

SOLAPUR UNIVERSITY, SOLAPUR

Faculty of Engineering & Technology

Credit System structure of S. E. Civil Engineering, Semester-I, (W.E.F. 2017-2018)

| Course | Theory Course Name | | Hrs./ | week | | Condita | | Exam | ination S | cheme | |
|--------|---------------------------------|-----|----------------|---------|--------|---------|-----|------|-----------|-------|-------|
| Code | Theory Course Name | L | T | P | D | Credits | ISE | ESE | | ICA | Total |
| CV211 | Concrete Technology | 3 | | -/ | 3.1 | 3 | 30 | 70 | | - | 100 |
| CV212 | Structural Mechanics-I | 3 | 1 | 11-10-1 | NAV | 4 | 30 | 70 | | 25 | 125 |
| CV213 | Surveying –I | 3 | - | /- | - | 3 | 30 | 70 | | - | 100 |
| CV214 | Building Construction & Drawing | 3 | - | - | Z - | 3 | 30 | 70 | | - | 100 |
| CV215 | Fluid Mechanics-I | 3 | - | 1-/- | A- | 3 | 30 | 70 | | - | 100 |
| CV216 | Engineering Geology | 2 | 20 | - | -0 | 2 | 30 | 70 | | - | 100 |
| | Total | 17 | 1 | 1 | _1 | 18 | 180 | 420 | | 25 | 625 |
| | Laboratory/Drawings | | M. | | N | - 3-2 | | POE | OE | | |
| CV211 | Concrete Technology | - | (-/ | 2 | - | 1 | - | - | - | 25 | 25 |
| CV213 | Surveying –I | - |) /- | 2 | | 1 | - | 25 | - | 25 | 50 |
| CV214 | Building Construction & Drawing | | / - | - | 2 | 1 | - | - | - | 25 | 25 |
| CV215 | Fluid Mechanics-I | -/ | - | 2 | 1- | 1 | - | 25 | - | 25 | 50 |
| CV216 | Engineering. Geology | - 5 | - | 2 | Page 1 | 1 | - | 25 | - | 25 | 50 |
| CV217 | Lab. Practice | - / | - | 2 | | 1 | | - | - | 25 | 25 |
| | Total | 10 | 11-6 | 10 | 2 | 7 | Ö | 75 | | 150 | 225 |
| | Grand Total | 17 | 1 | 10 | 2 | 25 | 180 | 495 | | 175 | 850 |
| ENV21 | Environmental Studies | 1 | d F | ाया | संग | ाजता ॥ | - | _ | | _ | _ |

Abbreviations: L- Lectures, P – Practical, T- Tutorial, D- Drawing, ISE - Internal Tests, ESE - University Examination (Theory &/ POE &/Oral examination), ICA- Internal Continuous Assessment.



Solapur University, Solapur S.E. (Civil Engineering) Semester-I CV216 - ENGINEERING GEOLOGY

Teaching Scheme

Lectures – 2 Hrs/Week, 2 Credits

Practical – 2 Hrs/Week, 1 Credit

Examination Scheme

ESE- 70 Marks

ISE-30 Marks

ICA-25 Marks

POE- 25 Marks

Course Objectives

- 1) To introduce the scope, relation and application of geology in civil engineering.
- 2) To acquaint students with general geology, mineralogy, petrology, structural geology and engineering geology.
- 3) To impart knowledge of rocks, minerals and building stones.
- 4) To elaborate Geological aspects of earthquakes and landslides.
- 5) To impart knowledge of geological site investigation for dams, reservoir, bridges and various other Civil engineering structures.

Course Outcomes:

At the end of this course:

- 1) Students will be able to identify different type of rocks and minerals and building stones.
- 2) Students will be able to draw geological maps.
- 3) The students will be able judge the suitability of sites based on geological aspects of site
- 4) This course will be able to carry out preliminary geological investigation of site related to civil engineering projects.

SECTION - I

Unit 1. GENERAL GEOLOGY

(04 Hrs.)

Introduction, Definition, Scope and Subdivision of the Geology subject, interrelation between Geology and civil Engineering.

Earthquake: Definition and terminology related with earthquake, causes seismic waves, Seismograph, Effects, reservoir induced seismicity.

Landslides: Types, causes and preventions of landslides Interior of earth.

Volcano: Products of volcano, central and fissure type of volcanoes, Causes, Distribution of volcanoes.

Mountains: Types, process of formation with Indian Examples.

- b) Secondary Rocks: Laterite, Bauxite, Conglomerate, Breccia, Sandstone, ferruginous Sandstone, Grit, Arkose Shales, Mudstone, chemical and organic Limestone, coal.
- c) Metamorphic Rocks: Slate, Phyllite, marble, marble, Mica Schist, Biotite schist, muscovite Schist, Chlorite Schist, Talc Schist, Kyanite Schist, Granite Gneiss, Augen Gneiss.
- 4) Study of different types of geological maps, Section and their engineering significance. (at least 10)
- 5) Study of structural Geological models. (at least 5)
- 6) Study tour to the place worth visiting from Engineering Geological point of view.
- 7) Study of core samples, Core Logging.
- 8) Identification of Subsurface rock with the help of Resistivity Instrument.
- 9) Study of various building stones with respect to engineering properties
 - A journal containing complete record of above practical work shall be examined as a Internal Continuous Assessment. Practical Examination shall be based on practical course.
 - 2) Case study of any engineering structure with respect to geological investigation

TEXT BOOKS

- 1. Principles of Petrology By G.W. Tyrrell
- 2. Textbook of Geology by P. K. Mukherjee
- 3. A text book of Engineering Geology –By R. V. Gupte- Pune Vidyarthi Griha Prakashan Pune.
- 4. Engineering Geology for civil Engineering By Dr. D.V.Reddy.

REFERENCE BOOKS

lt विद्याया सपन्नता ॥

- 1. Principles of Engineering Geology and Geo-techniques by D. P. Krynine, W.R. Judd.
- 2. Engineering and General Geology- by Prabeen Singh-S.K. Katariya and son
- 3. Engineering Properties of rocks By L.W. Farmer-Chapman and Hall, London.
- 4. Groundwater Hydrology By Todd D. K.- John Wiley and Son, New York.



SOLAPUR UNIVERSITY, SOLAPUR

Faculty of Engineering & Technology

Credit System structure of T. E. Civil-I, Semester- V, (Revised from 2018-2019)

| Course | Theory Course Name | | Hrs | /week | | Credits |] | 70 70 70 70 70 70 50 400 POE O - 25 - 2 | | Schem | e |
|--------|---------------------------------------|-----------------------|-------|-------|-------|---------|-----|---|----|-------|-------|
| code | | L | T | P | D | | ISE | ES | E | ICA | Total |
| CV-311 | Design of Steel Structures | 3 | | - | - | 3 | 30 | 70 |) | - | 100 |
| CV-312 | Geotechnical EnggI | 3 | A | - | J | 3 | 30 | 70 |) | - | 100 |
| CV-313 | Environmental EnggI | 3 | 7 (-) | | 1 F A | 3 | 30 | 70 |) | - | 100 |
| CV-314 | Water Resources Engg. II | 3 | MAN | | - N | 3 | 30 | 70 |) | - | 100 |
| CV-315 | Transportation EnggI | 3 | -0 | - | - | 3 | 30 | 70 |) | - | 100 |
| SLH-31 | Self Learning (H.S.S. course) | 1-0 | FAI | - | - (i) | 2 | - | 50 |) | - | 50 |
| | Total | 15 | | AY | | 17 | 150 | 400 | 0 | - | 550 |
| | Laboratory/Drawings | | d. | | | | | POE | OE | | |
| CV-311 | Design of Steel Structures | - | -)\ | 2 | - | 1 | - | - | - | 25 | 25 |
| CV-312 | Geotechnical Engg.I | K -/ | 7/1 | 2 | - 1 | 1 | - | 25 | - | 25 | 50 |
| CV-316 | Building Planning & Design using CADD | 1 | (n) | - \ | 4 | 3 | - | - | 25 | 50 | 75 |
| CV-313 | Environmental Engg.I | res t erns | H | 2 | 7- | 1 | - | - | - | 25 | 25 |
| CV-314 | Water Resources Engg. II | - | - | 2 | = - | 1 | - | - | 25 | 25 | 50 |
| CV-315 | Transportation EnggI | - | :C | 2 | (6) | _ 1 | - | | - | 25 | 25 |
| | Total | 11.4 | 4-10 | 10 | 4 | 8 | - | 75 | 5 | 175 | 250 |
| | Grand Total | 16 | | 10 | 4 | 25 | 150 | 475 | 5 | 175 | 800 |

Abbreviations: L: Lectures, P: Practical, T: Tutorial, D: Drawing. ISE: In Semester Examination Tests, ESE: End Semester Examination - University Examination (Theory &/ POE &/Oral examination), ICA: Internal Continuous Assessment.



T.E. (CIVIL ENGINEERING) PART- I CV- 313 ENVIRONMENTAL ENGINEERING –I

| Teaching Sc | Teaching Scheme: | | cheme: |
|--------------------------------|----------------------|--------------|----------|
| Lectures: 3Hrs/Week, 3 Credits | | ICA: | 25 Marks |
| Practical: | 2 Hrs/Week, 1 Credit | ISE: | 30 Marks |
| | | ESE (Theory) | 70 Marks |

Course Objectives

- 1. To acquaint the students with drinking water quality standards and forecast water demands.
- 2. To study the various units of water treatment plants, treatment procedures and sequencing of water treatment units for various sources of water.
- 3. To enable the students to carry out design of water distribution systems and appurtenances using appropriate methods.
- 4. To acquaint the students with various water supply systems, and their operation and maintenance.

Course Outcomes

Upon successful completion of course the student will be able to:

- 1. Plan and design water conveyance systems for a rural/urban area based on population forecasts.
- 2. Design various water treatment units and plan their operations on the basis of raw water quality and water demand.
- 3. Apply knowledge of advanced water treatment processes for individual water purification units.
- 4. Plan and design water distribution systems
- 5. Analyze operation and maintenance problems in water supply systems.

- 6. Turbidity
- 7. Residual Chlorine
- 8. Total Dissolved Solids through measurement of conductivity
- 9. Solids Total, Suspended, dissolved, volatile and fixed
- 10. Dissolved Oxygen
- 11. Most Probable Number
- 12. Optimum dose of alum by jar test
- 13. Fluorides
- 14. Nitrogen
- 15. Irons and Manganese
- (B) Design /Analysis Problems on each water treatment unit / distribution system
- (C)Visit to water treatment plant

Internal Continuous Assessment (ICA) submission shall consist of journals containing

- 1. Above mentioned Experiments
- 2. Visit report describing the water treatment units of the plants visited.
- 3. Design of distribution system by using software or programming.

TEXT BOOKS

- Environmental Engineering by Peavey, H. S. Rowe, D.R. and Tchobanoglous McGraw Hill Book Company.
- Water Supply and Pollution Control by Viessman W. and Hammer M.J. Harper Collins College Publishers.
- 3. Water and Waste Water Technology by Hammer M.J. Prentice-Hall of India Private ltd.
- 4. Water and Wastewater Technology by G.S. Birdie and J.S. Birdie
- 5. Water Supply by Duggal K.N., S. Chand and Company.
- 6. Water Supply by Garg S.K., Khanna Publishers.
- 7. Water Supply and Waste water Disposal by Fair and Gayes, John Wiley Publication.
- 8. Water Supply Engineering by B.C. Punmia, Ashok Jain, Arun Jain, Laxmi Publications



SOLAPUR UNIVERSITY, SOLAPUR

Faculty of Engineering & Technology

Credit System structure of T. E. Civil-II, Semester - VI, W. E.F. 2018-2019

| Course | Theory Course Name | | Hrs | /week | | Credits | | Examir | ation | Sch |
|--------|--|--------|-----------|----------|---------|---------|-----|--------|-------|-----|
| code | _ | L | T | P | D | | ISE | ES | E | IC. |
| CV-321 | Structural Mechanics-III | 3 | / / - \ \ | - | V - 100 | 3 | 30 | 70 |) | _ |
| CV-322 | Geotechnical Engg.II | 4 | MIN | (i)-/iii | | 4 | 30 | 70 |) | _ |
| CV-323 | Environmental Engg.II | 3 | - | 7-7 | - 1 | 3 | 30 | 70 |) | - |
| CV-324 | Engineering Management- I | 3 | 2 | 1-10 |) - | 3 | 30 | 70 |) | 25 |
| CV-325 | Elective-I | 3 | | 40.300 | | 3 | 30 | 70 |) | - |
| CV-326 | Self Learning (Technical course) | | - | | | 2 | - | 50 |) | - |
| | Total | 16 | 0 | - | - | 18 | 150 | 400 | | 25 |
| | Laboratory/Drawings: | | 1 | | | | - | POE | OE | |
| CV-321 | Structural Mechanics-III | //- | 7-1 | 2 | | 1 | - | - | - | 25 |
| CV-322 | Geotechnical Engg.II | // - | (7/ | 2 | | 1 | - | - | - | 25 |
| CV-323 | Environmental Engg.II | - | NV. | 2 | 2 - | 1 | - | - | 25 | 25 |
| CV-325 | Elective-I | - | | 2 | - 8 | 1 | - | - | - | 25 |
| CV-327 | Project on Steel Structures | _ | _ | - | 4 | 2 | - | - | 25 | 50 |
| CV-328 | Mini Project in SM-III/GE-II/EE-II/EM-I using Application Software | 114 | 2 -0 | 2 | 410 | 1 | | | | 50 |
| CV-329 | Assessment of field training report | F-3-13 | er vis | V V V | r 11= L | 1 | | | | 25 |
| | Total | विध् | 11 64 | 10 | 4 | 8 | | | 50 | 22 |
| | Grand Total | 16 | 0 | 10 | 4 | 26 | 150 | 45 | 0 | 250 |

Abbreviations: L: Lectures, P: Practical, T: Tutorial, D: Drawing, ISE: In Semester Examination Tests, ESE: End Semester Examination - University Examination (Theory &/ POE &/Oral examination), ICA: Internal Continuous Asset

w.e.f. academic year 2018-19

Note:

- 1) Student/s shall carry out 'Mini Project' in any one of the following subjects: Structural Mechanics-III, Geotechnical Engg. II, Environmental Engg. II or Engineering Management-I by preferably employing relevant application software. The Mini project shall be assessed by the domain subject teachers for ICA.
- 2) Students shall undergo a field training of total 30 days in two phases including at least 15 days in the winter vacation after T.E. Civil Part I and at least 15 days in summer vacation after T.E. Civil Part-II. They shall submit the field training report of the first phase to the faculty associated with subject Engineering Management- I in their T.E. Part-II. They shall submit field training report of the second phase to concerned 'Project' guides in B.E. Part-I.
- 3) Internal Continuous Assessment (ICA) shall be a continuous process based on the performance of the student in assignments, class tests, quizzes, attendance and interaction during theory and lab sessions, syllabus, report presentation etc., as applicable.
- 4) The batch size for the practical/tutorial is of 15 students. On forming the batches, if the number of remaining students exceeds 7, then a new batch be formed.
- 5) For Self Learning at T.E. Civil Part II -
 - A. Student shall select a 'Self Learning Technical Course' from Solapur University, Solapur Technical Course List (Civil Engineering) and appear for its examination, as and when conducted by Solapur University, Solapur. Minimum four assignments for Self Learning Modules at T.E. Part II shall be submitted by the students which shall be evaluated by a Module Coordinator assigned by institute / department.

OR

B. Student with prior approval of the institute shall select and enroll for any 'National Programme on Technology Enhanced Learning (NPTEL)' course from Civil Engineering domain/Interdisciplinary course, with minimum eight weeks duration, complete necessary assignments and appear for certificate examination as per the NPTEL schedule during respective semester.

More details about NPTEL are available at http://nptel.ac.in



T.E. (CIVIL ENGINEERING) PART II CV- 323 ENVIRONMENTAL ENGINEERING –II

| Teaching Scl | 0 | | cheme: |
|--------------|----------------------|--------------|----------|
| Lectures: | 3Hrs/Week, 3 Credits | ICA: | 25 Marks |
| Practical: | 2 Hrs/Week, 1 Credit | ISE: | 30 Marks |
| | | ESE (Lab): | 25 Marks |
| | | ESE(Theory): | 70 Marks |

Course Objectives

- 1. To acquaint the students with the characterization of municipal waste, as well as sewage collection & conveyance systems.
- Study of Primary and Secondary treatment methods of sewage, and concept of recycling the wastewater.
- 3. Familiarize the students with stream pollution due to waste disposal and suitable centralized/decentralized wastewater Treatment system
- 4. Learning solid waste and hazardous waste management systems for urban areas.
- 5. Understanding various sources of air pollution, its measurement and control.

Course Outcomes

Upon successful completion of course the student will be able to:

- 1. Plan the layout of sewage collection system, matching the topography of the region and characterization of sewage.
- Decide sequence and design of wastewater treatment units to meet the sewage treatment standards.
- Design the wastewater treatment plant using Trickling filter, anaerobic treatment and low cost treatment methods
- 4. Adopt appropriate methods of Solid waste Disposal and Management of hazardous waste.
- 5. Measure air pollution and adopt control measures to control of industrial air pollution.

- 2. Total Solids
- 3. Biochemical Oxygen Demand
- 4. Chemical Oxygen Demand
- 5. Chlorides
- 6. Oil & Grease
- 7. Sulphate Content
- 8. Total Nitrogen
- 9. Demonstration of High Volume Sampler
- 10. Demonstration of Auto Exhaust Analyzer.
- (B) Design of sewerage system & Treatment system for a small urban area.

(C) Visit to sewage treatment plant

Internal Continuous Assessment (ICA) submission shall consist of the following –

- 1. Journal containing experiments carried out in part A of the Internal Continuous Assessment (ICA) and visit Report on C
- 2. Detail design and appropriate drawings required for part B of the Internal Continuous Assessment (ICA) work.

END SEMESTER EXAMINATION (oral)

Oral examination will be based on the above syllabus.

TEXT BOOKS

- Environmental Engineering by Peavey- H. S. Rowe, D.R. and Thobanoglous, [McGraw Hill Book Company]
- Water supply and pollution control Viessman W. and Hammer M.J. [Harper Collins College Publishers.]
- 3. Waste Water Engineering Treatment & Disposal Metcalf & Eddy, [Tata McGraw Hill, 1982]
- 4. Sewage Disposal and Air Pollution Engineering Garg S.K., [Khanna Publishers]
- 5. Sewage Disposal and Air Pollution Engineering Garg S.K., [Khanna Publishers]
- 6. Waste water Supply Engineering by B. C. Punmia



T.E. (CIVIL ENGINEERING) PART- II CV- 328 Mini Project

| Teaching Scheme: | | Examinati | | |
|------------------|----------------------|-----------|----------|--|
| Practical: | 2 Hrs/Week, 1 Credit | ICA: | 50 Marks | |

Student/s shall carry out 'Mini Project' in any one of the following subjects: Structural Mechanics-III, Geotechnical Engg. II, Environmental Engg. II or Engineering Management-I, by preferably employing relevant application software.

The project shall consist of Civil Engineering Prototype design, Working models, Laboratory experiments, Process modification/development, Simulation, Software development, Data analysis, Survey etc.

The student is required to submit a 'Project Report' based on the work.

The Mini project shall be assessed by the domain subject teachers for ICA.





T.E. (CIVIL ENGINEERING) PART- II CV- 329 Assessment of Field Training Report

| | | | Examination Scheme: | | | | |
|---------|---|------|---------------------|--|--|--|--|
| Credit: | 1 | ICA: | 25 Marks | | | | |

Students shall undergo a field training of at least 15 days in the winter vacation after T.E. Civil Part I and submit the field training report, which shall be assessed by faculty associated with Engineering Management-I, in T.E. Civil Part II.





Solapur University, Solapur

Faculty of Engineering & Technology, B.E. (Civil Engineering) Semester –VII, (Revised from 2015-16) Credit System Structure of B. E. (Civil Engineering) Semester –VII, W. E. F. 2017-18

| No | Theory Course Name | | Hrs/w | eek | | Cuadita | Exa | aminatior | Schem | ie | Total |
|-----|---|----|-------|-----|---|---------|-----|-----------|-------|-----|-------|
| 110 | | L | T | P | D | Credits | ISE | ES | E | ICA | Total |
| 1 | Design of Concrete Structures-I | 3 | - | - | - | 3 | 30 | 70 | 0 | - | 100 |
| 2 | Quantity Surveying & Valuation | 3 | - | - | - | 3 | 30 | 70 | 0 | - | 100 |
| 3 | Earthquake Engineering | 3 | | - | - | 3 | 30 | 70 | 0 | - | 100 |
| 4 | Water Resources Engineering-II | 3 | - | - | - | 3 | 30 | 70 | 0 | - | 100 |
| 5 | Elective - I | 3 | - | - | - | 3 | 30 | 70 | 0 | - | 100 |
| | Total | 15 | | | | 15 | 150 | 35 | 0 | | 500 |
| | Laboratory/Drawings | | | | | | | POE | OE | | |
| 1 | Design of Concrete Structures-I | - | 1 | - | - | 1 | - | - | - | 25 | 25 |
| 2 | Quantity Surveying & Valuation | | - | 4 | - | 2 | - 1 | 50 | - | 50 | 100 |
| 3 | Earthquake Engineering | - | - | 2 | - | 1 | - | - | - | 25 | 25 |
| 4 | Water Resources Engineering- II | - | | 2 | - | 1 | - | - | 25 | 25 | 50 |
| 5 | Elective - I | = | - | 2 | - | 1 | - | - | 25 | 25 | 50 |
| 6 | Seminar | - | - | 2 | - | 2 | | - | = | 50 | 50 |
| 7 | Project work | - | • | 2 | - | 2 | -2 | - | = | 25 | 25 |
| 8 | Assessment of report on field training-II | - | | - | - | 1 | 14 | | | 25 | 25 |
| | Total | | 1 | 14 | | 11 | | 50 | 50 | 250 | 350 |
| | Grand Total Semester-VII | 15 | 1 | 14 | - | 26 | 150 | 45 | 0 | 250 | 850 |

[•] Abbreviations - L: Lecture, T: Tutorial, P: Lab Session, D: Drawing, ESE: End Semester Examination, ISE: In Semester Evaluation,

ICA: Internal Continuous Assessment

Notes:

- (1) Project group be of @ 7 students.
- (2) Elective subject can be offered from the following list, if minimum 15 students opt for that subject.
- (3) Term work assessment: Term Work assessment shall be a continuous process based on the performance of the student in assignments, class tests, quizzes, attendance and interaction during theory and lab sessions, journal writing, report presentation etc., as applicable

B.E. Civil - Part I

4. WATER RESOURCES ENGINEERING - II

| Teaching Scheme: | Examination Scheme |
|--------------------|--------------------|
| reaching benefite. | Examination Scheme |

Lectures – 3 Hrs/Week, 3 Credits

Practical – 2 Hr/Week, 1 Credit

ISE – 30 Marks
ESE –70 Marks
ICA – 25 Marks
ESE (OE) -25 Marks

Course Objectives:

- 1) To study the different aspects of design of hydraulic structures
- 2) To design different types of dams
- 3) To provide knowledge on various hydraulic structures such as energy dissipaters, head and, Cross regulators canal falls and structures involved in cross drainage works
- 4) To understand the analysis of seepage and hydraulic jump

Course Outcomes:

After studying this subject the students will be able to

- 1) Plan and design the reservoirs depending upon the water resources potential.
- 2) Analyze and design Gravity dams and Earth dams (Simple Designs).
- 3) Demonstrate the design principles of Arch dams.
- 4) Solve seepage problems for Weirs on Permeable Foundations
- 5) Demonstrate the knowledge of water power engineering and river training.

SECTION - I

Unit 1: (5)

- a) Planning of Reservoirs: Storage calculations, Control levels, silting of reservoirs, reservoir sedimentation surveys, reservoir losses. Use of remote sensing for reservoir sedimentation surveys.
- b) Dams Necessity, types of dams, selection of site for dams, selection of type of dam, Introduction to dam instrumentation

Unit 7: (5)

a) River and River Training Works: Types of rivers, Meandering phenomenon, Types of river training works, river navigation.

b) Water Logging and Drainage: Causes, effects, preventive and curative measures, alkaline soils, soil efflorescence, drainage arrangements.

Unit 8: (5)

Elements of Hydropower Engineering: Power crisis and competing uses of water, need of harnessing solar energy. Types of water power plants, small hydropower plants, layout and components of each type, Intakes, Conveyance system, Surge tanks, Power house types, components and layout, tail race. Managing power demand using various sources of power.

TERM WORK

- A) Minimum seven assignments from the following:
- 1) Determination of height of dam: Reservoir capacity calculations based on demand and Supply, fixing control levels of dam.
- 2) Design of gravity dam: Elementary and practical profile with stability calculations
- 3) Earth dam
 - a) Design- Determination of section slip circle calculations.
 - b) Filters and Drainage arrangements.
- 4) Spillway: Geometrical section, Design of spillway; Energy dissipation arrangements and gates.
- 5) Arch dam layout of constant angle and constant radius
- 6) Drawing sheet: Outlets through earth dam. Masonry dam, layout.
- 7) Drawing sheet: Typical plan and section of Kolhapur type barrage.
- 8) A typical layout of Hydropower plant and its functioning. Calculating reservoir capacity for hydropower plant
- 9) Design of any one Canal Structure / Cross Drainage Works
- B) Report based on Field visits to Irrigation and Water Power Engineering Projects

ORAL EXAMINATION

Oral Examination will be based on the TERM WORK.

B.E. (Civil) Part-I 7. PROJECT WORK

Teaching Scheme:

Examination Scheme:

Practical - 2 Hr/Week, 1 Credit

ICA - 25 Marks

Objectives:

- To carry out a thematic design project in one of the specializations of civil engineering
- To carry out a project that will make the students aware of the different facets of civil engineering.

The topic for the Project Work may be from any Civil Engineering and inter-disciplinary area related to Civil Engineering as mentioned in content at B.E. (Civil) Part-I. Practical work at B.E. (Civil) part-I will comprise of literature survey / problem formulation / preparation of experimental setup as the case may be of the identified problem.



B.E. (Civil) Part-I

7. ASSESSMENT ON REPORT ON FIELD TRAINING

Credit - 1 ICA – 25 Marks

The students are required to undergo training in any of the areas of Civil Engineering for 30 working days beyond the academic schedule between the completion of T.E. (Civil) Part-I and B.E. (Civil) Part-I term end.

The training may be may be related to any of the Civil Engineering areas or inter-disciplinary areas such as:

- 1) Structural Engineering
- 2) Environmental Engineering
- 3) Geotechnical Engineering
- 4) Transportation Engineering
- 5) Infrastructural Engineering
- 6) Water Resources Engineering
- 7) Town & Country Planning
- 8) Construction Engineering
- 9) Surveying & Remote Sensing Techniques
- 10) Project Management
- 11) Legal Aspects in Civil Engineering
- 12) Earthquake Engineering
- 13) Disaster Management

Student shall submit a report of the field training undergone. The students should obtain a certificate of completion of training from the concerned organization and submit it to the department office. Assessment of the training report will be done by the 'Project Guide' to whom the concerned student is allotted.



Solapur University, Solapur

Faculty of Engineering & Technology, B. E. (Civil Engineering) Semester –VIII, (Revised from 2015-16)

Credit System Structure of B. E. (Civil Engineering) Semester –VIII, W. E. F. 2017-18

| No | Theory Course Name | | Hrs/ | week | | Credits | Examination Scheme | | | | Total |
|----|--|----|------|------|---|---------|--------------------|-----------|-----|---------|-------|
| NO | | L | T | P | D | Creans | ISE | ESE | | ICA | Total |
| 1 | Design of Concrete Structures-II | 4 | - | - | - | 4 | 30 | 70 |) | - | 100 |
| 2 | Construction Practices and Town Planning | 4 | - | 2= | - | 4 | 30 | 70 |) | 1 2 - 0 | 100 |
| 3 | Elective - II | 3 | - | - | - | 3 | 30 | 70 |) | 1- | 100 |
| 4 | Elective - III | 3 | - | - | - | 3 | 30 | 70 280 | | 14 | 100 |
| | Total | 14 | | | | 14 | 120 | | | | 400 |
| | Laboratory/Drawings | | | | | | | POE | OE | | |
| 1 | Design of Concrete Structures-II | - | - | 2 | - | 1 | - | - | - | 25 | 25 |
| 2 | Construction Practices and Town Planning | - | - | - | - | 1 | - | - | - | 25 | 25 |
| 3 | Elective - II | - | - 1 | 2 | - | 1 | | - | 25 | 25 | 50 |
| 4 | Elective - III | - | - | 2 | - | 1 | - | - | (| 50 | 50 |
| 5 | R. C. C. Structural Design & Drawing-II | - | - | - | 4 | 2 | - | - | 50 | 50 | 100 |
| 6 | Project work | - | - | 6 | - | 4 | | - | 100 | 100 | 200 |
| | Total | | | 12 | 4 | 10 | | | 175 | 275 | 450 |
| | Grand Total Semester-VIII | 14 | | 12 | 4 | 24 | 120 | 45 | 5 | 275 | 850 |

•Abbreviations – L: Lecture, T: Tutorial, P: Lab Session, D: Drawing, ESE: End Semester Examination ISE: In Semester Evaluation, ICA: Internal Continuous Assessment

Notes:

- (1) Project group be of @ 7 students.
- (2) Elective subject can be offered from the following list, if minimum 15 students opt for that subject.
- (3) Term work assessment: Term Work assessment shall be a continuous process based on the performance of the student in assignments, class tests, quizzes, attendance and interaction during theory and lab sessions, journal writing, report presentation etc., as applicable

B.E. (Civil) Part-II 6. PROJECT WORK

Teaching Scheme:

Practical - 6 Hr/Week, 4 Credits

Examination Scheme:

ICA -100 Marks ESE (OE) - 100 Marks

Project work at B.E. (Civil) Part-II is continuation of Project Work of B.E. (Civil) Part-I on any topic from Civil Engineering area or interdisciplinary area related to Civil Engineering.

The project work should be completed at B.E. (Civil) Part-II level.

