 CV 756 | Open Channel Hydraulics |
| 10 CV 757 | Solid Waste Management |

Elective-III (Group C)

| | |
|-----------|--|
| 10 CV 761 | Numerical methods in Civil Engineering |
| 10 CV 762 | Rock Mechanics |
| 10 CV 763 | Pavement Materials and Construction |
| 10 CV 764 | Photogrammetry and Remote Sensing |
| 10 CV 765 | Air Pollution and Control |
| 10 CV 766 | Design and Drawing of Bridges.: * (2 Hrs of Theory + 3 Hrs of Drawing) * (Exam Duration : 4 Hrs) |
| 10 CV 767 | Structural Dynamics |

**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
VIII SEMESTER**

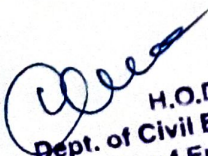
| Sl. No. | Subject Code | Title of the Subject | Teaching Dept. | Teaching Hrs / Week | | Duration (Hrs) | Examination | | |
|---------|--------------|--|----------------|---------------------|-----------|----------------|-------------|--------------------|-------|
| | | | | Theory | Practical | | Marks | | |
| | | | | | | | IA | Theory / Practical | Total |
| 1 | 10 CV 81 | Advanced Concrete Technology | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 2 | 10 CV 82 | Design and Drawing of Steel Structures | Civil | 02 | 03 | 04 | 25 | 100 | 125 |
| 3 | 10 CV 83x | Elective-IV (Group D) | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 4 | 10 CV 84x | Elective-V (Group E) | Civil | 04 | -- | 03 | 25 | 100 | 125 |
| 5 | 10 CV 85 | Project Work | Civil | -- | 06 | 03 | 100 | 100 | 200 |
| 6 | 10 CV 86 | Seminar | Civil | -- | 03 | 03 | 50 | -- | 50 |
| TOTAL | | | | 14 | 12 | 19 | 250 | 500 | 750 |


Elective-IV (Group D)

| | |
|-----------|--|
| 10 CV 831 | Advanced Pre-stressed Concrete Structures |
| 10 CV 832 | Advanced Foundation Design |
| 10 CV 833 | Pavement Design |
| 10 CV 834 | Earthquake Resistant Design of Structures |
| 10 CV 835 | Industrial Waste Water Treatment |
| 10 CV 836 | Quality Management System In Civil Engineering |

Elective-V (Group E)

| | |
|-----------|-------------------------------------|
| 10 CV 841 | Finite Element Analysis |
| 10 CV 842 | Reinforced Earth Structures |
| 10 CV 843 | Urban Transport Planning |
| 10 CV 844 | Geographic Information System |
| 10 CV 845 | Advanced Design of Steel Structures |
| 10 CV 846 | Water Resources Engineering |
| 10 CV 847 | Environmental Impact Assessment |


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