### Dr. Ambedkar Institute of technology, Bengaluru-56 Department of Civil Engineering

The enclosed documents are verified & approved.

Prof & Head

Dr. S. Vijaya

Department of Civil engineering

Professor and Head Department of civil Engineering . Ambredkar Institute of Technology Bangalore - 560 056

NAAC CO-ORDINATORS:

MARY BHARTA JATHI. J., Ast Projector D.

Do K Hemanth Kumar, Asst Projector D.

### 1.2.1 Percentage of new courses introduced of the total number of courses across all programmes offered during the last five years (20) (inser rows based on number of new subjects introduced in each year)

introduced in each year,			
Note- the format earlier filled contain value added courses. In this format you need to include the new courses(either electives or core subjects introduced in last five years.)			
Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development	Nature of Employability
Computer Aided Design Lab	CVL58	Employability &Skill development	Software
Hydraulics & Hydraulic Machinery Lab	CVL57	Employability &Skill development	Hardware
Geotechnical Engineering Lab	CVL67	Employability &Skill development	Hardware
Extensive Survey Project	CVL68	Employability &Skill development	Hardware
Environmental Engineering Lab	CVL76	Employability &Skill development	Hardware
Concrete & Highway Material Lab	CVL77	Employability &Skill development	Hardware
Project Phase - I	CVP78	Employability &Skill development	Hardware
Project Phase - II	CVP84	Employability &Skill development	Hardware
Seminar	CVS85	Employability &Skill development	Software
Civil Engineering Material Testing Lab	18CVL36	Employability &Skill development	Hardware
Surveying Practice	18CVL37	Employability &Skill development	Hardware
Employability Skills	18HS43	Skill development	Hardware & Software
Computer Aided Building Planning & Drawing	18CVL46	Employability &Skill development	Software
Concrete & Highway Material Lab	18CVL47	Employability &Skill development	Hardware
Management and Entrepreneurship	18HS51 / 61	Entrepreneurship	Hardware
Placement Training	18HS55	Entrepreneurship	Hardware & Software
Hydraulics & Hydraulic Machinery Lab	18CVL57	Employability &Skill development	Hardware
Computer Aided Design Lab	18CVL58	Employability &Skill development	Software
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Placement Training	18HS66	Entrepreneurship	Hardware & Software
Computer Aided Drawing of RC & Steel Structures	18CVL66	Employability &Skill development	Software
Geotechnical Engineering Lab	18CVL67	Employability &Skill development	Hardware
Mini-Project	18CVM68	Employability &Skill development	Hardware & Software
Extensive Survey Project	18CVL69	Employability &Skill development	Hardware
Cost Management & Engg. Projects	18HS71 / 81	Employability &Skill development	Hardware
Occupational Safety & Health Administration	18HS72 / 82	Employability &Skill development	Hardware
Environmental Engineering Lab	18CVL76	Employability &Skill development	Hardware
Advance Civil Engineering Lab	18CVL77	Employability &Skill development	Hardware
Project Phase - I	18CVP78	Employability &Skill development	Hardware & Software
Project Phase - II	18CVP81	Employability &Skill development	Hardware & Software
Seminar	18CVS85	Employability &Skill development	Software
Internship	18CVI83	Employability	Hardware & Software
Civil Engineering Material Testing Lab	18CVL36	Employability &Skill development	Hardware
Surveying Practice	18CVL37	Employability &Skill development	Hardware
Employability Skills	18HS43	Employability &Skill development	Hardware & Software
Computer Aided Building Planning & Drawing	18CVL46	Employability &Skill development	Software
Concrete & Highway Material Lab	18CVL47	Employability &Skill development	Hardware
Management and Entrepreneurship	18HS51 / 61	Entrepreneurship	Hardware & Software
Placement Training	18HS55	Employability	Hardware & Software
Hydraulics & Hydraulic Machinery Lab	18CVL57	Employability &Skill development	Hardware
Computer Aided Design Lab	18CVL58	Employability &Skill development	Software
Placement Training	18HS66	Employability	Hardware & Software
Computer Aided Drawing of RC & Steel Structures	18CVL66	Employability &Skill development	Software

Geotechnical Engineering Lab	18CVL67	Employability &Skill development	Hardware
Mini-Project	18CVM68	Employability &Skill development	Hardware & Software
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Placement Training	18HS66	Employability	Hardware & Software
Computer Aided Drawing of RC & Steel Structures	18CVL66	Employability &Skill development	Software
Geotechnical Engineering Lab	18CVL67	Employability &Skill development	Hardware
Mini-Project	18CVM68	Employability &Skill development	Hardware & Software

		Employability &Skill	
Extensive Survey Project	18CVL69	development	Hardware
	18HS71/	Employability &Skill	
Cost Management & Engg. Projects	81	development	Hardware
	18HS72 /	Employability &Skill	Hardware &
Occupational Safety & Health Administration	82	development	Software
		Employability &Skill	
Environmental Engineering Lab	18CVL76	development	Hardware
		Employability &Skill	
Advance Civil Engineering Lab	18CVL77	development	Hardware
		Employability &Skill	
Project Phase - I	18CVP78	development	Hardware
		Employability &Skill	
Project Phase - II	18CVP81	development	Hardware
		Employability &Skill	
Seminar	18CVS85	development	Software
		Employability &Skill	
Internship	18CVI83	development	Hardware
		Employability &Skill	
Rural Development Engineering	20CVT209	development	Hardware
			Hardware &
Career Development Skills-I	21HSN110	Skill development	Software
			Hardware &
Career Development Skills-II	21HSN210	Skill development	Software

Branch: PG -M.TECH ,STRUCTURAL ENGINEERING

1.2.1 Percentage of new courses introduced of the total number of courses across all programmes offered during the last five years (20) (inser rows based on number of new subjects introduced in each year)

Note- the format earlier filled contain value added courses. In this format you need to include the new courses(either electives or core subjects introduced in last five years.)				
Name of the Course	Course Code	Activities/Content with direct bearing on Employability/Entrepreneurship/ Skill development	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development	Nature of Employability
Structural Engineering Lab - I		CSEL16	Employability &Skill development	Hardware
Seminar		CSE17	Skill development	Software

Mini Project /Field work/ Technical visit	CSE18	Employability &Skill development	Software & Hardware
The state of the s		development	Transar are
		Employability &Skill	
Structural Engineering Lab - II	CSEL26	development	Hardware
Seminar	CSEM28	Skill development	Software
Seminar/Presentation on Internship			
(After 8 weeks from the date of			
commencement)	CSE31	Employability	Software
		Employability &Skill	Software &
Evaluation and Viva-Voce	CSE33	development	Hardware
		Employability &Skill	Software &
Project Phase - I	CSE34	development	Hardware
		Employability &Skill	Software &
Project Phase - II	CSE43	development	Hardware
		Employability &Skill	Software &
Evaluation of Project and Viva-Voce	CSE44	development	Hardware
		Employability &Skill	Hardware
Structural Engineering Laboratory - I	18CSEL16	development	nardware
Technical Seminar	18CSE17	Skill development	Software
		Employability &Skill	Software &
Mini Project / Industry visit / Field work	18CSEM18	development	Hardware
		Employability &Skill	Coftwore
Structural Engineering Laboratory - II	18CSEL26	development	Software
		Employability &Skill	Software &
Mini Project / Industry visit / Field work	18CSEM28	development	Hardware
		Employability &Skill	Software &
Internship	18CSEI34	development	Hardware
Technical Seminar	18CSES35	Employability	Software
		Employability &Skill	Software &
Project Phase - I	18CSEP36	development	Hardware
Project work Phase - II Midterm		Employability &Skill	Software &
Internal Evaluation	18CSEP41	development	Hardware
		Employability &Skill	Software &
Project work evaluation and viva voce	18CSEP42	development	Hardware

Structural Engineering Laboratory - I	18CSEL16	Employability &Skill development	Hardware
Technical Seminar	18CSE17	Skill development	Software
		Employability 9 Chill	Coftware P
Mini Project / Industry visit / Field work	18CSEM18	Employability &Skill development	Software & Hardware
		Francis valatità e Chill	
Structural Engineering Laboratory - II	18CSEL26	Employability &Skill development	Software
		Employability &Skill	Software &
Mini Project / Industry visit / Field work	18CSEM28	development	Hardware
			Software &
nternship	18CSEI34	Employability	Hardware
Fechnical Seminar	18CSES35	Software	Software
		Employability &Skill	Software &
Project Phase - I	18CSEP36	development	Hardware
Project work Phase - II Midterm		Employability &Skill	Software &
nternal Evaluation	18CSEP41	development	Hardware
		Employability &Skill	Software &
Project work evaluation and viva voce	18CSEP42	development	Hardware
		Employability &Skill	
Structural Engineering Laboratory	20CSEL17	development	Hardware
Fechnical Seminar	20CSES18	Skill development	Software
		Employability &Skill	Software &
Minor project/ Industry visit/Field work	20CSEM19	development	Hardware
Computational Structural Engineering		Employability &Skill	
Laboratory	20CSEL28	development	Software
Project Work Phase – I (Presentation of		Employability &Skill	Software &
Synopsis)	20CSEP29	development	Hardware
			Software &
nternship	20CSEI32	Employability	Hardware
Fechnical Seminar	20CSES33	Skill development	Software
		Employability &Skill	Software &
Evaluation of Project Work Phase I	20CSEP34	development	Hardware
Project Phase – II Midterm Internal		Employability &Skill	Software &
Evaluation	20CSEP41	development	Hardware

Project Work Evaluation and Viva Voce	20CSEP42	Employability &Skill development	Software & Hardware
Structural Engineering Laboratory	20CSEL17	Employability &Skill development	Hardware
Technical Seminar	20CSES18	Skill development	Software
Minor project/ Industry visit/Field work	20CSEM19	Employability &Skill development	Software & Hardware
Computational Structural Engineering Laboratory	20CSEL28	Employability &Skill development	Hardware
Project Work Phase – I (Presentation of Synopsis)	20CSEP29	Employability &Skill development	Software & Hardware
Internship	20CSEI32	Employability	Software & Hardware
Technical Seminar	20CSES33	Skill development	Software & Hardware
Evaluation of Project Work Phase I	20CSEP34	Employability &Skill development	Software & Hardware
Project Phase – II Midterm Internal Evaluation	20CSEP41	Employability &Skill development	Software & Hardware
Project Work Evaluation and Viva Voce	20CSEP42	Employability &Skill development	Software & Hardware

### Dr. Ambedkar Institute of Technology Department of Civil Engineering

### Minutes of the 7th BOS meeting held on 18.06.2016

The meeting commenced at 9.00 AM on 18-06-2016 in the M Tech class room of the Silver jubilee building, Dr. AIT under the chairmanship of Dr. B. Shivakumaraswamy, HOD Civil Engineering Department. The Chairman welcomed all the members of BOS to the meeting and presented the scheme and syllabus of BE (Civil) for the approval. The following dignitaries of BOS attended the meeting

- 1. Dr. B. Shivakumaraswamy, Professor & Head, Dr. AIT. Bangalore
- 2. Dr. N.S. Kumar, VTU Nominee, Professor of Civil Engg. CED, GCE, Ramanagaram.
- 3. Dr. Chandrakishen, Professor of Civil Engineering, IISc, Bangalore.
- 4. Dr. Ganagadhar, S. Professor of Civil Engineering, CED, UVCE, Bangalore.
- 5. Dr. Udayashankar, Professor of Civil Engineering, CED, RVCE, Bangalore.
- 6. Dr. Nataraj, Professor of Civil Engineering, CED, SJCE, Mysuru.
- 7. Dr. K. Shantharaju, Project Head, PSC India Infrastructure Pvt Ltd, Pune Maharastra State
- 8. Ms. Mamatha ME, (PhD) Asst. Prof. EWIT, Bangalore
- 9. Dr. M.N. Hegde, Professor, CED, Dr. AIT. Bangalore
- 10. Dr. K.V.Lokesh, Professor, CED, Dr. AIT. Bangalore
- 11. Dr. S. Vijaya, Professor, CED, Dr. AIT. Bangalore
- 12. Dr. S.D. Venkataraj mohan, Professor, CED, Dr. AIT. Bangalore
- 13. Dr. S.G. Ramachandraiah, Associate Professor, CED, Dr. AIT. Bangalore
- 14. Dr. K.V. Manjunatha, Associate Professor, CED, Dr. AIT. Bangalore
- 15. Mr. R. Madhusudhan, Asst. Professor, CED, Dr. AIT. Bangalore
- 16. Mr. M. R. Suresh, Associate Professor, CED, Dr. AIT. Bangalore
- 17. Mr. T. Chandrashekariah, Associate Professor, CED, Dr. AIT. Bangalore
- 18. Mr. H.R. Srinivas, Asst. Prof. CED, Dr. AIT. Bangalore
- 19. Mr. H. Anantharam, Associate Professor, CED, Dr. AIT. Bangalore
- 20. Mr. G.P. Manjunath, Associate Professor, CED, Dr. AIT. Bangalore
- 21. Mr. M. Krishnamurthy, Associate Professor, CED, Dr. AIT. Bangalore
- 22. Mr. Ankesh, S.B, Asst. Professor, CED, Dr. AIT. Bangalore
- 23. Mr. Dharshan M.K, Asst. Professor, CED, Dr. AIT. Bangalore
- 24. Mrs. Poornima Biranagi, Asst. Professor, CED, Dr. AIT. Bangalore
- 25. Ms. Vaibhavi, Asst. Professor, CED, Dr. AIT. Bangalore
- 26. Mrs. Kavya, H.K. Asst. Professor, CED, Dr. AIT. Bangalore

### Agenda

 Review and approval of the proposed Scheme of Study and Syllabus from I Semester to VIII Semester BE Civil Engineering courses to be introduced for the Academic year 2016-17.

- The BOS Chairman presented the proposed Curriculum design, the Scheme and Syllabus of BE Civil Engineering courses to be introduced for the academic year 2016-17 through power point. The hard copies of the proposed Scheme and Syllabus from I Semester to VIII semester BE Civil Engineering courses also distributed to all the members of BOS for a detailed review and sought their opinion with regard to any addition / correction / deletion / modification in the proposed syllabus and accordingly all the members of BOS after a thorough review and discussion made the following suggestions / corrections / modification as detailed below:
- 1. Dr. Chandrakishen, Professor IISc, Bengaluru, suggested shifting analysis of trusses from unit 2 to unit 1 and deflection of beams (moment area method and conjugate beam method) from unit 1 to unit 2. Also suggested to change the title of the unit 5 as Analysis of indeterminate arches.
- 2. In addition to the study of kinematics of rectilinear motion, Projectiles and kinetics of rigid bodies, the super elevation and banking portion is introduced in ECE and Engg. Mechanics of I Sem. BE for all branches of Engineering as per the decision taken in the departmental BOS meeting. The Board has accepted to include the suggestions.
- Dr. Chandrakishen, Professor IISc / BOS has suggested to modify the title of the subject CV31 Building Materials and Construction instead of Building Materials and Construction Technology and the suggestion has been incorporated.
- Dr. N S Kumar, member of VTU nominee has suggested including derivation of equations for thick and thin cylinders in addition to application in unit 4 in Strength of Materials.
- 5. Dr. Udayashankar, Prof. of RVCE has suggested to give more credit to Structures subject but the members expressed to give maximum of 4 credits per subject.
- 6. Dr. Nataraj has suggested to change the title of unit 4 in Fluid Mechanics as flow through pipes and suggested some reference books and the BOS has accepted.
- 7. Dr. Chandrakishen, Professor IISc / Dr. K. Shantharaju / Dr. Gangadhar have advised to change load for footing as Proportioning of footing for equal settlement and the suggestion has been incorporated.

- 8. The Chairman proposed to introduce computer Aided RC drawing (Part-A) and Part-B, the design as per IS: 456-2000 in Design and drawing of RC Structures (CV61) as discussed in the department board meeting and the Board has accepted the proposal.
- 9. Dr. Nataraju. Professor of Civil Engg. SJCE proposed to incorporate Arch dams in Unit 2 of Hydraulic structures & irrigation design drawing and the board has accepted to incorporate the same.
- 10. Dr. Nataraju. Professor of Civil Engg. SJCE / Dr. Udayashankar / Mamatha. A, Alumni representative advised to increase the credit for the Extensive Survey Project in VI Sem. BE but the board has not accepted.
- 11. Mr. T chandrasekaraiah, Associate Professor asked for more credit for Transportation Engineeing-I, but the board suggested to keep the same credit and increase the number of hours of teaching.
- 12. The members of BOS suggested carrying out New Tank Project and Old Tank Project surveying at SS Ghati using Total Station and the chairman accepted the suggestion and incorporated.
- 13. Dr. N S Kumar, member of VTU nominee has suggested to remove tubular connection in welded joints in the subject Cv71, Design of Steel Structures and the BOS members agreed for the suggestion.
- 14. The Chairman proposed to introduce computer Aided steel drawing (Part-A) and Part-B, the design as per IS: 800-2007 in Design and drawing of Steel Structures (CV81) as discussed in the department board meeting and the Board has accepted the proposal.
- 15. Dr. N S Kumar, member of VTU nominee has suggested. to remove the design of bolted plate girder in the subject design and drawing of Steel Structures of VIII Sem. BE but the board rejected the proposal and to retain the same in the syllabus.
- 16. Dr. K.V. Lokesh suggested to incorporate Indoor Air Pollution in the subject CV755, Air Pollution and control (Unit 4) and the board has accepted to incorporate.
- 17. Dr. K. Shantharaju, Industrial Expert advised to include Construction Project Management (CV758) as Core subject instead of Elective but the board has not come to any conclusion because of credit allotment in the core subjects.

- 18. Dr. Udayashankar B.C. Prof of RVCE, suggested adding code books in the subject CV834, Advanced design of Steel Structures and the same is incorporated.
- 19. Dr. SDV / HAR / Dr. K.V. Lokesh suggested including environmental impact due to the construction activities in Highway project in the subject CV836, Environmental Impact Assessment as discussed in the department meeting and the board has accepted to incorporate the same in Unit 5.
- 20. Dr. Chandrakishen, Professor IISc / Dr. K. Shantharaju, Industrial Expert advised to include Repair and Rehabilitation of Structures as Elective and the board has accepted to include the subject in VI Semester electives.
- 21. The BOS members have suggested including NDT in concrete laboratory syllabus for 7<sup>th</sup> semester B. E. Since, the equipments required are procured under VTU research grants for the project "Health monitoring, repair and rehabilitation of structures" the suggestion is considered and implemented.
- 22. As per the suggestions of BOS members, the Advanced concrete Technology subject has been introduced in VI Sem. BE instead of VIII Sem. because to give more time for the students to carry out their main Project.
- 23. The BOS members suggested to procure latest licensed version soft ware's such as Auto CAD, STAAD Pro, E-Tabs, ANSYS etc for academic purpose.

With the long discussion, all the members are agreed to make changes and modification in the syllabus for the academic year 2016-17. With this, meeting was concluded with vote of thanks to the chair by Dr. K.V. Manjunath.

(Dr. B. Shivakumara swamy)

Chairman, BOS,

Prof.& Head, Dept. of Civil Engineering

Dr. AIT, Bangalore- 56.

- 1. All the members of BOS for information
- 2. Principal, Dr. AIT, Bangalore
- 3. Dean Academic, Dr. AIT, Bangalore
- 4. Office copy.

### Dr. Ambedkar Institute of Technology Department of Civil Engineering

### Minutes of the7th BOS meeting held on 25.03.2017

The meeting commenced at 10.00AM on 25-03-2017 in the M Tech class room of the Silver jubilee building, Dr. AIT under the chairmanship of Dr. B. Shivakumaraswamy, HOD Civil Engineering Department. The Chairman welcomed all the members of BOS to the meeting and presented the scheme and syllabus of BE (Civil) and M Tech (CSE) for the approval. The following dignitaries of BOS attended the meeting

- 1. Dr. B. Shivakumaraswamy, Professor & Head, Dr. AIT. Bangalore
- 2. Dr. Chandrakishen, Professor of Civil Engineering, IISc, Bangalore.
- 3. Dr. Renukadevi, VTU Nominee, Professor of Civil Engg. CED, RVCE, Bengaluru (23/05/2012).
- 4. Dr. Ravikumar A. S. Professor of Civil Engineering, CED, UVCE, Bangalore.
- 5. Dr. Mayanaik, Professor and Head, Civil Engineering, CED, BMSCE, Bangalore.
- 6. Prof. S. Bhavanishankar Professor of Civil Engineering, CED, UVCE, Bangalore.
- 7. Sri. Chinnasomaiah, Chief Engineer (Civil), KPC, Bengaluru
- 8. Mr. Rajagopal R.S, Scientist E, NAL, Bengaluru
- 9. Mr. Arunkumar ME, (PhD) Asst. Prof. EWIT, Bangalore
- 10. Dr. S. Vijaya, Professor, CED, Dr. AIT. Bangalore
- 11. Dr. S.D. Venkataraj mohan, Professor, CED, Dr. AIT. Bangalore
- 12. Dr. S.G. Ramachandraiah, Associate Professor, CED, Dr. AIT. Bangalore
- 13. Mr. R. Madhusudhan, Asst. Professor, CED, Dr. AIT. Bangalore
- 14. Mr. H.R. Srinivas, Associate. Prof. CED, Dr. AIT. Bangalore
- 15. Mr. M. R. Suresh, Associate Professor, CED, Dr. AIT. Bangalore
- 16. Dr. Chandraashekar, Associate. Prof. CED, Dr. AIT. Bangalore
- 17. Mr. T. Chandrashekariah, Associate Professor, CED, Dr. AIT. Bangalore
- 18. Dr. K.V. Lokesh, Professor, CED, Dr. AIT. Bangalore
- 19. Dr. K.V. Manjunatha, Associate Professor, CED, Dr. AIT. Bangalore
- 20. Mr. H. Anantharam, Associate Professor, CED, Dr. AIT. Bangalore
- 21. Mr. G.P. Manjunath, Associate Professor, CED, Dr. AIT. Bangalore
- 22. Mr. M. Krishnamurthy, Associate Professor, CED, Dr. AIT. Bangalore
- 23. Mr. Ankesh, Asst. Professor, CED, Dr. AIT. Bangalore
- 24. Mr. Darshan M.K, Asst. Professor, CED, Dr. AIT. Bangalore
- 25. Miss Poornima, Asst. Professor, CED, Dr. AIT. Bangalore
- 26. Smt. Kavya H.K, Asst. Professor, CED, Dr. AIT. Bangalore
- 27. Smt. Vaibhavi B.D, Asst. Professor, CED, Dr. AIT. Bangalore
- 28. Smt. Supritha, Asst. Professor, CED, Dr. AIT. Bangalore

### Agenda

 Review and approval of the proposed Scheme of Study and Syllabus from I Semester to VIII Semester BE Civil Engineering courses to be introduced for the Academic year 2017 - 18.

- Review and approval of the proposed Scheme of Study and Syllabus from I Semester to IV Semester M Tech structural Engineering courses to be introduced for the Academic year 2017 - 18.
- The BOS Chairman presented the proposed Curriculum design, the Scheme and Syllabus of BE Civil Engineering courses and also M Tech (Structural Engineering) to be introduced for the academic year 2017-18 through power point. The hard copies of the proposed Scheme and Syllabus from I Semester to VIII semester BE Civil Engineering courses also distributed to all the members of BOS for a detailed review and sought their opinion with regard to any addition / correction / deletion / modification in the proposed syllabus and accordingly all the members of BOS after a thorough review and discussion made the following suggestions / corrections / modification as detailed below:
- Dr. Chandrakishen, Professor of Civil Engineering, IISc suggested to introduce numerical problems in D'Alembert's Principle in the subject ECE and Engineering. Mechanics of I Sem. BE for all branches of Engineering (common subject for I year). The Board has accepted to include the suggestions.
- 2. Prof. S. Bhavanishankar suggested to incorporate Cement Concrete blocks, Stabilized mud blocks, Sizes requirement of good blocks, Mortar-types and requirements content in the I unit of Building materials and Construction. Timber chapter is included in unit 3 which consists of doors and windows. The Board has accepted the suggestion.
- 3. Dr. Ravikumar suggested to include the measurement of fluid flow through Venturi flume in the Fluid mechanics theory and the Board has accepted the suggestion.
- 4. In the Surveying Practice—II syllabus, the contents such as difference in elevation between two points and gradient, Distance between two inaccessible points using Total Station is introduced as per the suggestion made by Chinnasomaiah, Industrial expert and the Board also accepted the same.
- Mr. M. R. Suresh expressed to include X-ray diffraction technique of identification of clay minerals, confined and un confined aquifer in unit 3 of Geotechnical engineering

  –I of V Sem BE, The Board has accepted after discussion.
- 6. Dr. Ravikumar and Dr. Chandrakishen have suggested to introduce study of performance of Multi-stage centifugal pump and Performance characteristics of

- Francis Turbine in Fluid mechanics Lab since the equipments are available and the Board has accepted.
- Description of Mano rail to introduce in transportation engineering –I has been accepted by the board as per the suggestion made by Mr. R. S Rajagopal Scientist E, NAL.
- 8. Dr. Chandrakishen, Professor IISc advised to include two reference books for Strength of Materials and Structural Analysis by Hibbeler.
- Pile foundation unit is modified as per the advice of Internal and External BOS
  members in Geotechnical engineering II subject and the board has accepted the
  modifications.
- 10. The relative density for sand and determination of free swell and differential swell for soils, and assessing SBC of soil has been introduced in the subject Geotechnical engineering lab as per the discussion held in the meeting and the board has accepted.
- 11. The BOS members have suggested to have four CO's in the subject CV62 Transportation Engineering-II and the same is considered.
- 12. The syllabus content of the mini project has been discussed and accepted by the board.
- 13. DESIGN AND COMPUTER AIDED DRAWING OF STEEL STRUCTURES for VIII Sem. BE (Civil) has been introduced in place of Design and drawing of steel Structures. Here Part-A, Drawing shall be done using CAD and Practical examination is to be conducted separately for 40 marks. Part-B Design and drawing as per IS:800-2007 and Theory examination shall be conducted separately for 60 marks in 3 hours, the Board has accepted the modification.
- 14. The syllabus content of main project and seminar has been discussed in detail for VIII Sem. BE and accepted by the board.
- 15. The subject Advanced concrete Technology is shifted from VIII sem. BE to VII Sem. BE of 2014-15 batch to reduce the number of credits in VIII sem. BE as per the suggestions by the BOS members.
- 16. Dr. Renukadevi suggested one reference book "Engineering Mechanics by Ferdinand Singer for I semester BE Civil and it is incorporated.
- 17. Dr. Chandrakishen, suggested to have Advanced Design of Steel Structures as core subject than Design of Plates and shells in M Tech Second semester. The board has accepted the suggestion.

- 18. The board members discussed the syllabus content of mini project work and also main Project for M Tech (CSE) and accepted the same.
- 19. Dr. Chandrakishen and Sri. Chinnasomaiah have suggested to include Derivation of fourth order differential equation, relationship between moment and curvature and deflection and Raleigh-Ritz .method in design of Plates and Shells of II Semester M Tech and the board has accepted after thorough discussion.
- 20. Dr. Renukadevi Opined that Project Management and maintenance subject is essential for M Tech students and is to be incorporated in the syllabus. The BOS members agreed for the suggestion and it will be incorporated in the next academic year.
- 21. The BOS members suggested to procure latest Licensed version soft ware's such as Auto CAD, STAAD Pro, E-Tabs, Ansys etc for academic purpose. The BOS members expressed their happiness for having Research Methodology and Thesis writing in II Sem. M Tech (CSE).

With the long discussion, all the members are agreed to make changes and modification in the syllabus for the academic year 2017-18. With this, meeting was concluded with vote of thanks to the chair.

(Dr. B. Shivakumara swamy) Chairman, BOS,

*Prof.* & Head, Dept. of Civil Engineering Dr. AIT, Bangalore- 56.

- 1. All the Members of BOS for information
- 2. Principal, Dr. AIT, Bangalore
- 3. Dean Academic, Dr. AIT, Bangalore
- 4. Office copy.

### ADr. Ambedkar Institute of Technology Department of Civil Engineering

### Minutes of the 8th BOS meeting held on 25.06.2018

The meeting commenced at 9.30AM on 25-06-2018 in the M Tech class room of the Silver jubilee building, Dr. AIT under the chairmanship of Dr. B. Shivakumaraswamy, HOD Civil Engineering Department. The Chairman welcomed all the members of BOS to the meeting and presented the scheme and syllabus of BE (Civil) and M Tech (CSE) for the approval. The following dignitaries of BOS attended the meeting

- 1. Dr. B. Shivakumaraswamy, Professor & Head, Dr. AIT. Bangalore
- 2. Dr. Renukadevi, VTU Nominee, Professor of Civil Engg. CED, RVCE, Bengaluru
- 3. Dr. Ravikumar A. S. Professor of Civil Engineering, CED, UVCE, Bangalore.
- 4. Dr. Mayanaik, Professor and Head, Civil Engineering, CED, BMSCE, Bangalore.
- 5. Prof. S. Bhavanishankar Professor of Civil Engineering, CED, UVCE, Bangalore.
- 6. Sri. Chinnasomaiah, Chief Engineer (Civil), KPC, Bangalore
- 7. Sri. Rajagopal R.S, Scientist E, NAL, Bangalore
- 8. Mr. Arunkumar ME, (PhD) Asst. Prof. EWIT, Bangalore
- 9. Dr. S. Vijaya, Professor, CED, Dr. AIT. Bangalore
- 10. Dr. S.D. Venkataraj mohan, Professor, CED, Dr. AIT. Bangalore
- 11. Dr. S.G. Ramachandraiah, Associate Professor, CED, Dr. AIT. Bangalore
- 12. Mr. H.R. Srinivas, Associate. Prof. CED, Dr. AIT. Bangalore
- 13. Mr. M. R. Suresh, Associate Professor, CED, Dr. AIT. Bangalore
- 14. Mr. T. Chandrashekariah, Associate Professor, CED, Dr. AIT. Bangalore
- 15. Dr. K.V. Manjunatha, Associate Professor, CED, Dr. AIT. Bangalore

### Agenda

- Review and approval of the proposed Scheme of Study and Syllabus from I Semester to VIII Semester BE Civil Engineering courses to be introduced for the Academic year 2018 – 19.
- Review and approval of the proposed Scheme of Study and Syllabus from I Semester to IV Semester M Tech Structural Engineering courses to be introduced for the Academic year 2018 - 19.
- The BOS Chairman presented the proposed Curriculum design, the Scheme and Syllabus of BE Civil Engineering courses and also M Tech (Structural Engineering) to be introduced for the academic year 2018-19 through power point. The hard copies of the proposed Scheme and Syllabus from I Semester to VIII semester BE Civil Engineering courses and M Tech also distributed to all the members of BOS for a detailed review as per AICTE / VTU guide lines and sought their opinion with regard to any addition / correction / deletion / modification in the proposed syllabus and accordingly all the members of BOS after a thorough review and discussion made the following suggestions / corrections / modification as detailed below:

- 1. The chairman draw the attention of BOS members regarding the limitations of credits and number of subjects as per the AICTE/VTU guide lines and emphasized on change of credits for few subjects in the benefit of students to introduce new syllabus.
- As per the discussion in the college council meeting to reduce number of credits from 150 to 135 for Civil engineering courses (III Sem. to VIII Sem. BE) and 100 to 88 for M Tech (CSE) from the academic year 2018 – 19 onwards, the chairman presented and sought their approval.
- 3. The title of the some of the courses from existing scheme was re-named/changed and they are presented in the scheme of study.
- 4. Some of the existing courses are merged and made it as a single couse / subject as presented in the scheme of study.
- The scheme and syllabus for first/second semester common to students of all branches, 18CV14 / 24 Civil engineering and mechanics for three credits was discussed and got approval.
- Dr. Renukadevi suggested to include applications in third unit of 18CV14/24 and it
  was approved also suggested one reference book "Engineering Mechanics by
  Ferdinand Singer it is incorporated..
- 7. In the present curriculum (2018-19) HS01 Environmental studies is introduced in third and fourth semester of BE for all branches.
- 8. Prof. S. Bhavanishankar suggested incorporating construction chemicals and new materials of construction in the subject 18CV31. Though it is relevant considering the advancement in the technology, but some of the members after going through the syllabus content opined that it is voluminous hence it is not included. He also suggested to include self compacting concrete (SCC) in the subject 18CV41 and the board has accepted.
- 9. Dr. K V Manjunath suggested shifting unit 1 of 18CV41 to 18CV31 and the board has not accepted.
- 10. Chinnasomaiah, Industrial expert suggested to change the teaching methodology form conventional to computer aided (Auto CAD) for the course Building planning and drawing and the board has accepted and the subject is renamed as computer Aided Building planning and drawing for the same credit for the students admitted to 2018-19.
- 11. Concrete and Highway materials lab is allotted to IV Sem. BE civil curriculum as per the suggestion of BOS members.

11.21

- 12. The extensive survey was converted as Advanced survey practice as a non credited course in the VI Sem. BE.
- 13. The course Hydraulic structures and Irrigation drawing is made it as departmental elective due to shortage of credits. However, Dr. Ravikumar suggested to include Reservoir planning in the core course Hydrology and Irrigation and the board has accepted.
- 14. The Electives in the various groups are discussed and one of the BOS member Sri Rajagopal R S suggested to keep Advanced Pre-stressed concrete Structure in group 5 and the board has accepted.
- 15. Prof. S. Bhavanishankar suggested incorporating, the assessment of residual strength of distressed structural elements in the main project of BE and M Tech and the board has accepted.
- 16. The board members suggested to give seminar / mini project topics from the important units of electives and the board has accepted.
- 17. Description of Mano rail in the course Railway, Airport and Harbour engineering has been accepted by the board as per the suggestion made by Mr. R. S Rajagopal Scientist E, NAL.
- 18. The BOS members are suggested to procure equipments for the structural engineering lab,(M Tech) to measure natural period, frequency and mode shapes and the board has accepted. The BOS members expressed their happiness for having Research Methodology and Thesis writing in II Sem. M Tech (CSE).
- 19. The BOS members expressed their views to modify the syllabus content of newly introduced subject Design of composite Structural Elements as an elective in IV Sem. M Tech. and Dr. Renukadevi suggested to keep Advanced Structural Analysis instead of the above subject.
- 20. The BOS members suggested to send M Tech students to CPRI Bengaluru or SERC Chennai to do their M Tech projects on transmission towers and advanced research and the board has accepted. Also The BOS members suggested to procure latest Licensed version soft ware's such as STAAD Pro, NASTRON (Analysis software) etc for academic purpose.

With the long discussion, all the members are agreed to make changes and modification in the syllabus for the academic year 2018-19. With this, meeting was concluded with vote of thanks to the chair.

(Dr. B. Shivakumara swamy)

Chairman, BOS,

Prof.& Head, Dept. of Civil Engineering

Dr. AIT, Bangalore- 56.

- 1. All the Members of BOS for information
- 2. Principal, Dr. AIT, Bangalore
- 3. Dean Academic, Dr. AIT, Bangalore
- 4. Office copy.

### Dr. Ambedkar Institute of Technology Department of Civil Engineering

### Minutes of the 8th BOS meeting held on 25.05.2019

The meeting commenced at 9.30AM on 25-05-2019 in the Seminar hall of the Silver jubilee building, Dr. AIT under the chairmanship of Dr. B. Shivakumaraswamy, HOD Civil Engineering Department. The Chairman welcomed all the members of BOS to the meeting and presented the scheme and syllabus of BE (Civil) and M Tech (CSE) for the approval. The following dignitaries of BOS attended the meeting

- 1. Dr. B. Shivakumaraswamy, Professor & Head, Dr. AIT. Bengaluru
- 2. Dr. Chandrakishan, Professor, IISc, Bengaluru
- 3. Dr. Krishnaiah, VTU Nominee, Professor of Civil Engg. CED, MCE, Hassan
- 4. Dr. Renukadevi, Professor of Civil Engg. CED, RVCE, Bengaluru
- 5. Dr. Ramaraj, Professor and head of Civil Engineering, CED, DSCE, Bengaluru
- 6. Dr. M N Hegde, Professor, CED, Dr. AIT. Bengaluru
- 7. Dr. S. Vijaya, Professor, CED, Dr. AIT. Bengaluru
- 8. Dr. S.D. Venkataraj mohan, Professor, CED, Dr. AIT. Bengaluru
- 9. Dr. S.G. Ramachandraiah, Associate Professor, CED, Dr. AIT. Bengaluru
- 10. Dr. M. R. Suresh, Associate Professor, CED, Dr. AIT. Bengaluru
- 11. Mr. T. Chandrashekariah, Associate Professor, CED, Dr. AIT. Bengaluru
- 12. Dr. K.V. Manjunatha, Associate Professor, CED, Dr. AIT. Bengaluru
- 13. Dr. Chandrrashekar, Associate Professor, CED, Dr. AIT. Bengaluru
- 14. Dr. Raghunathan, Scientist E, SERC, Tower Testing research Centre
- 15. Sri. Chinnasomaiah, Chief Engineer (Civil), KPC, Bengaluru
- 16. Mrs. Nagashree MTech, (PhD), Asst. Prof. MSRIT, Bengaluru

### Agenda

- Review and approval of the proposed Scheme of Study and Syllabus from I Semester to VIII Semester BE Civil Engineering courses to be introduced for the Academic year 2019–20
- Review and approval of the proposed Scheme of Study and Syllabus from I Semester to IV Semester M Tech Structural Engineering courses to be introduced for the Academic year 2019-20.
- Review of curriculum as per the guide lines of AICTE/VTU.
- The BOS Chairman presented the proposed Curriculum design, the Scheme and Syllabus of BE Civil Engineering courses and also M Tech (Structural Engineering) to be introduced for the academic year 2019-20 through power point. The hard copies of the proposed Scheme and Syllabus from I Semester to VIII semester BE Civil Engineering courses and M Tech also distributed to all the members of BOS for a detailed review as per AICTE / VTU guide lines and sought their opinion with regard to any addition / correction / deletion / modification in the proposed syllabus and

- accordingly all the members of BOS after a thorough review and discussion made the following suggestions / corrections / modification as detailed below:
- 1. The chairman draw the attention of BOS members regarding the reduction of credits and number of subjects as per the AICTE/VTU guide lines and emphasized on change of credits for few subjects in the benefit of students to introduce new syllabus.
- 2. The Curriculum design for BE Civil engineering courses (III Sem. to VIII Sem. BE) from 150 to 135 credits and M Tech (CSE) from 100 to 88 from the academic year 2019–20 onwards was presented by the chairman and sought their approval.
- 3. The syllabus content of few courses are merged and made it as a single course / subject as presented in the scheme of study.
- 4. The subject title of some of the courses from existing scheme was re-named and they are presented in the scheme of study.
- 5. The scheme and syllabus for first/second semester common to students of all branches, 18CV14/24 Civil engineering and mechanics for three credits was discussed and got approval.
- Dr. Chandrakishen, Profesor IISc, Bengaluru has suggested to incorporate video clips during lecture hour in the class related to force system, cetroid, MI and friction in engineering mechanics course.
- 7. Chinnasomaiah, Industrial expert suggested to incorporate leadership in energy efficient design of components in Building material and construction course.
- 8. Mrs. Nagashree Alumni of Dr. AIT suggested including contents on re-use of building materials in CV31 course.
- 9. Dr. Chandrakishen, Profesor IISc, suggested reducing the syllabus in CV32 (SOM) by removing Merchant-Rankine's formula and Mohr's circle of strain.
- 10. Dr. Ramaraju & Dr. Chandrakishen, Profesor IISc suggested to remove chain / tape surveying, Compass surveying in Survey theory and to include the same in Surveying practice has self study component/demonstration. Also they have suggested to have one unit specially on Total Station.
- 11. The Internal and External members are agreed to combine Geology theory and Lab in order to reduce the number of credits as per the guide lines.
- 12. Dr. Chandrasekar sought to removal of EIA in HS01 subject and the members accepted the same.
- 13. Dr. Ramaraju suggested to include topic on method of determining the ground water quantity in the course water supply engineering

- 14. Dr. Renukadevi and Dr. K V Manjunath suggested to modify the contents of Unit 4 &5 of the subject Hydrology and Irrigation and the Board has accepted the same.
- 15. Dr. Chandrakishen and Dr. Raghunathan suggested including the knowledge curve in determining the strength parameters in Concrete technology.
- 16. Chinnasomaiah, Dr. Ramaraju suggested to introduce the Advanced Sequential Batch Reactor (ASBR) technology in Wastewater Treatment and Disposal subject.
- 17. Dr. Chandrakishen, Dr. Raghunathan, Nagashree and Dr. Renukadevi suggested to include plastic analysis instead of Kani's method in the subject Structural Analysis.
- 18. Dr. Chandrakishen & Chinnasomaiah, has suggested to include Metro rail system in one of the unit in the subject Transportation Engg II.
- 19. Dr. Ramaraju has suggested to include Radioactive solid waste in SWM & A case study on land fill liners in ISWM subject.
- 20. Dr. S D Venkataraj mohan & Dr. Raghunathan, suggested to include guide lines of Real Estate Regulation Act (RERA) in Estimating and costing subject
- 21. Dr. Ramaraju has suggested including experiments using high volume sampler in environmental Engineering Lab.
- 22. Chinnasomaiah, Dr. Ramaraju & Dr. S D Venkataraj mohan have suggested to include zero level discharge industrial wastewater in Unit IV of IWWT.
- Dr. Ramaraju & Dr. S D Venkataraj mohan suggested to include ecology contents in CVE03 subject.
- 24. Dr. Raghunathan, suggested to include skill based design and fabrication in the design of Steel Structure.
- 25. Dr. Krishnaiah suggested to register Mooc / swayam online courses for final year students and staffs of the department.
- 26. Dr. Raghunathan has suggested to change the title of the course Structural engg Lab II as Computational Mechanics Lab and the Board has accepted.
- 27. One of the BOS members suggested to keep only Stiffness matrix method in Computational Structural Mechanics and the board has not accepted.
- 28. Dr. Chandrakishen, Dr. Raghunathan, has suggested to include design of Strut and Tie members in Advanced design of Steel Structure.
- 29. Dr. Renukadevi has suggested to change the title of unit V as continuous system in 18CSE13 Mechanics of deformable bodies.
- 30. Dr. Raghunathan and Chinnasomaiah, has suggested to include Geopolymer concrete in unit I of Special concrete.

- 31. Nagashree has suggested to incorporate micro structure of concrete using SEM and the board has accepted.
- 32. Dr. Chandrakishen, Dr. Raghunathan and Nagashree have suggested Design of Precast and composite Structure as one of the elective in any one of the Semester.
- 33. Dr. Raghunathan has suggested to include prefabrication of Buildings in the elective.
- 34. Dr. Raghunathan and Chinnasomaiah, has suggested to include Reliability and Risk Analysis in the course Reliability analysis of Structures.
- 35. Dr. Chandrakishen, has suggested to include concept of Pre-engineered structural components in the subject Advanced design of structures.
- 36. Dr. Chandrakishen, has suggested inclusion of non-linear analysis of structures in the course Finite element Analysis.
- 37. Dr. Raghunathan has suggested inclusion of topic Transmission Towers in Design of Tall Structures.
- 38. Dr. M N Hegde suggested to include MAT Lab, Eigen Value in the Structural Engg Lab -II.
- 39. Dr. Chandrakishen, has suggested inclusion transver girders in III unit of Design of Tall Structures.
- 40. Dr. Raghunathan and Nagashree have suggested to introduce Chapters on Patents and Intelectual Property rights in Research methodology course.

With the long discussion, all the members are agreed to make changes and modification in the syllabus for the academic year 2019-20. With this, meeting was concluded with vote of thanks to the chair.

(Dr. B. Shivakumara swamy)

Chairman, BOS,

Prof.& Head, Dept. of Civil Engineering

Dr. AIT, Bangalore- 56.

- 1. All the Members of BOS for information
- 2. Principal, Dr. AIT, Bangalore
- Dean Academic, Dr. AIT, Bangalore 3.
- 4. Office copy.

### Dr. Ambedkar Institute of Technology, Bangalore-56.

### **DEPARTMENT OF CIVIL ENGINEERING**

No. CV/200/BOS/2020-21

Dated: August 14, 2020

### FINAL BOARD of STUDIES (BOS) MEETING NOTIFICATION for UG and PG PROGRAMME

<u>Subject:</u> - Revision in the Existing Syllabus of I, II (common subject for both semester) and IV Semester and Syllabus Proposal for the V and VI Semester and also proposal for PG I & II semester (Structural Engineering) Reg.,

The <u>internal</u> Board of Studies (BOS) meetings held on <u>Jul 09, 2020</u> considered the recommendations of the Department Academic Program Committee (DAPC) for the changes in the existing syllabus of I, II, III and IV Semester and proposal for the V and VI semester syllabus of the upcoming Odd Semester 2020-21.

The internal BOS committee decided as under for UG Program:

Sl. No.	Semester	Unit	Existing Portion of the Syllabus	Modified Portion of the Syllabus	Remarks
1		Ι	Force systems in 3-D analysis	Excluded in the upcoming syllabus	
2		III	Screw Jacks and different Screw Jacks analysis in Friction	Excluded in the upcoming syllabus	It is a commor
3	I & II (18CV14 / 24)	IV	Mass Moment of Inertia of Circular, Plates, Cylinders, Cone, Sphere and Hook	Excluded in the upcoming syllabus	subject for all branches and it is find to be difficult to complete the syllabus in
4		V	Curvilinear Motion, Super Elevation, D'Alembert's Principle and its application in plane motion and connected bodies	Excluded in the upcoming syllabus	stipulated time.
5	IV (18CVL46)	II	Introduced drawing, editing, modifying and other advanced AutoCAD tools.	Which was not include in the earlier Syllabus	Which is essential to use AutoCAD applications in Civil Engineering works.

he modifications mentioned in the above table is for your kind review and approval.

The Proposed syllabus for V & VI Semester UG for the academic year 2020-21 is attached with this for your kind reference, review and approval.

The proposed syllabus for I & II semester PG Programme for the academic year 2020-21 is attached with this for your kind reference, review and approval.

Ms. Suma B. P bearing USN 1DA16CV123 has taken change of college from Govt., Engineering College, Kushalanagara to Dr. AIT in the year 2017-18. She falls 2 credits shortage to complete required 200 credits. Internal BOS committee proposed a project based course (CVPM78 – Minor project) for 2 credits to fulfill this and she completed the course in the academic year 2019-20.

Ms. Veena T A bearing USN 1DA15CV129 has taken change of college from Govt., Engineering College, Raichur to Dr. AIT in the year 2017-18. She falls 0.5 credits shortage to complete required 200 credits. Internal BOS committee proposed a seminar course (subject code yet to finalize) for 0.5 credits to fulfill this.

In this regard the BOS approval is required for the above students. Hence I request you all to go through the matter and give the approval.

Thanking you

Yours sincerely

Department of civil Engineering

Arnbedkar Institute of Technology

Bangalore - 560 056.

### Dr. Ambedkar Institute of Technology Department of Civil Engineering

17/08/2020

### Minutes of the Board of Studies (BOS) Meeting.

The online Board of Studies (BOS) meeting was held on 17-08-2020 at 11.00AM through Google Meet platform under the chairmanship of Dr. S Vijaya, Professor and Head of the Department, Department of Civil Engineering, Dr.Ambedkar Institute of Technology, Bengaluru - 56. The Chairman welcomed all committee members to the meeting. As per the meeting agenda the Chairman presented the scheme and syllabus of both UG & PG for the academic year 2020-21 for the approval and approval for the students (taken change from other VTU colleges) facing shortage of credits to fulfill the requirement to award the degree as per Autonomous norms.

The following members were present during the online meeting.

- 1. Dr. S. Vijaya, Professor & Head, Dr. AIT, Bengaluru
- 2. Dr. J. M Chandrakishan, Professor, IISc, Bengaluru
- 3. Dr. Renukadevi, Professor and Dean, RVCE, Bengaluru
- 4. Dr. Ramaraj, Professor& Head, DSCE, Bengaluru
- 5. Dr. H C Muddaraju, Asst professor, UVCE, Bengaluru
- 6. Dr. Raghunathan M. D, Scientist-E, SERC, Tower Testing Research Centre, Chennai
- 7. Sri. Chinnasomaiah, Chief Engineer (Civil), KPC, Bengaluru
- 8. Mrs. Nagashree, M.Tech, (Ph.D), Asst Professor, MSRIT, Bengaluru
- 9. Er. Amit Singh, Invitee Member, Professor & Head, IET, Ayodhya.
- 10. Dr. S. G. Ramachandraiah, Professor, CED, Dr. AIT, Bengaluru
- 11. Dr. S. D. Venkataraj Mohan, Professor, CED, Dr. AIT, Bengaluru
- 12. Dr. Chandrrasekar, Associate Professor, CED, Dr. AIT, Bengaluru
- 13. Mr. S. B. Ankesh, Asst., Professor, CED, Dr. AIT, Bengaluru
- 14. Mr. Shreyas K, Asst., Professor, CED, Dr .AIT, Bengaluru
- 15. Mr. M. Naveen Kumar, Asst., Professor, CED, Dr. AIT, Bengaluru
- 16. Mr. M. K. Darshan, Asst., Professor, CED, Dr. AIT, Bengaluru
- 17. Mrs. Kavya H. K, Asst., Professor, CED, Dr. AIT, Bengaluru

The following 2 Members have sent the mail with their feedback and suggestions.

- 1. Dr. Krishnaiah A. J, VTU Nominee, Professor & Head, MCE, Hassan
- 2. Dr. L. R. Manjunatha, Chairman, ICI, Bengaluru Centre.



The meeting started with condolence for the misfortune demise of our beloved Professor Dr. B. Shivakumaraswamy, Professor & Dean, Department of Civil Engineering, Dr. AIT.

The chairman presented Power Point Presentation (PPT) with following contents:

- 1. Scheme and syllabus of UG
- 2. Scheme and syllabus of PG and
- 3. Compensating Credit for students taken transfer from other colleges.

### 1. Scheme and syllabus of UG

The meeting started by revised contents in I and II year UG syllabus for the approval and with a detailed discussion the board given approval for the same.

Further, there was a detailed discussion regarding the proposed scheme and syllabus for III year UG (IV and V semester) for the academic year 2020-21, which has been mailed in advance to all members and a detailed review took place in the meeting as follows:

- Sri. Chinnasomaiah, Chief Engineer (Civil), KPC, Bengaluru suggested to conduct the
  Extensive Survey project (CVP68) for a minimum period of two weeks and it was supported
  by Dr. J M Chandrakishen, Professor, IISc, Bangalore further Chairman conveyed to the
  committee that with in the college policy limitations it may be considered.
- Dr. J M Chandrakishen, Professor, IISc, Bengaluru discussed about the way of learning of the blended learning portions. Chairman elaborated the way of learning of the said portion to the committee and the members accepted it for implementation.
- Dr. Ramaraju, Professor & Head, DSCE, Bengaluru advised to make paper publication should be compulsory for VIII semester BE students. The Chairman conveyed that it is already in the system and it may be made it compulsory for the coming batches.

### 2. Scheme and syllabus of PG

- Dr. Renukadevi, Professor and Dean, RVCE, Bengaluru and Dr. J M Chandrakishan, Professor, IISc questioned the necessity of Project Phase I, in II semester and the Chairman clarified by giving practical necessity in the system for the PG project evaluation.
- Mrs. Nagashree, M.Tech, (Ph.D), Asst Professor, MSRIT, Bengaluru has suggested to make Design of Plates and Shells as a core subject. The Chairman considered the suggestion for implementation in the future.

### 3. Compensating Credit for the students taken transfer from other colleges

 Sri. Chinnasomaiah, Chief Engineer (Civil), KPC, Bengaluru suggested to manage the credits by NTPL or SWAYAM courses and Dr. J M Chandrakishan, Professor, IISc discussed about the limitations and impact of credits allotment in NTPL or SWAYAM courses. The Chairman conveyed to the committee about the limitations in the Autonomous examination system and the committee accepted for the same.

By the end of the meeting the committee <u>approved the I and II year UG syllabus (with minor modification done)</u> and proposed III year syllabus for the implementation in the academic year 2020-21 and also for the method applied for compensating the credits for the students taken transfer from other college.

The Chairman concluded the meeting by extending the vote of thanks to all committee members with due respect.

(Dr. S. Vijaya)

Chairman, BOS,

Prof. and Head, Dept. of Civil Engineering

Dr.AIT, Bangalore-560056

- 1. All the Members of BOS for information
- 2. Principal, Dr. AIT, Bangalore
- 3. Dean Academic, Dr. AIT, Bangalore
- 4. Office copy.



### Dr. Ambedkar Institute of Technology, Bengaluru - 560056 Department of Civil Engineering,

Minutes of **Board of Studies** meeting (online) held on Friday, 26.11.2021 at 11.00 am to discuss the scheme and syllabus of 1<sup>st</sup> year UG courses as per NEP 2020 for the academic year 2021-22.

### **Members Present**

Category	Name of Person
Chairman	Dr. S Vijaya, Professor and HOD, CED, Dr. AIT, Bengaluru.
<b>External Subject Experts</b>	1. Dr. J M Chandrakishen, Professor, IISc, Bengaluru.
	2. Dr. M C Nataraj, Professor and Head, CED, MSRIT, Bengaluru.
	3. Dr. Anjaneyappa, Professor, CED, RVCE, Bengaluru.
	4. Dr. Maheshprabhu, Professor, CED, GEC, Ramanagar.
VTU Nominee	Dr. Balakrishna, VTU Nominee, Professor & Head, CED, BIT, Bengaluru.
Industry Representative	<ol> <li>Sri. Nagesh Puttaswamy, Zonal Head, WT &amp; RMDT, Ultra Tech Cement Ltd. Bengaluru.</li> </ol>
	<ol> <li>Dr. M S Sudarshan, Director, Strendant Testing &amp; Proof Checking, Bengaluru.</li> </ol>
	<ol> <li>Sri. H R Girish, CEO &amp; MD, Girish Ventures, Strategic Consultants in Construction &amp; Infrastructure Sector – India and Middle East, Bengaluru.</li> </ol>
Alumni with P G Degree	Mr. Bhyravraj B, M.Tech, SSS Consultant, Nagarabhavi, Bengaluru
Internal Faculty	Dr. C Nanjundaswamy, Professor, CED, Dr.AIT, Bengaluru
Members with various	Dr. S D Venkataraja Mohan, Professor, CED, Dr.AIT, Bengaluru
specialization	Dr. S S Honnanagouder, Profesor, CED, Dr.AIT, Bengaluru
(UG + PG).	Dr. Chandrrasekar, Associate Professor, CED, Dr.AIT, Bengaluru. Dr. M N Hegde, Adjunct Faculty, CED, Dr.AIT, Bengaluru (PG) Mr. S B Ankesh, Asst Professor, CED, Dr.AIT, Bengaluru Mr. M K Darshan, Asst. Professor, CED, Dr.AIT, Bengaluru Mrs. Purnima K Biranagi, Asst Professor, CED, Dr.AIT, Bengaluru Mrs. Supritha R M, Asst. Professor, CED, Dr.AIT, Bengaluru Mr. Shreyas K, Asst Professor, CED, Dr.AIT, Bengaluru Mr. M Naveen Kumar, Asst Professor, CED, Dr.AIT, Bengaluru
Department Academic	Dr. S Vijaya, Professor and Head
Program committee	Dr. C Najundaswamy, Professor
	Dr. S D Venkataraja Mohan, Professor
	Dr. Chandrrasekar, Associate Professor
	Dr. S Honnanagoudar, Professor

Mr. S B Ankesh, Assistant Professor Mr. M K Darshan, Assistant Professor

Mrs. Purnima K Biranagi, Assistant Professor

Mrs. Sowmya M, Assistant Professor

Mrs. Supritha R M, Assistant Professor

Ms. Sphoorthy S M, Assistant Professor

Ms. Mary Bhagya Jyothi J, Assistant Professor

Mr. Shreyas K, Assistant Professor

Mr. Naveen Kumar M, Assistant Professor

Mr. Sharath B, Assistant Professor

Mr. Ashwin C A, Assistant Professor

Dr. Rakesh C, Assistant Professor

Ms. Sneha S D, Assistant Professor

Mrs. Rajeshwari B, Assistant Professor

Mrs. Madhu K S, Assistant Professor

Mr. Tilak T N, Assistant Professor

Mrs. Tejaswini B R, Assistant Professor

Prof. B S Suresh Chandra, Adjunct Faculty

Dr. R Madhusudhan, Adjunct Faculty

Dr. H R Srinivas, Adjunct Faculty

Dr. K V Manjunath, Adjunct Faculty

Dr. M N Hegde, Adjunct Faculty

Prof. G P Manjunath, Adjunct Faculty

The online meeting was held on 26-11-2021 at 11.00AM through Google Meet platform under the chairmanship of Dr. S Vijaya, Professor and HOD, Department of Civil Engineering, Dr.AIT, Bengaluru - 56.

The Chairman welcomed all the members of BoS and faculty of the department to the meeting and presented the scheme and syllabus of 1<sup>st</sup> year UG courses as per NEP 2020 for the academic year 2021-22 for approval.

The meeting proceeded with PPT presentation and members have offered suggestions as under.

- Dr. M C Nataraj, suggested that assignment has to be given more importance in evaluation procedure and it should be out of text books. And this suggestion has been endorsed by Dr. Chandrakishen. Other members suggested to reduce the content of dynamics and asked to justify the title of the Civil Engineering and mechanics subject.
- **Dr. M C Nataraj**, also suggested to check how many CO's can be given. If number of CO's is equal for all the subjects then it would be easy to map. And verify the words of CO's.
- Dr. M C Nataraj, suggested to justify the role of the teacher in Unit 5 (Blended learning). He mentioned that tutorials and lecture hours should be clearly mentioned and to relook into it.
- **Dr. Chandrakishen** suggested that, in Unit 4 teaching hours is only of 10hrs but this unit has to be given more importance, hence it is better to reduce the number of teaching hours in Unit 1 and 2 and can increase the number of teaching hours for unit 4.



- Dr. Anjaneyappa, suggested to replace the word 'determine' in CO's and asked to modify CO2.
- **Dr. Sudarshan**, suggested that more importance should be given to Elements of Civil Engineering part than mechanics part.
- **Dr. Nataraj**, mentioned that first unit is of basic civil engineering but remaining is all about mechanics. So it has to be verified.
- Mr. Girish H R, suggested to give more importance on practical applications of Rural Development course (1st year Ability Enhancement Course). He also suggested that there should be 50 marks guaranteed questions in Rural Development, so that students will learn inevitably. Also suggested to include hygienic and sustainability part.
- **Dr Anjeneyappa**, suggested if possible adding solar panels in energy contents. Remove the word 'technique' and 'modern', in unit 4. Content has to be reduced as the course is for 1 credit. Site visit can be carried out instead of videos and ppts.
- **Dr. Balakrishna**, also suggested to look into the content of Rural Development course, as it seems to be more for one credit.

The HOD has informed the members that, their suggestions will be considered wherever possible and thanked all the external and internal BoS members for their kind suggestions and discussion and the meeting was concluded.

(Dr. S. Vijaya) Chairman, BOS,

Prof. and Head, Dept. of Civil Engineering Dr.AIT, Bangalore-560056

- 1. All the Members of BOS for information
- 2. Principal, Dr. AIT, Bangalore
- 3. Dean Academic, Dr. AIT, Bangalore
- 4. Office copy.



B.E (Civil Engineering)
Batch 2017 - 2018

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

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2	PH12	Engineering Physics	BS	4	1	1	03	50	50	100	
3	CV13	Elements of Civil Engineering & Engineering Mechanics	СУ	4	1	ı	03	50	50	100	-
4	MEL14	Computer Aided Engineering Drawing	CV	-	1	3	03	50	50	100	-
S	EE15	Basic Electrical Engineering	CV	4	1	1	03	50	50	100	
6	MEL16	Workshop Practice Lab	CV.	-	1	3	03	50	50	100	
7	PHL17	Engineering Physics Lab	CV	-	1	3	03	50	50	100	
8	HS02	Constitution of India & Professional Ethics	CV	2	1	1	03	50	50	100	
9	KA19	Kannada	CV	2	1	1	03	50	50	100	
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Batch 2017 - 2018

B.E (Civil Engineering)
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)

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2	CH22	Engineering Chemistry	BS	4	-	1	03	50	50	100
ω	CS23	Computer Concepts & C Programming	CV	4	1	1	03	50	50	100
4	ME24	Elements of Mechanical Engineering	CV	4		-	03	50	50	100
S	EC25	Basic Electronics	CV	4	1	1	03	50	50	100
6	CSL26	Computer Concepts & C Programming Lab	CV	w	1	03	03	50	50	100
7	CHL27	Engineering Chemistry Lab	CV	3	1	03	03	50	50	100
8	HS01	Environmental Studies	CV	2	1	1	03	50	50	100
9	EN29	English	CV	2	1	1	03	50	50	100
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Department of civil Engineering.

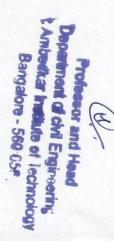
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B.E (Civil Engineering)

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

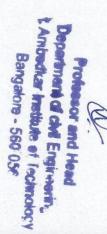
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Batch 2017 - 2018

B.E (Civil Engineering)
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)

IV SEMESTER



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Batch 2017 - 2018

B.E (Civil Engineering)

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

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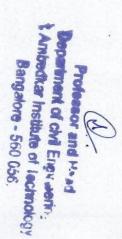


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Batch 2017 - 2018

B.E (Civil Engineering)
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)

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# Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION

Batch 2017 - 2018

B.E (Civil Engineering)

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

VI SEMESTER

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	Theory of Elasticity	CV665 .	Ground Water Hydrology



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	CVKKA	0.000	CV663	CV662
Advanced Surveying	A.1.	Ground improvement Techniques	G	Alternate Building materials & Technologies
CV668		CV667		CV666
Repair & Rehabilitation of Structures		Traffic Engineering		Solid Waste Management

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## Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION Ratch 2017 2016

Batch 2017 - 2018 B.E (Civil Engineering)

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

VII SEMESTER

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	CV747	CV746	CV745	CV744	CV743	CV742	CV741	Subject Code	1	
	Rural Water Supply and Sanitation Engineering	Open Channel Hydraulics	Highway Geometric Design	Earth and Earth Retaining Structures	Design of Masonry Structures	Advanced Design of RC Structures	Matrix Method of Structural Analysis	Title of the Subject	Professional Elective - II	Professional Elective
CV758	CV757	CV756	CV755	CV754	CV753	CV752	CV751	Subject Code	Pr	d Elective
Construction Project Management	Structural Dynamics	Design and Drawing of Bridges.	Air Pollution and Control	Photogrammetry and Remote Sensing	Pavement Materials and Construction	Rock Mechanics	Numerical methods in Civil Engineering	Title of the Subject	Professional Elective - III	
						CVE02	CVE01	Subject Code	П	
						Air Pollution and Control methods	Integrated Solid Waste Management	Title of the Subject	Interdepartmental Elective - I	Interdepartmental Elective

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# Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION

Batch 2017 - 2018

B.E (Civil Engineering)

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

VIII SEMESTER

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Department of civil Engineering
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	CVS85	CVP84	CVEXX	CV83X	CV82X	CV81	HS04		Course and Course code	
	Seminar	Project work Phase - II	Interdepartmental Elective - II	Professional Elective - V	Professional Elective - IV	Design and Computer Aided Drawing of Steel Structures	Intellectual Property Rights		Course Title	
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CV827	CV826	CV825	CV824	CV823	CV822	CV821	Subject Code
Remote Sensing and Geographic Information System	Quality Management System in Civil Engineering	Industrial WasteWater Treatment	Earthquake Resistant Design of Structures	Pavement Design	Advanced Foundation Design	Advanced Pre-stressed Concrete Structures	Title of the Subject
CV837	CV836	CV835	CV834	CV833	CV832	CV831	Subject Code
Infrastructure Development	Environmental Impact Assessment	Water Resources Engineering	Advanced Design of Steel Structures	Urban Transport Planning	Reinforced Earth Structures	Finite Element Analysis	Title of the Subject
					CVE04	CVE03	Subject Code
					Remote Sensing and Geographic Information System	Ecology and Environmental Impact Assessment	Title of the Subject



Course Code  Course Code  BC 18MA11 Calculus and Linear Algebra  BC 18PH12 Engineering Physics  ES 18EE13 Engineering Physics Engineering Graphics and Design  ES 18MEL15 Engineering Physics Laboratory  ES 18EEL17 Engineering Laboratory  English/ Kannada		350	350	21	80	90	-13	TOTAL		0	18HS12		
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Course and Course Title  Course Code  Course Title  Calculus and Linear  Mathematics  Calculus and Linear  Mathematics  Cience  Course Code  Course Code  Course Title  Course Code  Course Title  Course Title  Course Title  Course Code  Course Code  Course Code  Course Title  Calculus and Linear  Mathematics  Course Title  Course Code  Course Title  Course Code  Course Title  Course Code  Course Title  Course Title  Course Code  Course Title  Course Code  Course Title  Course Code  Course Title  Course Code  Course Title  Course Title  Course Code  Course Title  Course Title  Course Title  Course Code  Course Title  Course Titl	0	U	50	03	1	2	2	Civil Engineering	Civil Engineering	Civil Engineering and Mechanics	18CV14	ES	4
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TOTAL	English /Kannada	Computer Programming Laboratory	Engineering Chemistry Laboratory	Elements of Mechanical Engineering	Basic Electronics	C Programming for Problem Solving	Engineering Chemistry	Advanced Calculus and Numerical Methods		Course Title			Scheme of Outcome Ba
	Humanities	Computer Science and Engineering	Chemistry	ME, Auto, IP, IEM, Mfg Engineering	ECE/E and I/ TC	Computer Science and Engineering	Chemistry	Mathematics		Teachin Departm	ng ient	II SEMESTER B.E (CHEMISTRY GROUP)	Scheme of Teaching and Examination from the Academic Year 2018-19 Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
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		Soft skills (MC)	Environmental Science	Constitution of India Professional Ethics and Human Rights/	Surveying Practice	Laboratory	Civil Engg. Material Testing	Applied Engineering Geology	Fluid Mechanics	Surveying	Strength of Materials	Building Materials and Construction	functions	Transform calculus and Special		Course Title		SCHEME OF TEACHING AND EXAMINATION from Academic Year 2018-19  B.E (Civil Engineering)  Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
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Note: BC: Science Course, PC: Professional Core. Hu: Humanities, MC: Mandatory Course.

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\* Ambedkar Institute of Technology: Bangatore - 560 056. Department of civil Engineering

SCHEME OF TEACHING AND EXAMINATION from Academic Year 2018-19 Dr. Ambedkar Institute of Technology, Bengaluru-560 056

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) B.E (Civil Engineering)

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								(4	Concrete & Highway materials Lab	18CVL47	PC	8
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1	100	50	60	3				CV	Concrete Technology	18CV45	PC	6
4	100	50	50	03		1	4	CV	Hydrology and Irrigation Engineering	18CV44	PC	5
	100	50	50	03	-		در	CV	Hydraulics and Hydraulic Machines	18CV43	PC	4
4	100	50	50	03	-	1	4	CV	Analysis of Determinate Suuciuics	18CV42	PC	3
1	100	50	50	03	1	1	4	CV	Water Supply Engineering	18CV41	PC	2
٠ ر	100	50	50	03	1	1	w	CV .	W. C. G. Charles Engineering		0	1
3	100	00	50	03	1	2	2	Mathematics	Numerical methods and Probability	18MA41	BC	
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Credi	oral	i E ariks	arks	on	ical/	ori I	ory (ur	hing	Course Title	Course and	် (၁	2
ts		Examination	Exam		dire	Week	Teac					
					HIES	Teaching Hours	Toan			2	ESTE	IV SEMESTER

Note: BC: Science Course, PC: Professional Core. Hu: Humanities, NCMC: Non-Credit Mandatory Course. 18MAD41 Basic Engg Mathematics - II

Mathematics

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ENV: Environmental Studies, CIP: Constitution of India Professional Ethics and Human Rights

\$ Ambeditar Institute of inchincing Department of civil Engineering Bangalore - 560 056. Professor and Hand

SCHEME OF TEACHING AND EXAMINATION from Academic Year 2018-19 Dr. Ambedkar Institute of Technology, Bengaluru-560 056

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Department of dvil Engineering

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) B.E (Civil Engineering)

1 V SEMESTER 10 9 00 6 1 S 4 w N SH PC OE PC PC PE PC PC SH Course and 18HS55 18CVL58 18CVL57 18CV55X 18CV54 18CV53 18CV52 18CV51 18CV56X 18HS51/52 M&E / IPR (title as per BOS decision) Placement Training Hydraulics and Hydraulic Machinery Open Elective - A Professional Elective - 1 Computer Aided Design Laboratory Laboratory Geotechnical Engineering Analysis of Indeterminate Structures Design of RCC Structural Elements Wastewater Treatment and Disposal 7 TOTAL 1. hing CV CV CV CV CV CV CV CV Hu Hu iment D. Electives 1 гу Teaching Hours /Week 25 1 w -17 May 1 2 w N 4 4 w II. ri 1 -1 1 1 1 1 1 2 1 tic 1 1 1 1 4 12 ! 1 1 7 1 2 vi Dui ion 8 8 8 8 03 03 03 03 03 30 03 in : irs ( 500 50 50 50 50 50 50 50 Examination 50 50 50 N .. S S. 50 50 50 50 50 50 450 50 50 50 ! T 100 950 100 100 100 100 100 100 100 100 50 Maries PP/NP 25 Codits w w 4 4 w w w

Transportation Engineering Professional Electives - 1 Selection of an open elective is not allowed provided: open electives) offered by any Department. Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT for

Course code

18CV562 18CV561

Air Pollution and Control

Integrated Solid Waste Management

18CV555 18CV554 18CV553 18CV552 18CV551

Ground Water Hydrology Advanced Surveying

OPEN ELECTIVE - A

Ground Improvement Techniques

Theory of Elasticity

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 Departmental core courses or professional electives.

Registration to electives shall be documented under the guidance of Programme Coordinator/ A similar course, under any category, is prescribed in the higher semesters of the programme. Mentor

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## Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2018-19 B.E (Civil Engineering)

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

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Department of civil Engineering

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SI. Course and  Course Title  1 HS 18HS61/62 M&E/IPR 2 PC 18CV61 Design of Steel Structures 3 PC 18CV62 Railways, Airport, Tunnel and Harbour 4 PC 18CV63 Foundation Engineering 5 PE 18CV64X Professional Elective - 2 6 OE 18CV65X Open Elective - B 7 PC 18CVL66 Computer Aided Drawing of RC and Steel 8 PC 18CVL67 Géotechnical Engineering Laboratory 9 M 18CVM68 Mini-Project 10 PC 18CVL69 Extensive Survey Project 11 HS 18HS66 Placement Training  TOTAL 20  Note: PC: Professional Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Proper	N   Course and   Course Title   Teaching Hour   N   Course and   Course Title   Course and   Course Title   Course and   Course Title   Course and	Course and   Course and   Course Title   Course and   Course Title   Course and   Course Title   Course and   Course Title   Course Title   Course Title   Course Title   Course and   Co	Course and   Course Title   Feaching Hours   We			T	T		T	T	T		-	-	-	-	_	-	_	_	-,				
Course and  Course and  Course Title  HS 18HS61/62 M&E/IPR  PC 18CV61 Design of Steel Structures  PC 18CV62 Railways, Airport, Tunnel and Harbour  PC 18CV63 Foundation Engineering  PC 18CV64X Professional Elective - 2  OE 18CV165X Open Elective - B  PC 18CV166 Structures  PC 18CV167 Geotechnical Engineering Laboratory  M 18CVM68 Mini-Project  PC 18CV169 Extensive Survey Project  HS 18HS66 Placement Training  PC: Professional Core, PE: Professional Elective, OE: Open Elective, MP: Wini-Pro	Course and         Course Title         Teaching Hour is and in the point in the	Course and   Course Title   Course Title   Course and   Course Title   Course and   Course Title   Course Title   Course and   Course Title   Course and   Cou	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Note	1	-	+	10	9	000		7	0	10	V	4	w		1)	-	1			7	2
NæE/IPR  18HS61/62 MæE/IPR  Railways, Airport, Tunnel and Harbour  18CV63 Foundation Engineering  18CV64X Professional Elective - 2  18CV165X Open Elective - B  18CVL66 Structures  18CVL67 Géotechnical Engineering Laboratory  18CVL68 Mini-Project  18CVL69 Extensive Survey Project  18HS66 Placement Training  Computer Aided Drawing of RC and Steel  CV  3  CV  3  CV  3  CV  3  CV  3  CV  3  TOTAL  20  Professional Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Pro	Teaching Hour Professional Elective, OE: Open Elective, MP: Mini-Profest INT	Teaching Hours / Week    State   Fofessional Elective. OE: Open Elective. MP: Mini. Project 1NT: Internal in the paper of	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PC:		110	SH	PC	Z	PC		PC	OE	ם ל	DE	PC	PC		PC	SH				0	
M&E/IPR  Design of Steel Structures  Railways, Airport, Tunnel and Harbour  Engineering  Foundation Engineering  Professional Elective - 2  Open Elective - B  COV  3  COV  4  COV  3  COV  4  COV  4  COV  4  COV  5  COV  6  COV  6  COV  7  COV  7	Teaching Hour Survey Project  Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project  Core, PE: Professional Elective, OE: Open Elective, Mp: Mini-Project Tive  Time of the left ive in the control of th	Teaching Hours / Week   In the point   Iteaching	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Note: PC: Professional Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project, INT: Internship		OCCUTOR	184566	18CVL69	18CVM68	18CVL67	100	18CVI.66	XC0ADX	10CVO4A	1000000	18CV63	18CV62		18CV61	18HS61/62				ourse and	
Hu Sing Hing CV CV CV S CV S S S S S S S S S S S S S	Hu   S   CV   CV	I	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Core, PE: Professional Elective, OE: Onen Flect		1 Jaconichi Italining	Discerent Training Andrew	Extensive Survey Project	Mini-Project	Geotechnical Engineering Laboratory	structures	Computer Aided Drawing of RC and Steel	Open Elective – B	Professional Elective - 2	- community trighteeting	Foundation Engineering	Engineering	Pailway Aim I 111	Design of Steel Structures					Contro Title	
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	ori lori	iori Hours/Week  T P  T wi  T P  T NT: Informati	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Mini-Pro	20	2				1	1		w	w	2		w	u		در		+	, )	cory	T
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and VIII semesters admined to M year of BE have to undergo mandatory internship of 4 weeks during the vacations of VI and VII semesters and /or VII

A University examination will be conducted during VIII semester and prescribed credit are added to VIII semester.

Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as failed and have to complete during subsequent University examination after satisfy the internship requirements.

	CALLO CALLO	18CV642 Alterr	18CV642 Alternate Building Mat
STORE COLLORS	Secret Contractors	ate Building Materials and Technologies	18CV642 Alternate Building Materials and Technologies
Students can select any one of the open electives (Plans refer to complicated 1:4 f.m.	Students can select any one of the open electives (Please refer to consolidated list of Dr A	Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT	Students can select any one of the open electives (Please refer to consolidated list of Dr. A for open electives) offered by any Department.

Mentor.	
programme.  Registration to electives shall be documented under the guidance of Programme Coordinator/	18CV652   Photogrammetry and Remote Sensing
• A similar course, under any category, is prescribed in the higher semesters of the	18CV651 Integrated Solid Waste Management
professional electives.	Open Elective - B
• The syllabus content of open elective is similar to that of Departmental core courses or	18CV645   Earth and Earth Retaining Structures
<ul> <li>The candidate has studied the same course during the previous semesters of the programme.</li> </ul>	18CV644 Open Channel Hydraulics

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Bangalore - 560 GGs

SCHEME OF TEACHING AND EXAMINATION from Academic Year 2018-19 Dr. Ambedkar Institute of Technology, Bengaluru-560 056

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B.E (Civil Engineering)

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

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	9	8	8	7	6	5	4	w	2	-		SI.		II S
	TNI	Project	PC	PC	OE	PE	PE	PC	PC	MC		Cou		VII SEMESTER
	18CVI79	18CVP78	18CVL77	18CVL76	18CV75X	18CV74X	18CV73X	18CV72	18CV71	18HS71/72		Course and Course code		EK
TOTAL	Internship	Project Work Phase - I	Advanced Civil Engg. Laboratory	Environmental Engg. Laboratory.	Open Elective - C	Professional Elective - 4	Professional Elective - 3	Estimation and Valuation	Design of RC & Steel Structures .	CMEP / OSHA		Course Title		
	(If not	CV	CV	CV	CV	CV	CV	CV	CV	IM/CV	I	Teaching Departmen	t	
19	completed during the	-	-	1	3	3	သ	4	4	2	Ţ	Theory Lecture	Teach	
	d after VI interveni	1		-	1	1	1	-	1	1	T	Tutorial	Teaching Hours	
6	(If not completed after VI semester examinations, it has to be carried out during the intervening vacations of VII and VIII semesters)	2	2	2	1	1		1	1	1	P	Practica 1/ Drawin	s/Week	
27	amination of VII a	03	03	03	03	03	03	03	03	03		Duration in hours		
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900	ed out	001	100	100	100	100	100	100	100	100	100	Total Marks		
2.3	3 1	7	) <b>-</b>	1 -	. w	· Cu		2 4	1	1 4	٥	Credits		

CMEP: Cost Management of Engineering Projects, OSHA: Occupational Safety and Health Administration PC: Professional Core, PE: Professional Elective, OE: Open Elective, INT: Internship, MC: Mandatory Course

## Internship:

All the students admitted to III year of BE have to undergo mandatory internship of 4 weeks during the vacations of VI and VII semesters and /or VII and VIII semesters.

A SEE examination will be conducted during VIII semester and prescribed credits shall be added to VIII semester.

failed and have to complete during subsequent SEE examination after satisfy the internship requirements. Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as

		Electives		
Course code	. Professional Electives - 3		Open Elective - B	
18CV731	18CV731 Pavement Materials and Construction			

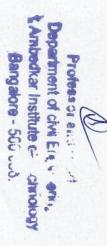
	✓ A similar course, under any category, is prescribed in the nights semicourse of Programme Coordinator/ ✓ Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor.	Reinforced Earth Structures	18CV737
	✓ The syllabus content of open elective is similar to that of Departmental core courses or	Structural Dynamics	18CV735
Structural Dynamics   The syllabus content of open	The candidate has studied the same course during the previous semesters of the pr	Design of Bridges	18CV734
Design of Bridges  The candidate has studied the si  Structural Dynamics  The syllabus content of open	open electives) offered by any Department.  Schooling of a green elective is not allowed provided	Environmental Impact Assessment	18CV733
Environmental Impact Assessment  Design of Bridges  Structural Dynamics  Open electives) offered by any Dep Selection of an open elective is not The candidate has studied the standard open.	Students can select any one of the open electives (Please refer to consolidated list of Dr. All for	Photogrammetry and Remote Sensing	18CV732

## Electives: 4

Hydraulic Structures & Irrigation drawing	18CV747
Quality Management System in Civil Engineering	18CV746
Solid Waste Management	18CV745
Earthquake Resistant Design of Structures	18CV744
Pavement Design	18CV743
Advanced Foundation Design	18CV742
Water Resources Engineering	18CV741
Professional Elective	Course code

## Electives: B

DIECHYES . D	
Course code	Course code Open Elective - C
18CV751	Ecology and Environmental Impact
18CV752	Urban Transport Planning
18CV753	Photo Geology and Remote Sensing



# Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2018-19 B.E (Civil Engineering)

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			INT		Seminar	Project	MC		Cou Cou		VIII SEMESTER	
	T		18CV183		18CVS82	18CVP81	18HS81/82		Course and Course code		2	
IOIAL	OTAL		Internship		Technical Seminar	Project Work Phase - II	CMEP / OSHA		Course Title			Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
		V	vacations of VI and VII semesters and /or	(Comp	CV	CV	IM /CV		Teaching Departmen	t		ation (OBE)
40	0.7	VII and VIII semesters.	of VI and V	leted during			2	T	Theory Lecture	Teach		and Choic
-		semesters.	'II semeste	g the interv	1	-		T	Tutorial	Teaching Hours /Week		e Based
1	A		rs and /or	ening	2	2	1	P	Practical / Drawing	/Week		Credit Syst
14	13		03		03	03	03	D	uration in hours			em (CBC
200	200		50		50	50	50		CIE Marks	Examination		S)
200	200		50		50	50	50	S	EE Marks	ation		
100	400		100		100	100	100		Total Marks			
	7.		2		1	10	2		Credits			

## Note:

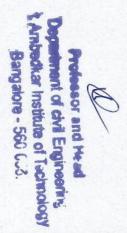
CMEP: Cost Management of Engineering Projects, OSHA: Occupational Safety and Health Administration PC: Professional Core, PE: Professional Elective, OE: Open Elective, INT: Internship, MC: Mandatory Course

## Internship:

the internship requirements. Those, who have not pursued /completed the internship will be declared as failed and have to complete during subsequent SEE examination after they satisfy

Total 175 Credit Distributions for all semester B.E. (Civil Engineering) Programme.

Credits 20 20	Semester I II
24	III
24	IV
25	٧
24	IA
23	VII
15	VIII
175	Total Credits



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18HS12	18HS11/		18EEL17	18PHL16		18MEL15	18C V 14	1000111	18EE13	7011112	18PH12	LIMM81	101/1/11			Course and				
(	English/ Kannada	Engineering Laboratory	Basic Electrical	Laboratory	Engineering Physics	Engineering Graphics and Design	Mechanics	Civil Engineering and	Engineering	Basic Electrical	Engineering Physics	Algebra	Calculus and Linear			Course Title				Outcome Bas
	Humanities		Engineering	I ny sies	Physics	IEM, Mfg Engineering	Engineering	Civil	Engineering	E and E	Physics	2	Mathematics		D	Teachin epartme	g ent		I SEIVES	ed Education(O
TOTAL	Humanities		Engineering	E and E	Science	Mechanical Engineering	Eligineering	CIVII	Engineering	E and E	Science	Coionco	Science		P	aper Set Board		g	I DIV D.D (1 11	ducation(OBE) and Choice Based Creating Composition (OBE) and Choice Based Creating (OBE) and
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06 08	1	3	2		- 2	2		2	1	2		1	2	-	1	Practica I/ Drawin g		Hours /Week	Teaching	Outcome Based Education(OBE) and Choice Based Creun System (Conference of Conference o
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Bangatore - 560 056

	8	7	6	O.	4	ω	2	1		No.				
	Hu	ES	ВС	ES	ES	ES	BC	ВС		Cou				
	18HS21/ 18HS22	18CSL27	18CHL26	18ME25	18ELN24	18CS23	18CH22	18MA21		Course and Course Code			*	
	English /Kannada	Computer Programming Laboratory	Engineering Chemistry Laboratory	Elements of Mechanical Engineering	Basic Electronics	C Programming for Problem Solving	Engineering Chemistry	Advanced Calculus and Numerical Methods		Course Title			Outcome Ba	Scheme of
	Humanities	Computer Science and Engineering	Chemistry	ME, Auto, IP, IEM, Mfg Engineering	ECE/E and I/ TC	Computer Science and Engineering	Chemistry	Mathematics		Teachi Departn	ng ient	THE CONTRACT OF THE PARTY OF TH	Outcome Based Education(OBE) and Choice Based Credit System (CBCS)	Scheme of Teaching and Examination from the Academic Year 2019-20
TOTAL	Humanities	Computer Science and Engineering	Science	Mechanical Engineering	E and C Engineering	Computer Science and	Science	Science		Paper Se Board	tting d	Canada and a second	CHEMISTRY	nation from th
13		1	1	2	2	2	4	ω	T	Theory Lecture	Hours /Week	Teaching	d Cred	e Acade
80	ı	1	1	2	2	2	1	2	T	Tutoria	urs eek	hino	it Sys	mic Y
06	2	2	2	1	1	1	1	1	P	Practic al/ Drawin			tem (CBC	ear 2019-20
23	02	03	03	03	03	03	03	03	1	Ouration in hours	Exa		S)	0
400	50	50	50	50	50	50	50	50		CIE Marks	Examination			
400	50	50	50	50	50	50	50	50		SEE Marks	'n			
800	100	100	100	100	100	100	100	100		Total Marks				
20	1		1	ω	ω	ω	4	4		Credi	ts			

Department of civil Engineering

\* Ambedkar Institute of Technology

Bangalore - 560 656

## Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2019-20 B.E (Civil Engineering)

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Course Title		Theory Lecture	utorial	ractica l/ rawing	Access to the second	Marks	Marks	Marks	redits
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Transform calculus and Special functions	Mathematics	2	2	1	03	50	50	100	u
Building Materials and Construction	CV	သ			03	50	50	100	w
Strength of Materials	CV	4			03	50	50	100	4
Surveying	CV	4			03	50	50	100	4
Fluid Mechanics	CV	4	-		03	50	50	100	4
Applied Engineering Geology	CV	S	1		03	50	50	100	u
Civil Engg. Material Testing Laboratory	CV		1	2	03	50	50	100	_
Surveying Practice	CV	-	-	w	03	50	50	100	-
Constitution of India Professional Ethics and Human Rights/	HS/CV	1	1	1	02	50	50	100	_
Soft skills (MC)	Humanities	04		-	03	50		50	0
טעני סגנונס (צינט)	TOTAL	19	02	05	29	500	450	950	24
		culus and Special Mather als and Construction Cerials Cerial Cerial Testing Cology Cerial Testing Cologice an Rights/ Science Hum	culus and Special Mathematics 2  als and Construction CV 3 erials CV 4 erial Testing CV 4	culus and Special Mathematics 2  als and Construction CV 3 erials CV erial Testing CV India Professional an Rights/ Science Humanities 04  TOTAL 19	leulus and Special Mathematics 2 2  als and Construction CV erials CV erials CV erial Testing CV crial Testing CV India Professional an Rights/  A Humanities CV  TOTAL 19 02	urse Title  Teaching Department  L T P  CV 3 P  rering Geology CV 4 P  rerial Testing CV 3 P  crial Testing CV 4 P  crial Testing CV 4 P  lan Rights/ CV 3 2  India Professional HS/CV 1 2  Science Humanities 04 3  TOTAL 19 02 05	urse Title         Teachings Decial         Theory Lecture         Theory Lecture         Theory Lecture         Theory Lecture         Theory Lecture         Domining         Domining         Duration in hours           als and Construction         CV         4          03          03          03         03          03          03         03          03          03         03          03         03          03         03         03          03	urse Title         Teaching Department         Theory Lecture         Theory Lecture         Theory Lecture         Theory Lecture         Theory Lecture         Drawing Department           Iculus and Special als and Construction         CV         3          03         50           als and Construction         CV         4          03         50           erials         CV         4          03         50           sering Geology         CV         4          03         50           ice         CV         3          03         50           india Professional an Rights/         HS/CV         1          3         03         50           TOTAL         19         02         05         29         500	Teaching Department   Theory   L   T   P   Drawing

Note: BC: Science Course, PC: Professional Core. Hu: Humanities, MC: Mandatory Course.

MC

18MAD31

Basic Engg Mathematics - I

Mathematics

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Professor and Head Department of civil Engineering Ambeditar Institute of Technology Bangalore - 560 056.

# Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2019-20 B.E (Civil Engineering)

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

Course and Course code
PC 18CV41
PC 18CV43
PC 18CV44
PC 18CV45
PC 18CVL46
PC 18CVL47
18841/4
18HS41/42
MC 18HS43
Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs
18MAD41
Note: BC: Science Course, PC: Professional Core. Hu: Humanities, NCMC: Non-Credit Mandatory Course.
Note: BC: Science Course, PC: Professional Core. Hu: Humanities, NCMC: Non-Credit Mandat ENV: Environmental Studies, CIP: Constitution of India Professional Ethics and Human Rights

Department of civil Erychannics; Sangatore - 560 056

Ambedicar Institute of rechnology Department of civil Engineers's Bangalore - 560 God. Professor and Head

VSEMESTER

Dr. Ambedkar Institute of Technology, Bengaluru-560 056

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) SCHEME OF TEACHING AND EXAMINATION from Academic Year 2019-20 B.E (Civil Engineering)

					Teachin	Teaching Hours /Week	/Week		Exami	Examination		
No.	30	Course and Course code	Course Title	Teaching Departme	Theory Lectur e	Tutori al	Practic al/ Drawi	uration 1 hours	CIE Marks	SEE Marks	Total Marks	
				J	T	T	P		]		]	
1	SH	18HS51/52	M&E / IPR (title as per BOS decision)	Hu	3	1	1	03	50	50	100	
2	.PC	18CV51	Wastewater Treatment and Disposal	CV	3	1	1	03	50	50	100	
S	PC	18CV52	Design of RCC Structural Elements	CV	4	1	1	03	50	50	100	
4	PC	18CV53	Analysis of Indeterminate Structures	CV	4	1		03	50	50	100	
S	PC	18CV54	Geotechnical Engineering	CV	2	2	1	03	50	50	100	
6	PE	18CV55X	Professional Elective - 1	CV	ယ	1	1	03	50	50	100	3
7	OE	18CV56X	Open Elective - A	CV	w	1	:	03	50	50	100	w
∞	PC	18CVL57	Hydraulics and Hydraulic Machinery Laboratory	CV	1	1	2	03	50	50	100	
9	PC	18CVL58	Computer Aided Design Laboratory	CV	1	1	2	03	50	50	100	
10	SH	18HS55	Placement Training	Hu	2	1	1	03	50	-	50	PP/NP
				TOTAL	25	1	4	30	500	450	950	25
				E	Electives							
Cours	Course code		Professional Electives - 1	Students c	Students can select any one	100	of the open electives (Please refer to consolidated list of Dr. AIT	ectives (Pl	ease refer t	o consolid	ated list of	Dr.
18C	18CV551	Transport	neering	for open e	lectives) off	ered by a	for open electives) offered by any Department.	ent.				
100	しゅうくいろう	Thomas of Diantinit		0 1	,		: .					

18CV562

18CV561

Air Pollution and Control

Integrated Solid Waste Management

Mentor: .

18CV555 18CV554

Ground Water Hydrology Advanced Surveying

OPEN ELECTIVE - A

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/

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 Departmental core courses or

professional electives.

Selection of an open elective is not allowed provided:

18CV553 18CV552

Ground Improvement Techniques

Theory of Elasticity

Professor and Major April ...

& Ambedkar Institute of Technology
Bangalore - 560 056. SCH

Dr. Ambedkar Institute of Technology, Bengaluru-560 056
SCHEME OF TEACHING AND EXAMINATION from Academic Year 2019-20

B.E (Civil Engineering)

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

2 PC 2 PC 3 PC 4 PC 5 PE 6 OE 7 PC 8 PC 9 M										CILI	1 110			N Co		S		VI SEMESTER
18CVM68 18CVL69 18HS66	18CVL69	18CVM68	19C ATO	100111	18CVL66	18CV65X	18CV64X	18CV63	18CV62	18CV61	18HS61/62			Course code	Course and			STER
	Placement Training	Extensive Survey Project	Mini-Project	Geotechnical Engineering Laboratory	Computer Aided Drawing of RC and Steel structures	Open Elective – B	Professional Elective - 2	Foundation Engineering	Railways, Airport, Tunnel and Harbour Engineering	Design of Steel Structures	M&E/IPR			Course Title	Course Title			
TATAT	Hu	CV		CV	CV	CV	CV	CV	CV	CV	Hu	D			chi		t	
70	2	1		1	1	3	w	2	ω.	3	3	L	r	he	eor	y	Teaching	
2	1	-		1	1	1	1	2	1	2	-	T	7		tor	i	ing Hour	
6	1	2		2	12	1	1	1	1	1	1	P		a	icti il/ aw		Hours /Week	
33	03	03	03	03	03	03	03	03	03	03	03	1000			tion urs	(A.S.		
550	50	50	50	50	50	50	50	50	50	50	50			CII	E ks		Exami	
500	1	50	50	50	50	50	50	50	50	50	50			SE]	E ks		Examination	
1050	50	100	100	100	100	100	100	100	100	100	100			ot	al ks			
24	PP/NP	-	2	-	1	w	w	w	ω	4	w		(	Cre	edi	ts		

VII and VIII semesters. Internship: All the students admitted to III year of BE have to undergo mandatory internship of 4 weeks during the vacations of VI and VII semesters and /or

A University examination will be conducted during VIII semester and prescribed credit are added to VIII semester.

failed and have to complete during subsequent University examination after satisfy the internship requirements. Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as

		Electives
Course	Professional Electives - 2	Open Elective - B
code		
18CV641	18CV641   Pre-Stressed Concrete	Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT
18CV642	18CV642   Alternate Building Materials and Technologies	for open electives) offered by any Department.
18CV643	18CV643 Traffic Engineering	Selection of an open elective is not allowed provided,

## Outcome Based Education (OBE) and Choice Based Credit System (CBCS) SCHEME OF TEACHING AND EXAMINATION from Academic Year 2019-20 Dr. Ambedkar Institute of Technology, Bengaluru-560 056 B.E (Civil Engineering)

	4	3	2			No SI.	
	TNI	Seminar	Project	MC		Cou Cou	
وا	18CVI83	18CVS82	18CVP81	18HS81/82		Course and Course code	
TOTAL	Internship	Technical Seminar	Project Work Phase - II	CMEP / OSHA		Course Title	
	(Comp vacations	CV	CV	IM /CV	]	Teaching. Departmen	t
02	(Completed during the interve- vacations of VI and VII semesters VII and VIII semesters.)	-	1	2	L	Theory Lecture	Teach
1	g the interv /II semeste semesters.	-	1	-	T	Tutorial	Teaching Hours /
4	ening rs and /or )	2	2	1	P	Practical / Drawing	/Week
12	03	03	03	03	D	uration in hours	
200	50	50	50	50		CIE Marks	Examination
200	50	50	50	50.	S	EE Marks	ation
400	100	100	100	100		Total Marks	
15	2	1	. 10	2		Credits	

### Note:

CMEP: Cost Management of Engineering Projects, OSHA: Occupational Safety and Health Administration PC: Professional Core, PE: Professional Elective, OE: Open Elective, INT: Internship, MC: Mandatory Course

## Internship:

the internship requirements. Those, who have not pursued /completed the internship will be declared as failed and have to complete during subsequent SEE examination after they satisfy

Total 175 Credit Distributions for all semester B.E. (Civil Engineering) Programme.

Credits	Semester
20	I
20	П
24	Ш
24	VI
25	V
24	VI
23	VII
15	VIII
175	Total Credits



Professor and Head
Department of civil Engineering
LAmbedker Institute of Tachnology

Bangalore - 560 Gof.

Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2019-20

B.E (Civil Engineering)

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

Credits

Marks

4 4 4

THE COLUMN		The state of the s									-
				1	Teach	Teaching Hours /Week	s /Week		Examination	nation	
SI.	Con	Course and	Course Title	Teaching Tepartmen	Тheory	Tutorial	Practica   V   Drawin	noitation suod ni	Marks CIE	Narks SEE	Total
				I	L	T	Ь				
	MC	18HS71/72	18HS71/72 CMEP / OSHA	IM/CV	2	1	1	03	50	50	100
2	PC	18CV71	Design of RC & Steel Structures	CV	4	1	1	03	50	50	100
3	PC	18CV72	Estimation and Valuation	CV	4	1	1 2 2	03	50	50	100
	PE	18CV73X	18CV73X Professional Elective - 3	CV	3	1	1	03	50	50	100
	PE	18CV74X	18CV74X Professional Elective - 4	CV	3	1	1	03	50	50	100
9	OE	18CV75X	Open Elective - C	CV	3	1	1	03	50	50	100
	PC	18CVL76	Environmental Engg. Laboratory	CV	1	1	2	03	50	50	100
8	PC	18CVL77	Advanced Civil Engg. Laboratory	CV	1	1	2	.03	50	50	100
8	Project	18CVP78	Project Work Phase - I	CV	1	1	2	03	50	50	100
	TNI	18CVI79	Internship	(If not d	completed	l after VI intervenii	(If not completed after VI semester examinations, it has to be carried out during the intervening vacations of VII and VIII semesters)	amination of VII at	s, it has to	be carri mesters)	eq
			TATION		40		,	100	150	450	000

### Note:

PC: Professional Core, PE: Professional Elective, OE: Open Elective, INT: Internship, MC: Mandatory Course CMEP: Cost Management of Engineering Projects, OSHA: Occupational Safety and Health Administration

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## Internship:

All the students admitted to III year of BE have to undergo mandatory internship of 4 weeks during the vacations of VI and VII semesters and /or VII and VIII semesters.

A SEE examination will be conducted during VIII semester and prescribed credits shall be added to VIII semester.

Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as failed and have to complete during subsequent SEE examination after satisfy the internship requirements.

irse code	Professional Electives - 3	Open Elective - B
18CV731	Pavement Materials and Construction	

Sensing Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT for		Selection of an open elective is not allowed provided,	The cyllabirs content of onen elective is similar to that of Departmental core courses or		<ul> <li>A similar course, under any category, is prescribed in the higher semesters of the programme.</li> <li>Registration to electives shall be documented under the guidance of Programme Coordinator/Mentor.</li> </ul>
Photogrammetry and Remote Sensing	Environmental Impact Assessment	Design of Bridges		Construction Project Management	Reinforced Earth Structures
18CV732	18CV733	18CV734	18CV735	18CV736	18CV737

## Electives: 4

Course code	Course code   Professional Elective
18CV741	Water Resources Engineering .
18CV742	Advanced Foundation Design
18CV743	Pavement Design
18CV744	Earthquake Resistant Design of Structures
18CV745	Solid Waste Management
18CV746	Quality Management System in Civil Engineering
18CV747	Hydraulic Structures & Irrigation drawing

## Electives: B

Course code	Course code   Open Elective - C
18CV751	Ecology and Environmental Impact Assessment
18CV752	Urban Transport Planning
18CV753	Photo Geology and Remote Sensing



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Bangalore - 560 056.

1.	Course and		Course and Course Code		(PHYSICS C	Teach Hou /Wee	ing rs		Ex	aminatio	1.		
	Co	ourse Code	Course Title	Teaching	Paper Setting Board	Theory	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
						L	T	P				100	
1	BC	18MA11	Calculus and Linear Algebra	Mathematics	Science	3	2	-	03	50	50	100	4
2	BC	18PH12	Engineering Physics	Physics	Science	4			03	50	50	100	4
3	ES	18EE13	Basic Electrical Engineering	E and E Engineering	E and E Engineering	2	2		03	50	50	100	3
4	ES	18CV14	Civil Engineering and Mechanics	Civil Engineering	Civil Engineering	2	2	-	03	50	50	100	3.
5	ES	18MEL15	Engineering Graphics and Design	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	2	-	2	03	50	50	00	3
6	BC	18PHL16	Engineering Physics	Physics	Science	-		2	-03	50	50	100	-
7	ES	- 18EEL17	Basic Electrical Engineering Laboratory	E and E Engineering	E and E Engineering	-		2	03	50	50	100	
8	Hu	18HS11/ 18HS12	English/ Kannada	Humanities	Humanities	1		2	02	50	50		
					TOTAL	13	06	08	21	350	350	700	20

#### II SEMESTER B.E (CHEMISTRY GROUP) Teaching Examination SI. Hours No Course and Paper Setting Board Course Code Total Marks Course Title Practical/ Drawing SEE Marks CIE Marks Tutorial Theory Duration hours 50 100 4 50 03 Science Mathematics Advanced Calculus BC 18MA21 1 and Numerical Methods 4 100 03 50 50 4 Science Chemistry Engineering 18CH22 BC 2 50 50 100 3 Chemistry 03 2 Computer 2 C Programming for Computer 18CS23 3 ES Science and Science and Problem Solving Engineering Engineering 3 50 100 03 50 2 2 ECE/E and I/ E and C Basic Electronics 18ELN24 4 ES Engineering TC 3 100 50 50 03 2 2 Mechanical ME, Auto, IP, Elements of 18ME25 ES. Engineering 5 IEM, Mfg Mechanical Engineering 1 100 Engineering 50 50 2 03 --Science Chemistry Engineering 18CHL26 BC 6 1 Chemistry Laboratory 50 100 50 2 03 Computer Computer Computer 18CSL27 Science and ES Science and Programming Engineering 1 100 Engineering 50 50 2 02 Laboratory Humanities Humanities 18HS21/ Hu 8 English /Kannada 18HS22 400 800 20 400 23 06 08 13 TOTAL

Note: BC: Science Course, ES: Engineering Science, Hu: Humanity and Social Science.

1 hour Lecture (L) per week per semester =1 Credit Definition of Credit:

2 hour Tutorial (T) per week per semester =1 Credit

2 hour Practical/Laboratory/Drawing (P) per week per semester = 1 Credit.

Professor and Head Department of civil Engineering t. Ambedkar Institute of Tachnology Bangalore - 560 656.

BC 18CH12 Engineering Chemistry  ES 18CS13 C Programming for Problem Solving  ES 18EC14 Basic Electronics ECE TC  ES 18ME15 Elements of Mechanical Engineering Engineering Chemistry Laboratory  ES 18CSL17 Computer Computer Programming Science Chemistry Laboratory Engineering Chemistry Laboratory Engineering Engineering Chemistry Laboratory Engineering Science Chemistry Laboratory Engineering Chemistry Laboratory Engineering Engineering Chemistry Laboratory Engineering Science Chemistry Laboratory Engineering Engineering Engineering Engineering Engineering Engineering Science Chemistry Laboratory Engineering Engi		Science Science Computer Science and Engineering Mechanical Engineering Science	2 2	Tatorial 2		i i de Drawing	03 03 03 03	50 50 50 50	5	0	100 100 100	4 3 3 3
BC 18CH12 Engineering Chemistry  ES 18EC14 Basic Electronics ECE TC  ES 18ME15 Elements of Mechanical Engineering Chemistry Computer Programming Engineering Chemistry ES 18CSL17 Computer Programming Engineering Chemistry Laboratory Engineering Engineering Engineering Engineering Chemistry Laboratory Engineering Engineering Engineering Engineering Engineering Chemistry Laboratory Engineering Engin	puter nce and neering E/E and I/ , Auto, IP, M, Mfg gineering	Science  Computer Science and Engineering E and C Engineering Mechanical Engineering	3 4 2 2 2 g 2	2	2		03 03 03 03	50	5	50	100	3
BC 18MA11 Calculus and Edition  Algebra  Es 18CH12 Engineering Chemistry C Programming for Problem Solving  ES 18EC14 Basic Electronics  ES 18ME15 Elements of Mechanical Engineering Chemistry Computer Programming Laboratory  Algebra Chemistry Computer Programming Laboratory  Escience Engineering Chemistry Computer Programming Laboratory  Engineering Chemistry Laboratory Computer Programming Laboratory Engineering Chemistry Laboratory Computer Programming Laboratory Engineering Chemistry Laboratory Computer Programming Laboratory Engineering Chemistry Chemist	puter nce and neering E/E and I/ , Auto, IP, M, Mfg gineering	Science  Computer Science and Engineering E and C Engineering Mechanical Engineering	4 2 2 2 2 g 2	2	2		03	50	5	50	100	3
BC 18CH12 Engineering Chemistry  ES 18EC14 Basic Electronics ECE TC  ES 18ME15 Elements of Mechanical Engineering Chemistry Computer Programming Engineering Chemistry ES 18CSL17 Computer Programming Engineering Chemistry Laboratory Engineering Engineering Engineering Engineering Chemistry Laboratory Engineering Engineering Engineering Engineering Engineering Chemistry Laboratory Engineering Engin	puter nce and neering E/E and I/ , Auto, IP, M, Mfg gineering	Computer Science and Engineering E and C Engineering Mechanical Engineering	2 2 2 g 2	2	2	-	03	50	5	50	100	3
BC 18CH12 Engineering Chemistry  ES 18CS13 C Programming for Problem Solving  ES 18EC14 Basic Electronics ECE TC  ES 18ME15 Elements of Mechanical Engineering Chemistry Laboratory  ES 18CSL17 Computer Programming Laboratory  8 HS 18HS11/	puter nce and neering E/E and I/ , Auto, IP, M, Mfg gineering	Computer Science and Engineering E and C Engineering Mechanical Engineering	2 2 g 2	-	2		03	50		50	100	3
ES 18CS13 C Programming for Problem Solving Scier Enginering  ES 18ME15 Elements of Mechanical Engineering Engineering Chemistry Laboratory  ES 18CSL17 Computer Programming Laboratory Engineering Engineering Chemistry Laboratory Engineering Engineering Chemistry Laboratory Engineering Laboratory Engineering Engineering Chemistry Laboratory Engineering Laboratory Engineering Engineering Laboratory Engineering En	nce and neering I/E and I/ , Auto, IP, I, Mfg gineering	Science and Engineering E and C Engineering Mechanical Engineering	2 2 g 2	-	2		03					
Problem Solving  Enginering  BC 18CHL16  BC 18CSL17  ES 18HS11/  Basic Electronics  Elements of ME, Mechanical Engineering Chemistry Laboratory  Computer Programming Laboratory  BC 18HS11/  BASIC Electronics  Computer Programming Laboratory  Engineering Chemistry Laboratory  Computer Programming Laboratory  Hu	Auto, IP, M, Mfg	E and C Engineering Mechanical Engineering	2 g 2									
ES 18EC14 Basic Electronics TC  ES 18ME15 Elements of ME, Mechanical Engineering Chemistry Laboratory  ES 18CSL17 Computer Programming Laboratory  8 HS 18HS11/	, Auto, IP, I, Mfg gineering	Engineering Mechanical Engineering	g 2		2		03	50	+	50	100	3
BC 18CHL16 Engineering Chemistry Laboratory  ES 18CSL17 Computer Programming Laboratory Engineering Chemistry Laboratory Computer Programming Laboratory Engineering Chemistry Chemi	I, Mfg gineering	Engineering	g									
Engineering Eng Chemistry Laboratory  ES 18CSL17 Computer Programming Laboratory Eng Laboratory Eng Laboratory Eng Laboratory Hu		Science	-								100	-
BC 18CHL16 Engineering Chemistry Laboratory  Computer Programming Sci Laboratory  R HS 18HS11/ Engineering Chemistry Laboratory  Laboratory Engineering Chemistry Laboratory  Engineering Chemistry Laboratory  Laboratory Hu				-		2	03	50	'	50	100	
ES 18CSL17 Computer Programming Sci Englaboratory Hu	mputer	Computer	-	1		2	03	51	5	50	100	1
Laboratory English Hu	ience and	Science ar Engineeri								50	100	1
	gineering umanities	Humaniti		1 -		2	02	2   5	0	50	100	
181872	18HS11/						1	2 2	50	350	70	0 2
		TOT	AL	13	.08	06	2	3 3	30	330	1	
	POTED !	B.E (PHYS	ICS G	ROI	UP)		1150	Exam	lanti	on		-1
	ESTER			Ho	urs			Exam	mati			
SI. Course and Course Code	Teaching Department	Paper Setting Board		Theory Lecture	T	Practical/	Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	1

T			11 SEM	ESTER B.E (		Teachi Hour /Wee	'5			Exan	ninatio	n		3	
	Cou Cou	rse and rse Code	Course viiis	Teaching Department	Paper Setting Board	Theory	Tutorial	-	400	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits	
1						L	T 2	-	P	03	50	50	1 11	00	4
1		18MA21	Advanced Calculus	Mathematics	Science	3	1					1			
	BC	18141421	and Numerical		Science	4		1		03	50	5	0	00	3
2	BC	18PH22	Engineering Physics	Physics	E and E	2	2	+		03	50	5	0	100	
3	ES	18EE23	Basic Electrical Engineering	E and E Engineering	Engineering Civil	2	1 2	+		03	50	1 5	50	100	3
4	ES	18CV24	Civil Engineering and	Civil Engineering	Engineering		+	+	2	93	50	+	50	100	3
4		101 (51 25	Mechanics Engineering Graphics	ME, Auto, IP,	Mechanical Engineering	2	-		-		1				
5	ES -	18MEL25	and Design	IEM, Mfg Engineering		+	+		2	03	51	0	50	100	1
6	BC	18PHL26	Engineering Physics Laboratory	Physics	Science E and E	-	+	+	2	03	5	0	50	100	1
7	ES	18EEL27	Basic Electrical	E and E Engineering	Engineering							50	50	100	1
1			Engineering Laboratory	Humanities	Humanities	5			2	0	2	00	50		
8	HS	18HS21/ 18HS22	English/ Kannada		TOTA	1	13	06	08	1 2	23	400	400	800	] 2

Note: BS: Science Course, ES: Engineering Science, Hu: Humanity and Social Science.

1 hour Lecture (L) per week per semester =1 Credit Definition of Credit:

2 hour Tutorial (T) per week per semester =1 Credit
2 hour Tutorial (T) per week per semester =1 Credit
2 hour Practical/Laboratory/Drawing (P) per week per semester =1 Credit.

Professor and Meed Department of civil Engineering t. Ambedkar Institute of Technology Bangalore - 560 006.

SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21 Dr.Ambedkar Institute of Technology, Bengaluru-200 020

Outcome Based Education(OBE) and Choice Based Credit System (CBCS) B.E (Civil Engineering)

(b) The mandatory non – credit courses Advance Mathematics I and II, prescribed to lateral entrant Diploma holders admitted to III semester of BE programs, are to be completed to secure (b) The mandatory non – credit courses Advance Mathematics I and II, prescribed to lateral entrant Diploma holders admitted to III semester of BE programs, are to be completed to secure (b) The mandatory non – credit courses of the eligibility to VII semester. However, they are not considered for vertical progression from II year to III year of the programme but considered as head of passing along with credit courses of the eligibility to VII semester. However, they are not considered for vertical progression from II year to III year (a)The mandatory non - credit courses Advance Mathematics I and II prescribed at III and IV semesters respectively, to lateral entry Diploma holders admitted to III semester of BE programs (a)The mandatory non - credit courses Advance Mathematics I and II prescribed at III and IV semesters respectively, to lateral entry Diploma holders admitted to III semester of BE programs HODs are informed to accommodate one more laboratory in addition to the above courses if needed, without altering the total number of credits (TOTAL: 24).

programme to eligibility to VII semester.

Note: BC: Science Course, PC: Professional Core. Hu: Humanities, MC: Mandatory Course.

\* Ambodikar Institute of ... shnoive; Department of civil E. yor work Bangalere - 560 US6.

Outcome Based Education(OBE) and Choice Based Credit System (CBCS) B.E (Civil Engineering)

				֡		-	-				
No Co	Course and	Course Title	Teaching Department	Треогу Гестиге		Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
				7	I	А		5	50	100	3
		Verthomostice	Mathematics	2	7	1	03	20	00		
BC	18MA41	(Title as per the decision of BoS in Sciences)				1	03	50	50	100	3
		T. T. C. L. T. C. L. C.	Civil	5	1	1	03	50	.09	100	4
2 PC	18CV41	Water Supply Engineers	Civil	4	1	+	03	20	50	100	4
3 PC	18CV42	Analysis of Deferminate Structures	Civil	4	1		3 8	50	50	100	3
4 PC	18CV43	Hydraulics and Hydraulic Machines	Civil	n	1	1	co l		20	100	4
5 PC	18CV44	Hydrology and Irrigation Engineering	Civil	4	1	1	03	20	00	001	-
PC PC	18CV45	Concrete Technology	lisio	1	1	3	03	20	20	100	.
+	-	Computer Aided Building Planning and Drawing	Civil			2	03	50	50	100	-
8 PC	+	Concrete and Highway materials Laboratory	CIVIL	-		1	02	50	20	100	1
	-	Constitution of India Professional Ethics and Human	Humanities / Civil	-			03	50		50	PP/NP
		Ngills Living	Humanities	4	1	1	00		150	050	24
10 MC	2 18HS43	Employability skills	TOTAL	24	03 /	92	29	200	420	200	
		Diploma holders admitted to III semester of Engineering programs	a holders admitted to U	II semester	of Engine	sering pr	ograms			0	divida
		Course prescribed to lateral curs, organization	Mathematics	02	0.1	1	03	20	1	20	TY//YY
II MC	3 18MAD41	11 MC 18MAD41 Advance Mathematics - II Advance Mathematics - II Semester of BE programs	a courses if needed, with	out altering	the total n	umber of	credits (	TOTAL:	24). 1 to III ser	nester of I	3E programs

eligibility to VII semester. However, they are not considered for vertical progression from II year to III year of the programme but considered as head of passing along with credit courses of the (b) The mandatory non - credit courses Advance Mathematics I and II, prescribed to lateral entrant Diploma holders admitted to III semester of BE programs, are to be completed to secure (a) The mandatory non - credit courses Advance Mathematics I and II prescribed at III and IV semesters respectively, to lateral entrant Diploma holders admitted to III semester of BE progri shall compulsorily be registered during respective semesters to complete all the formalities of the course and appear for SEE examination.

Note: BC: Science Course, PC: Professional Core. Hu: Humanities, NCMC: Non-Credit Mandatory Course. programme to eligibility to VII semester.

ENV: Environmental Studies, CIP: Constitution of India Professional Ethics and Human Rights

? Antiedkar Institute of Technology Department of civil Engineering Professor and Head Bangalore - 560 633

#### Dr. Ambedkar Institute of Technology, Bengaluru-560 056

### SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21

#### B.E (Civil Engineering)

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

		FER

			Teaching Department		hing H /Week			Exami	nation				
	urse and urse code	Course Title		Course Title		Theory	Tutorial	Practical / Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
				L	T	P	Q	0	S				
S	18HS51/52	M&E / IPR (title as per BOS decision)	Hu	3			03	50	50	100	3		
C	18CV51	Wastewater Treatment and Disposal	Civil	3			03	50	50	100	3		
C .	18CV52	Design of RCC Structural Elements	Civil	4			03	50	50	100	4		
Ċ	18CV53	Analysis of Indeterminate Structures	Civil	4		-	03	50	50	100	3		
'C	18CV54	Geotechnical Engineering	Civil	2	2		03	50	50	100	-		
E	18CV55X	Professional Elective -1	Civil	3			03	50	50	100	3		
-	18CVEXX	Open Elective -A	Civil	3			03	50	50	100	3		
SC SC	18CVL56	Hydraulics and Hydraulic Machinery Laboratory	Civil			2	03	50	50	100	1		
PC	18CVL57	Computer Aided Design Laboratory	Civil			2	03	50	50	100	1		
		TOTAL		22	2	4	27	450	450	900	25		

### Note: Hu: Humanities, PC: Professional Core, MC: Mandatory Course,

#### Electives

urse	Professional Electives -1	Open Elective -A
ode		Students can select any one of the open electives (Please refer to consolidated
V551	Transportation Engineering	list of Dr. AIT for open electives) offered by any Department.
V552	Theory of Elasticity	Selection of an open elective is not allowed provided:
V553	Ground Improvement Techniques	The candidate has studied the same course during the previous semesters of
CV554	Advanced Surveying	
CV555	Ground Water Hydrology	<ul> <li>the programme.</li> <li>The syllabus content of open elective is similar to that of Departmental core</li> </ul>
	OPEN ELECTIVE-A	forsional electives
CVE01	Air Pollution and Control	A similar course, under any category, is prescribed in the higher semesters
CVE02	Solid Waste Management	of the programme.  Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor.

Professor and Head
Department of civil Engineering
† Ambedkar Institute of Technology
Bangalore - 560 056.

### Dr. Ambedkar Institute of Technology, Bengaluru-560 056

SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21

#### B.E (Civil Engineering)

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

#### VI SEMESTER

	The state of the s			Teachi	ng Hour	s /Week	]	Examin	ation		
-	urse and urse code	Course Title	Teaching Department	Theory	Tutorial	Practica  V  Drawing	Duration in hours	CIE Marks	SEE Marks	Total	Credits
				L	T	P	03	50	50	100	3
HS	18HS61/62	M&E/IPR	Hu	3			03	50	50	100	4
PC	18CV61	Design of Steel Structures	Civil	3	2		03	30	30		
PC	18CV62	Railways, Airport, Tunnel and Harbour Engineering	Civil	3			03	50	50	100	3
	1003163	Foundation Engineering	Civil	3		·	03	50	50	100	3
PC	18CV63	Professional Elective - 2	Civil	3			03	50	50	100	3
PE	18CV64X		Civil	3			03	50	50	100	3
OE	18CVEXX	Open Elective – B	CIVII	+	-			1.0	50	100	1
PC	18CVL66	Computer Aided Drawing of RC and Steel structures	Civil			2	03	50	50		1
PC	18CVL67	Geotechnical Engineering	Civil		-	2	03	50	50	100	1
		Laboratory					03	50	50	100	2
MP	18CVP68	Mini-Project	Civil	T		2	03	50	50	100	1
PC	18CVL68	Extensive Survey Project		he carrie	d out du	ring the					
INT	18CVI69	Industry Internship	interv	ening va	cations emesters	of VI and					
	7		TOTAL	18	2	6	30	500	500	1000	24

### 'rofessional Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project, INT: Internship.

ne students admitted to III year of B.E. have to undergo mandatory internship of 4 weeks during the vacations of VI and VII sters and / or VII and VIII semesters. A University examination will be conducted during VIII semester and prescribed credit are d to VIII semester. Internship is considered as a head of passing and is considered for the award of degree. Those, who do not takeomplete the internship will be declared as failed and have to complete during subsequent University examination after satisfy the aship requirements.

		Electives
ode V641 V642	Professional Electives - 2  Pre-Stressed Concrete  Alternate Building Materials and Technologies	Open Elective - B  Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT for open electives) offered by any Department.  Selection of an open elective is not allowed provided,  The candidate has studied the same course during the previous semesters of
V643 V644 V645	Traffic Engineering Open Channel Hydraulics Earth and Earth Retaining Structures	<ul> <li>The candidate has second the programme.</li> <li>The syllabus content of open elective is similar to that of Departmental core courses or professional electives.</li> <li>A similar course, under any category, is prescribed in the higher semesters of the course.</li> </ul>
CVE03	Open Elective - B Integrated Solid Waste Management Photogrammetry and Remote Sensing	A similar course, under any category, to prove the programme.  Registration to electives shall be documented under the guidance of Programm Coordinator/ Mentor.

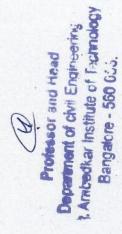
Professor and Head Department of civil Engineering 7. Amizedkar Institute of Technology Bangalore - 560 Gus.

# SCHEME AND CREDITS FOR V TO VIII SEMESTER BE CIVIL ENGINEERING OF DR. A I T, B'LORE SCHEME OF TEACHING AND CREDITS

## B.E. CIVIL EINGINEERING VII SEMESTER (2015-16 Batch)

Subject         Dept.         L         T         P           Civil         04              Civil         02         02             rete Structures         Civil         03             Civil         03              Civil         03           03           rials lab.         Civil           03           Civil           03           Civil           03           Civil           03           Civil           03           Civil              Civil              Civil              Civil              Civil              Civil              Civil              Civil         -				Teaching	Leachin	Leaching firs / Week	LCCA	Cradite
Code         Code         — — —           CV 71         Design of Steel Structures         Civil         02         02         — —           CV 72         Estimation and Valuation         Civil         03         — —         — —           CV 73         Design of Pre Stressed Concrete Structures         Civil         03         — —         — —           CV 74X         Elective-II (Group B)         Civil         03         — —         — —           CV 75X         Elective-III (Group C)         Civil         — —         — —         — —           CV 75X         Elective-III (Group C)         Civil         — —         — —         — —           CVL 76         Environmental Engineering. Lab         Civil         — —         — —         — —           CVL 77         Concrete and Highway Materials lab.         Civil         — —         — —         —           Interdepartmental Elective         CVP 84         Project work Phase I         — —         — —         —           CVP84         Project work Phase I         — —         — —         — —         —	No	Subject	Title of the Subject	Dept.	T	T	Ь	Cicaro
Design of Steel Structures         Civil         0.2         0.2            Estimation and Valuation         Civil         0.3             Design of Pre Stressed Concrete Structures         Civil         0.3             Elective-II (Group B)         Civil         0.3             Elective-III (Group C)         Civil          0.3           Environmental Engineering. Lab         Civil          0.3           Concrete and Highway Materials lab.         Civil          0.3           Interdepartmental Elective         Civil             Project work Phase I         Civil             Project work Phase I	31. INU.	Code		Civil	04	-	1	4
Estimation and Valuation   Civil   0.2	1	17.77	Design of Steel Structures	CIVII	-	00		3
Estimation and Variation   Civil   0.3         Design of Pre Stressed Concrete Structures   Civil   0.3         Elective-II (Group B)   Civil   0.3     0.3     Elective-III (Group C)   Civil     0.3     Environmental Engineering. Lab   Civil     0.3     Concrete and Highway Materials lab.   Civil     0.4     Interdepartmental Elective   Civil         Project work Phase I   Civil     Civil       Project work Phase I   Civil     Civil       Project work Phase I   Civil     Civil   -	-	( )	Design of Transport	Civil	02	0.5	1	
Design of Pre Stressed Concrete Structures         Civil         03             Elective-II (Group B)         Civil         03          03           Elective-III (Group C)         Civil          03           Environmental Engineering. Lab         Civil          03           Concrete and Highway Materials lab.         Civil          03           Interdepartmental Elective         Civil             Project work Phase I         Civil	7	CV 72	Estimation and valuation	Civil	03	****	1	3
Elective-II (Group B)		CT 170	Design of Pre Stressed Concrete Structures	CIVII	3			
Elective-II (Group B)	3	CV /3	Design of the cases	Civil	03	1	-	2
Elective-III (Group C)         Civil         0.5          0.3           Environmental Engineering. Lab         Civil          0.3           Concrete and Highway Materials lab.         Civil          0.3           Interdepartmental Elective         Civil             Project work Phase I         Civil	4	CV 74X	Elective-II (Group B)		00			3
Elective-III (Choup C)	-		C mice Di III	CIVII	CO			-
Environmental Engineering. Lab         Civil          03           Concrete and Highway Materials lab.         Civil             Interdepartmental Elective         Civil             Project work Phase I         Civil	2	CV 75X	Elective-iii (Group C)	Civil	-	1	03	1.5
Concrete and Highway Materials lab.         Civil          0.3           Interdepartmental Elective         Civil             Project work Phase I         20         04         06	,	7L 1110	Environmental Engineering, Lab	CIVII			00	1.5
Concrete and Highway Materials Ide.  Interdepartmental Elective  Project work Phase I 20 04 06	0	CAFIO	del element of the second of t	Civil	-	1	0.3	1.7
Interdepartmental Elective Civil Project work Phase I 20 04 06	1	CVL 77	Concrete and Highway Materials Iau.		100			90
Project work Phase I	-		Treatmental Flective		+50			
Project work Phase I	00		Interneparational programs	Civil		-	1	1
20 04 00		CYDOA	Droiset work Phase I	CIVE			10	25
	,	CALOT	1100m		20	04	00	63

	Till Attend II (Crown B)		Elective-III (Group C)
	Flective-ti (Group D)		Title of the Subject
C. Linet Code	Title of the Subject	Subject Code	THE OF THE CASE
Subject Code	Matrix Mo	CV 751	Numerical methods in Civil Engineering
CV /41	Mail A Assessed Design of RC Structures	CV 752	Rock Mechanics
CV /42	Navanced Design of the Structures	CV 753	Pavement Materials and Construction
CV 743	Earth and Harth Retaining Structures	CV 754	Photogrammetry and Remote Sensing
CV /44	Tr: Land Canatrio Design	CV 755	Air Pollution and Control
CV 745	Highway Geometric Design		Design and Drawing of Bridges.: * (2 Hrs of Theory
CV 746	Open Channel Hydraulics	CV 756	+3 Hrs of Drawing) * (Exam Duration : 4 Hrs)
CV 747	Rural Water Supply and Sanitation	CV 757	Structural Dynamics
)	Engineering		A Design Monagement
		CV758	Construction Project Management
CVE01	Integrated Solid Waste Management	CVE02	Air Pollution and Control methods (IDE)
CVENT	(TDE)		



Dr. Ambedkar Institute of Technology, Bengaluru-560 056 SCHEME OF TEACHING AND EXAMINATION from Academic Year 2020-21 B.E (Civil Engineering)

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

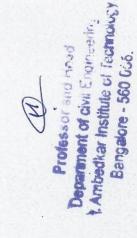
Sl. No   Course and   Course Title   Theoretic Transmission   Theoret					Toachi	no Hours	Week		Examination	ation		
MC         18HS81/82         CMEP / OSHA         IM / CV         2           03         50         50         100           Project         18CVP81         Project Work Phase - II         CV           2         03         50         50         100           Seminar         18CVS82         Technical Seminar         CV           2         03         50         50         100           NT         18CVI83         Internship         VI and VII semesters and /or VII and VIII         03         50         50         100           TOTAL         10TAL         02          4         12         200         200         400	ocupo)	ode	Course Title		Треогу	t IsirotuT	1	the second contract of the second	H. Marks	EE Marks	otal Marks	Credits
MC         18HS81/82         CMEP / OSHA         IM /CV         2           03         50         50         100           Project         18CVP81         Project Work Phase - II         CV           2         03         50         50         100           Seminar         18CVS82         Technical Seminar         CV           2         03         50         50         100           NT         18CVI83         Internship         VI and VII semesters and /or VII and VIII         03         50         50         100           TOTAL         10TAL         02          4         12         200         200         400				I	L	T	P	a	)	S	L	
MC         18H381/84         Civilar Countries         CV           2         03         50         50         100           Project         18CVP81         Project Work Phase - II         CV           2         03         50         50         100           Seminar         18CVS82         Technical Seminar         CV           2         03         50         50         100           INT         18CVI83         Internship         VI and VII semesters and /or VII and VIII         03         50         50         100           TOTAL         10TAL         4         12         200         200         400	-		CMED / OSHA	TM /CV	2	1	1	03	50	50	100	2
Project   18CVP81   Project Work Phase - II   CV     2   03   50   50   100			CIMER / OSITA						C	00	100	10
Seminar   18CVS82   Technical Seminar   CV     2   03   50   50   100	D	8CVP81	Project Work Phase - II	CV	1	1	7	03	20	20	100	IO
18CVS82         Technical Seminar         CV           2         05         50         100           18CVI83         Internship         VI and VII semesters and /or VII and VIII         03         50         50         100           TOTAL         02          4         12         200         200         400	Project	00 4101	in application				C	0.3	20	20	100	_
18CVI83         Internship         VI and VII semesters and /or VII and VIII semesters.)          4         12         200         200         400		8CVS82	Technical Seminar	CV	1	1	7	60	200	2		
02 4 12 200 200 400		18CVI83	Internship	(Completed VI and VI	during the in Il semesters a	tervening vand /or VII a	acations of and VIII	03	20	50	100	2
			1		200	1	4	12	200	200	400	15
		L	FOTAL		70							

PC: Professional Core, PE: Professional Elective, OE: Open Elective, INT: Internship, MC: Mandatory Course CMEP: Cost Management of Engineering Projects, OSHA: Occupational Safety and Health Administration

Those, who have not pursued /completed the internship will be declared as failed and have to complete during subsequent SEE examination after they satisfy the internship requirements.

Total 175 Credit Distributions for all semester B.E. (Civil Engineering) Programme.

	1	11	111	<u>\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ </u>	>	M	MII	VIII	Total Credits
Semester	1	17	777		1		CC	15	175
O. L. J. L.	00	00	24	24	72	74	73	CI	1/3
Credits	20	7	-						



## SCHEME AND CREDITS FOR V TO VIII SEMESTER BE CIVIL ENGINEERING OF DR. A I T, B'LORE SCHEME OF TEACHING AND CREDITS B.E. CIVIL EINGINEERING

# VIII SEMESTER (2015-16 Batch)

		Teaching	Teach	Teaching Hrs / Week	Week	Cradite
Subject	Title of the Subject	Dept.	T	T	Ъ	
Code	September of Steel Structures	Civil		01	03	02
CV 81	Design and Computer Aideu Diawing of Such Substances		00			3
XCS VO	Flective - IV (Group D)	Civil	0.5	1	-	
C 020		Civil	03		-	3
CV 83X	Elective - V (Group E)	CIVII	20		70	1.2
A Gray	Description Dhase II	Civil		1	47	17
CVF 84		1::::0	77.75	04	-	7
CT/C 85	Seminar	CIVII		5		1
200	+	Humanities	02	1	1	0.7
HS 04	Intellectual Property Rights	T T T T T T T T T T T T T T T T T T T	1			100
DA TINO	+		04	1	1	5
CVEAA	Illei depai unemar Er		1.0	30	77	28
	TOTAL		71	00	14	2

	Flective-IV (Group D)		Elective-V (Group E)
		Subject Code	Title of the Subject
Subject Code	Title of the Subject	Subject Code	
Subject Core	A 1 Day oftenoned Concrete Structures	CV 831	Finite Element Analysis
CV 821	Advanced Fre-suessed Condition Structures	000	D Carach Charth Churchires
CV 877	Advanced Foundation Design	CV 832	Keiniorceu Daith Suucimes
C 022		CV 833	Urban Transport Planning
CV 823	Pavement Design		
A17.02.4	Earthoughe Resistant Design of Structures	CV 834	Advanced Design of Steel Structures
CV 824	Eal Highway Avolution Programme	300120	Woter Decurred Fnoineering
CV 825	Industrial Waste Water Treatment	CV 833	Water resources transmission
C 4 0 4 5		CV 836	Fryironmental Impact Assessment
708 VD	Quality Management System in Civil Engineering	( 830	THE CHANGE OF THE CONTROL OF THE CON
070	Section 1. The section of the sectio	CV 837	Infrastructure Development
CV 827	Remote Sensing and Geographic Information System	( 62)	acitom C. I. I. C.
1000			Remote Sensing and Geographic Information
CVE 03	Ecology and Environmental Impact Assessment (IDE)	CVE 04	System (IDE)

Note: Project Work shall be 12 Credits in VIII Sem. BE

(E)

Professor and Head Department of civil Engineering 7. Ambedkar Institute of Technology Bangalore - 560 956.

Chemistry Cycle: I/II Semester Scheme of Teaching and Examination for I/II Semester B.E., (Common to all B.E. Programmes) Academic Year:2021-22 Outcome Based Education(OBE) and Choice Based Credit System (CBCS) (As per NEP2020) Dr. Ambedkar Institute of Technology, Bengaluru-560056

MC	Vote: BS:			10		,	0	0	0	1 6		h	4	v		3		-	
MC: Mandatory Course	Basic Sci			MC		AE		SH	S	BS	ES		ES	ES	BS		00	Be	Category
	Note: BS: Basic Science Course		21HSN210	21HSN110	21HST209	ZICV1109	Z1HS1208	21HS1108	21CSL207/ 21CSL207	21CHL106/ 21CHL206	21MET205	21ECT204	21ECT104/	21CST103/ 21CST203	21CHT202	21MAT201		21MATI01	
ES: Engineering Science Course HS: Humanitias & Social Science	1		Career Development skill-II	Career Development skill-I	Health and Wellness	Rural Development	Professional writing skills in English	Communicative English	Computer Programming Laboratory	Engineering Chemistry Laboratory	Elements of Mechanical Engineering	Engineering	Basic Electronics and Commission	Problem solving through Programming	Engineering Chemistry	Advanced Calculus and Numerical methods	Calculus and Linear Algebra		Compt Title
			Humanities		Humanities	Civil		Humanities	Computer Science	Chemistry	Mechanical	Electronics	Science	Computer	Chemistry		Mathematics	Department	Leaching
		I	1		1		_		0	0	2	. 2		2	3	Cu		-	T
			0		0		0		0	0	2	2		2	0	2		-	Teac
	1		*		1*		*		2	2	0	0		0	0	0		70	hing Hr
	Total		0		0		0		0	0	0	0		0	0	0		· Co	Teaching Hrs/ Week
	30		2		2		2		2	2	4	4		4	w	O1		Total	
			1		2		2		ca .	CJ.	3	3	,		ယ	w		Duration (Hrs)	
2000	200		50		50		50		50	50	50	50	00	NO I	50	50		CIE	Exar
	450		1		50		50		50	50	50	50	30	70	50	50		SEE	Examination
200	900		PP/NP		100		100		100	100	100	100	100	100	100	100	Trans.	Total	
	20		0		1		-		-	-		· ພ	3			4			Credits

actical/drawing, S:Self study, CIE: Continuous Internal Evaluation, SEE: Semester End Examination

Note -At the end of the second-semester summer internship shall be carried out - based on inter/intra institutional activities credited in the third semester. University /Institutions may swap few courses between a FIRST and SECOND semester to balance the workload teaching and laboratory schedule

who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the prescribed credit shall be included in III semesters. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, Internship shall include Inter / Intra Institutional activities. Internship A University Viva-voce examination shall be conducted during III semesters and the Summer Internship - I: All the students admitted shall have to undergo a mandatory summer internship of 03 weeks during the vacation of II semesters. Summer

7. Ambedkar Institute of Technology nd-2021-2020

Department of civil Enginee

Bangalora - 560 0c\*

Physics Cycle: I/II Semester Scheme of Teaching and Examination for I/II Semester B.E., (Common to all B.E. Programmes) Academic Year:2021-22 Outcome Based Education(OBE) and Choice Based Credit System (CBCS) (As per NEP2020) Dr. Ambedkar Institute of Technology, Bengaluru-560056

Note: BS: Basic Science Course,		0.1		,	9	0		7		6	S.		4		3		1	,	1	T	No.
Note: BS: Basic Science Course.		MC		AE		HS	15	50	Ca	DC	ES		ES		53		BS		BS		_
ciono	211	21	21	21	21	21	2 1	,	2 1	2 2	N								<i>y</i>		Category
	21HSN210	21HSN110	21CVT209	21HST109	21HST208	21HST108	21EEL207	177	21PHL206	21MED205	21MED105/	21CVT204	21CVT104/	21EET203	OTEPTION!	21PHT202	21PHT102/	21MAT201	21MAT101		Code
	Career Development skill-H	Career Development skill-I	Rural Development	Health and Wellness	Professional writing skills in English	Communicative English	Basic Electrical lab		Engineering Physics Lab	a	Computer aided Engineering Drawing	Mechanics of Civil Engineering & Mechanics	Elements of Civil Engineering	Basic Electrical Engineering		0	Engineering Physics	Advanced Calculus and Numerical methods	Calculus and Linear Algebra		
	Humanities		Civil	Humanities		Humanities	Electrical		Physics	cemanical	Machanical	Civil	1	Electrical		rnysics	-		Mathematics		Department
	1		-		1		0		0	2		w		2		w	1	3	ń	7	Т
	0		0		0		0		-	0		0		2		0	-	2	+	-	1
	1*		1*		1*	1	2	1	,	2		0		0		0	1	0	1	P	ing H
	0		0		0		0	•		0	1	0		0	-	•	-	0	+	S	ırs/ Week
	2		2		2		2	1	,	4		w	4	4	U	2		Ui	1	Total	eek
The same of the sa	1		2		2		S	3		w	,				u	,		w		Duration (Hrs)	
	50		50		50		50	50		50	30	40	00	70	50			50		CIE	Exa
			50		50	0	5	50		50	36	50	30	3	50		50	5	-	SEE	Examination
	PP/NP		100		100	100	100	100		100	100	100	100		100		100	100	-	Total	
	•		1		1	-	-	1		3		w	w		3		4			Credits	

SEE: Semester End Examination Department of civil Engineering Professor and Head

L: Lecture, T:Titorial, P:Practical/drawing, S:Self study, CIE: Continuous Internal Evaluation,

\* Ambeditar Institute of Transology Bangatore - 560

Dr. Ambedkar Institute of Technology
(An Autonomous Institute, Affiliated to VTU, Accredited by NAAC with 'A' grade) Department of CIVIL ENGINEERING

I Semester M TECH

SCHEME OF TEACHING AND EXAMINATION I SEMESTER (Autonomous) 2017-18 M. Tech in STRUCTURAL ENGINEERING

	= ·	300	400					Tobaical Co.		
	50	1	50	6				Mini Project /Field work/ Technical visit	CSE18	
	50	1	50		2			Seminar		
	100	50	50	ω			:	Structural Engineering Lab - I	CSEL16 S	
	100	50	50			4	:	Elective - I	CSEISX	6
	100	50	50		1	4		Structural Dynamics		5.
	100	50	50	-		1		Structural Description able bodies		4.
	100	50	50	1		\ A		Mechanical State of the state of	CSF13	ω.
	100					_		Advanced Design of RC Structures	CSE12	2.
	100	50	50	1	-	4	:	Computational Structural Mechanics		-
Examination Credits	Total	SEE	CIE	Practic al / Project	Tutorial/ Seminar/ Assignment	Lectur e	Teaching Department	Subject Title	Code	No.
2	s allotted	m Mark	Maximum Marks allotted	week	Teaching hours per week	Teac			)	S

ced topics from refereed journals by each student.

#### **ELECTIVE I**

1	4	0	۵	1	٥	-	-	ONT. IC	2
Reliability Analysis of Structures	2 44 44 44 44 44 44 44 44 44 44 44 44 44	Design of Pre-cast and Composite Structures		Special Concrete		Advanced Design of Pre-stresses Concrete Structures		or two livaine of the Subject	Name of the Galactic
CSE154	COLIDO	CCE143	201707	CSEISO	COLICI	CSE151	ממטינו כיטנפ	Subject Code	

1. Armicedicar Institute of Technology Department of civil Engineering Bangatore - 560 Luc: Professor and Head

85-2508-BJ

SCHEME OF TEACHING AND EXAMINATION I SEMESTER (Autonomous) 2017-18 (An Autonomous Institute, Affiliated to VTU, Accredited by NAAC with 'A' grade) M. Tech in STRUCTURAL ENGINEERING Department of CIVIL ENGINEERING

Arabedkar institute of Technology REPARTMENT OF CIVIL ENGINEERS Bangelors - 560 056. Professor and ) and

### II Semester M TECH

							-		IVE-II	ELECTIVE-II
21	750	350	400					Total		
2	50		50	6			1	Seminar	CSEM28 S	°.
2	100	50	50		2	1		Research Methodology	CSESZ/	
2	100	50	50	3				Structural Engineering Lab - II		
3	100	50	50		-	4		Elective - II	CSE25X	
3	100	50	50			4		Design Concepts of Sub-structures		
3	100	50	50		1	4	:	Finite Element Method of Analysis		ب 4
3	100	50	50			4		Earinquake Resistant Structures		
3	100	50	50		,	4	1	Advanced Design of Steel Structures	CSE21	2.
Examination Credits	Total	SEE	CIE	Practical / Project	Tutorial/ Seminar/ Assignment	Lecture	Departmen t	Subject Little	Sub Code	- Zo.
	larks	Maximum Marks allotted	M	r week	Teaching hours per	Teac	Teaching		Sub Cado	S.

Internship: All the students have to undergo mandatory internship of 6 weeks during the vacation of I and II semesters and /or II and III semesters. A University examination shall be conducted during III semester and the prescribed credit shall be counted for the same semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not takeup/complete the internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements.

SI. No

Design of Plates and Shells Stability of Structures

CSE254

CSE252 CSE253

CSE251

Subject Code

Repair & Rehabilitation of Structures

Design of Tall Structures Name of the Subject

### SCHEME OF TEACHING AND EXAMINATION III SEMESTER (Autonomous) 2017-18 M. Tech in STRUCTURAL ENGINEERING

### III Semester M TECH

SI.	Sub Cal		Teaching	Tea	Teaching hours per	er week	M	aximum M allotted	Maximum Marks allotted	
Zo.	Sub-Code	Subject 1111e	Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Field Work	CIE	70	Total	Examination Credits
		Seminar/Presentation on Internship  (After 8 weeks from the data of		2		TOIN				
:	CSE31	(After 8 weeks from the date of commencement)	) :	04		/.	50	50	100	4
2.	CSE32	Report on Internship		04			50	50	100	3
ω.	CSE33	Evaluation and Viva-Voce		04			50	50	100	ω
4	CSE34	Project Phase - I					50	50	100	∞
		Total					200	200	400	18

#### Note:

- Technical Seminar: CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. Participation in the seminar by all postgraduate students of the same and other semesters of the programme shall be mandatory. The CIE marks awarded for Technical Seminar, shall be based on the evaluation of Seminar Report,
- relevant introductory project document, and present a seminar. CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide if any, and a senior faculty of the department. The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill and Question and Answer session Project Phase-1: Students in consultation with the guide/co-guide if any, shall pursue literature survey and complete the preliminary requirements of selected Project work. Each student shall prepare
- SEE as per the norms
- Internship: Those, who have not pursued /completed the internship shall be declared as failed and have to complete during subsequent SEE examinations after satisfying the internship requirements.

Ambedicar institute of Technology Department of civil Engineering Bangalore - 560 050. Professor and Heed

SCHEME OF TEACHING AND EXAMINATION (Autonomous) 2017-18 M. Tech in STRUCTURAL ENGINEERING

### IV Semester M TECH

				T	2	_	. 2	. SI
		CSE44	CSE43	CSE42X	CSE41			Sub Code
Grand Total (I to IV Semester): 88 Credits	Total	Evaluation of Project and Viva-Voce	Project Phase - II	Elective - III	Design of Concrete Bridge Structures		Sudve Title	Subject Title
(I to IV Se					i		Department	Teaching
mester) :							Lecture	Tes
88 Credits				V			Tutorial/ Seminar/ Assignment	Teaching hours per
						77.04.45	Practical / Field Work	per week
	250	100	50	50	50		CIE	M
	200	100		50	50		SEE	aximum M allotted
	450	200	50	100	100		Total	Maximum Marks allotted
	28	20	2	3	3		Credits	Femination

#### Sl .No Name of the Subject Masonry structures Theory of Plasticity and Fracture Mechanics Design of Industrial Structures Optimization Techniques Elective III CSE423 CSE424 CSE422 CSE421 Subject Code

1. Project Phase-2:

CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. The CIE marks awarded for project work phase -2, shall be based on the evaluation of Project Report subjected to plagiarism check, Project Presentation skill and Question and Answer session in the ratio 50:25:25.

SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the norms.

\* Ambedian Institute of Technology Department of civil Engineering Bangatore - 560 058 Professor and Head

SCHEME OF TEACHING AND EXAMINATION I SEMESTER (Autonomous) 2018-19 (An Autonomous Institute, Affiliated to VTU, Accredited by NAAC with 'A' grade) M. Tech in STRUCTURAL ENGINEERING Department of CIVIL ENGINEERING

R

Professor and Head
Department of civil Engineering

1. Ambedicar institute of Technological Bangalore - 560 056.

II Semester M TECH

Sub Code Subject Title  18CSE21 Advanced Design of Steel Structures 18CSE22 Earthquake Resistant Structures Finite Element Method of Analysis 18CSE24 Design Concepts of Sub Structures 18CSE25X ELECTIVE – II 18CSEL26 Structural Engineering Laboratory - II 18RM27 Research Methodology 18CSEM28 Mini project/ Industry visit/ Field work Total	7			Teaching	Teac	Teaching hours per week	r week	Mi	Maximum Marks allotted	Tarks	
18CSE21         Advanced Design of Steel          4         -         50         50         100           18CSE22         Earthquake Resistant Structures          4         -         -         50         50         100           18CSE23         Finite Element Method of          4         -         -         50         50         100           18CSE24         Design Concepts of Sub Structures          4         -         -         50         50         100           18CSE25X         ELECTIVE - II          4         -         -         50         50         100           18CSEL26         Structural Engineering Laboratory          -         -         50         50         100           18RM27         Research Methodology          -         -         50         50         100           18CSEM28         Field work          -         -         50         50         100           18CSEM28         Field work          -         -         50         50         100	No.	Sub Code	Subject Title	Departmen t	Lecture	Tutorial/ Seminar/ Assignment	Practical / Project	CIE	SEE	Total	Examination Credits
18CSE22         Earthquake Resistant Structures          4         -         -         50         50         100           18CSE23         Finite Element Method of Finite Element Method of Sub Structures          4         -         -         50         50         100         50         50         50         50         50         50         50         50         50         50         50         50         50         50         50         50         50         50	1.	18CSE21	Advanced Design of Steel Structures	:	4		1	50	50	100	6
18CSE23         Finite Element Method of Analysis          4         -         50         50         100           18CSE24         Design Concepts of Sub Structures          4         -         50         50         100           18CSE25X         ELECTIVE – II          4         -         50         50         100           18CSEL26         Structural Engineering Laboratory          -         3         50         50         100           18RM27         Research Methodology          -         2         -         50         50         100           18CSEM28         Mini project/ Industry visit/          -         6         50         -         50         2	2.	18CSE22	Earthquake Resistant Structures	:	4		1	50	50	100	"
18CSE24         Design Concepts of Sub Structures          4         -         50         50         100           18CSE25X         ELECTIVE—II          4         -         -         50         50         100           18CSEL26         Structural Engineering Laboratory          -         -         3         50         50         100           18RM27         Research Methodology          -         2         -         50         50         100           18CSEM28         Field work         Field work         -         6         50         -         50         -	3.	18CSE23	Finite Element Method of Analysis	:	4			50	50	100	0 60
18CSE25X         ELECTIVE—II          4         -         -         50         50         100           18CSEL26         Structural Engineering Laboratory - II          -         -         3         50         50         100           18RM27         Research Methodology          -         2         -         50         100           18CSEM28         Mini project/ Industry visit/          -         6         50         -         50           Rield work         Total         -         -         6         50         -         50         2	4.	18CSE24	Design Concepts of Sub Structures	:	4	-	ı	50	50	100	3
18CSEL26         Structural Engineering Laboratory - II          -         -         3         50         50         100           18RM27         Research Methodology          -         2         -         50         100           18CSEM28         Mini project/ Industry visit/          -         6         50         -         50           Field work         Total	5.	18CSE25X	ELECTIVE – II	:	4		1	50	50	100	
18RM27         Research Methodology          -         2         -         50         50         100           18CSEM28         Mini project/ Industry visit/          -         6         50         -         50           Field work         Total         400         350         750	9.	18CSEL26	Structural Engineering Laboratory - II	1		2	3	50	50	100	2
18CSEM28         Mini project/ Industry visit/         -         -         6         50         -         50           Total	7.	18RM27	Research Methodology		1	2		50	50	100	2
400 350 750	∞.	18CSEM28	Mini project/ Industry visit/ Field work			1	9	50	1	50	7 7
			Total					400	350	750	21

#### ELECTIVE-II

SI. No	Sl. No Name of the Subject	Subject Code
1	Design of Tall Structures	18 CSE 251
2	Repair and Rehabilitation of Structures	18 CSE 252
3	Stability of Structures	18 CSE 253
4	Design of Plates and Shells	18 CSE 254

and the prescribed credit shall be counted for the same semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not takeup/compl internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements. Internship: All the students have to undergo mandatory internship of 6 weeks during the vacation of I and II semesters and /or II and III semesters. A University examination shall be conducted during III se

SCHEME OF TEACHING AND EXAMINATION III SEMESTER (Autonomous) 2018-19 M. Tech in STRUCTURAL ENGINEERING

III Semester M TECH

Department of civil Engineering 1.19 Department of civil Engineering 1. Ambedkar Institute of Technology Bangalore - 560 056.

22	500	200	300					Total		
2	50		50		ı	1		Project phase - I	18CSEP36	6.
2	50	1	50				1	Technical Seminar	18CSES35	O.
<b>∞</b>	100	50	50	X			i	Internship	18CSEI34	4
3	100	50	50			04	1	Professional Elective 4	18CSE33X	į.
3	100	50	50		1	04		Professional Elective 3	18CSE32X	2.
4	100	50	50		')	04	i	Design of Concrete Bridge Structures	18CSE31	-
Credits	Total	SEE	CIE	Practical / Field Work	Tutorial/ Seminar/ Assignment	Lecture	Department	Subject Title	Sub Cour	No.
Francisco	Maximum Marks allotted	aximum M allotted	M	oer week	Teaching hours per week	Tea	Teaching		Sub Code	SI.

FIOLESS	riolessional Elective 3		Profess	Professional Elective 4	
SI.No	Sl.No Name of the Subject	Subject Code	2 20	Subject Code SI No Name of the Subject	2.1.
		Carlos Cono	OF TAO	TAUTITE OF THE SHOLECT	Subject Code
	The state of the s				2000
1	Design of monstrial Structures	18CSE321	_	Ontimization Techniques	10000000
3	Thomas of Diagrams and a second			Sommer Teaming	TOCOESSI
1	racture Mechanics	18CSE322	2	Composites and Smart materials	18005222
w	Magazina di mada di ma	2		CIBITATITI ATTITION CALLED	TOCOTO
	ratasom y structures	18CSE323	w	Advanced Structural Mechanics	10000222
		200		Contraction of the Contraction o	TO COLUMN
		18CSE324	4	Earth and Earth Retaining Structures 18CSF334	18CSE33
				0 - 1	-

#### Note:

- Technical Seminar: CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. Participation in the seminar by al Presentation skill and Question and Answer session postgraduate students of the same and other semesters of the programme shall be mandatory. The CIE marks awarded for Technical Seminar, shall be based on the evaluation of Seminar Report,
- SEE as per the norms department. The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill and Question and Answer session relevant introductory project document, and present a seminar. CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide if any, and a senior faculty of the Project Phase-1: Students in consultation with the guide/co-guide if any, shall pursue literature survey and complete the preliminary requirements of selected Project work. Each student shall prep

2. Internship: Those, who have not pursued /completed the internship shall be declared as failed and have to complete during subsequent SEE examinations after satisfying the internship requirements. Internship SEE shall be as per the norms.

# Dr. Ambedkar Institute of Technology SCHEME OF TEACHING AND EXAMINATION (Autonomous) 2018-19 M. Tech in STRUCTURAL ENGINEERING

### IV Semester M TECH

nester)	nector) · 82 Cradita	nostor) . 99 Cundit	nector) · 88 Cradite	Grand Total (I to IV Semester): 88 Credits
			150	150 100
			100	100 100
	Y		- 50	- 50
	Assignment		Work	Work
Lectur	Lecture Seminar/		Tutorial/ Practical Seminar/ / Field	Tutorial/ Seminar/
1	Teaching hours p	Teaching hours per week		Teaching hours per week  Allotted

#### 1. Project Phase-2:

CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. The CIE marks awarded for project work phase -2, shall be base the evaluation of Project Report subjected to plagiarism check, Project Presentation skill and Question and Answer session in the ratio 50:25:25.

SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the norms.



(An Autonomous Institute, Affiliated to VTU, Accredited by NAAC with 'A' grade)

SCHEME OF TEACHING AND EXAMINATION I SEMESTER (Autonomous) 2018-19, 2019 - 20 Department of CIVIL ENGINEERING

M. Tech in STRUCTURAL ENGINEERING

### I Semester M TECH

21	700	300	400					Total		
2	50		50	6			:	Mini project/ Industry visit/ Field work	18CSEM18	.00
2	50		50	1	2	1		Technical Seminar	18CSES17	7.
2	100	50	50	3	-	-	:	Structural Engineering Laboratory - I	18CSEL16	6.
3	100	50	50	-	- 7	4	:	ELECTIVE – I	18CSE15X	5.
3	100	50	50	-	1	4		Structural Dynamics	18CSE14	4.
3	100	50	50	-	-	4		Mechanics of Deformable Bodies	18CSE13	ω.
3	100	50	50	4	•	4		Advanced Design of RC Structures	18CSE12	2.
3	100	50	50		- \	4	:	Computational Structural Mechanics	18CSE11	-
Examination Credits	Total	SEE	CIE	Practic al / Project	Tutorial/ Seminar/ Assignment	Lectur e	Teaching Department	Subject Title	Sub Code	No.
	s allotted	II IVIALKS	TATAXIII IM TATAKS AHOTTED	week	Teaching hours per week	Teac				2

mais by each student.

#### ELECTIVE I

SI.No	Sl.No Name of the Subject	Subject Code
1	Advanced Design of Pre-stressed Concrete Structures	18CSE151
2	Special Concrete	18 CSE 152
3	Design of Pre-cast and Composite Structures	18 CSE 153
4	Reliability Analysis of Structures	18 CSE 154

t Ambedikar Institute of Technology Department of dvil Engineering Professor and it ad Bangatore - 560 056.

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(An Autonomous Institute, Affiliated to VTU, Accredited by NAAC with 'A' grade) Department of CIVIL ENGINEERING

SCHEME OF TEACHING AND EXAMINATION I SEMESTER (Autonomous) 2018-19, 2019 - 20 M. Tech in STRUCTURAL ENGINEERING

II Semester M TECH

2			Teaching	Teac	Teaching hours per week	r week	Ma	Maximum Marks allotted	larks	
No.	Sub Code	Subject Title	Departmen t	Lecture	Tutorial/ Seminar/ Assignment	Practical / Project	CIE	SEE	Total	Examination Credits
1.	18CSE21	Advanced Design of Steel Structures	:	4	1	1	50	50	100	ယ
2.	18CSE22	Earthquake Resistant Structures		4		-	50	50	100	u
3.	18CSE23	Finite Element Method of Analysis		4			50	50	100	ω
4.	18CSE24	Design Concepts of Sub Structures		4		-	50	50	100	w
5.	18CSE25X	ELECTIVE – II	:	4			50	50	100	3
6.	18CSEL26	Structural Engineering Laboratory - II	1			ω	50	50	100	2
7.	18RM27	Research Methodology		1	2		50	50	100	2
.∞	18CSEM28	Mini project/ Industry visit/ Field work	1	0	1	6	50		50	2
		Total					400	350	750	21
LECT	ELECTIVE-II									

#### **E**

18 CSE 254	Design of Plates and Shells	4
18 CSE 253	Stability of Structures	. 3
18 CSE 252	Repair and Rehabilitation of Structures	2
18 CSE 251	Design of Tall Structures	-
Subject Code		SI. No

Internship: All the students have to undergo mandatory internship of 6 weeks during the vacation of I and II semesters and /or II and III semesters. A University examination shall be conducted during III semester and the prescribed credit shall be counted for the same semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not takeup/complete the internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements.



SCHEME OF TEACHING AND EXAMINATION III SEMESTER (Autonomous) 2018-19, 2019 - 20 M. Tech in STRUCTURAL ENGINEERING

\*. Ambadicar institute of Technolic Department of civil Engineerin

Professor and Head

2		1	Tanahing	Tea	Teaching hours per week	per week	Z	aximum Mallotted	Maximum Marks allotted	1
Zo.	Sub Code	Subject Title	Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Field Work	CIE	700	Total	Examination Credits
	18CSE31	Design of Concrete Bridge Structures	:	04	')		50	50	100	4
5	18CSE32X	Professional Elective 3		04		1	50	50	100	s.
ω.	18CSE33X	Professional Elective 4	:	04	1		50	50	100	3
4	18CSEI34	Internship	1				50	50	100	∞
S	18CSES35	Technical Seminar	:				50	1	50	2
6.	18CSEP36	Project phase - I		1	V	ı	50		50	2
		Total					300	200	500	22

Subject Code SI .No Name of the Subject Mame of the Subject Code SI .No Name of the Subject Mame of the Subject Code SI .No Name of the Subject Code SI .No Na		o Masonry structures	2 Theory of Plasticity and	7 Thomas of Diagram	Design of Industrial Structures	7	or . No lyame of the Subject	CI NI NI- ELI CIII	Professional Elective 3
de Sl.No Name of the Subj  1 Optimization Tec  2 Composites and S  3 Advanced Structu  4 Earth and Earth R	18CSE324	18CSE323	racture Mechanics 18CSE322		AND THE PERSON NAMED IN		Subject Co		
Name of the Subject Optimization Techniques Composites and Smart materials Advanced Structural Mechanics Earth and Earth Retaining Structures	4	3	2		_	100	de SI No		Profes
	Earth and Earth Retaining Structures   18CSE334	Advanced Structural Mechanics	Composites and Smart materials	The state of the s	Optimization Techniques	The Carlotte of the carlotte	Name of the Subject		ssional Elective 4

#### Note:

- Technical Seminar: CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. Participation in the seminar by all postgraduate students of the same and other semesters of the programme shall be mandatory. The CIE marks awarded for Technical Seminar, shall be based on the evaluation of Seminar Report, Presentation skill and Question and Answer session
- department. The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill and Question and Answer session Project Phase-1: Students in consultation with the guide/co-guide if any, shall pursue literature survey and complete the preliminary requirements of selected Project work. Each student shall prepare relevant introductory project document, and present a seminar. CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide if any, and a senior faculty of the
- 3 SEE as per the norms

2. Internship: Those, who have not pursued /completed the internship shall be declared as failed and have to complete during subsequent SEE examinations after satisfying the internship requirements. Internship SEE shall be as per the norms.

### Dr. Ambedkar Institute of Technology

SCHEME OF TEACHING AND EXAMINATION (Autonomous) 2018-19, 2019 - 20 M. Tech in STRUCTURAL ENGINEERING

### IV Semester M TECH

					88 Credits	mester) :	(I to IV Se	Grand Total (I to IV Semester): 88 Credits		
24	250	100	150 100					Total		
22	200	100	100 100	1				Project work evaluation and viva voce	18CSEP42	2
2	50		50					Project Work Phase II – Midterm Internal Evaluation	18CSEP41	
Credits	Total	SEE	CIE	Practical / Field Work	Tutorial/ Seminar/ Assignment	Lecture	Department	Subject Title	Sub Code	No.
Fyamination	Maximum Marks allotted	aximum Mallotted	Ma	per week	Teaching hours per week	Tea	Tanahina			S.

#### 1. Project Phase-2:

CIE marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. The CIE marks awarded for project work phase -2, shall be based on the evaluation of Project Report subjected to plagiarism check, Project Presentation skill and Question and Answer session in the ratio 50:25:25.

SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the norms.

Ambodikar institute of Tachnology Department of civil Engineering Barrgatore - 560 056. Professor and Head

SCHEME OF TEACHING AND EXAMINATION I SEMESTER (Autonomous) 2020-21, 2021-22 & Ambedian Institute of Ischnology (An Autonomous Institute affiliated to VTU, Accredited by NAAC with 'A' grade) Department of Civil Engineering

Department of civil Engineering

Bangalore - 560 056.

Professor and read

M. Tech in Structural Engineering

Total 100 100 100 100 100 100 50 50 800	l sem	I semester			Teac	Teaching hours per week	week	Max	Maximum Marks allotted	larks	Lyaminotion
20CSE11         Computational Structural Mechanics         4         -         50         50         100           20CSE12         Advanced Design of RC Structures         4         -         -         50         50         100           20CSE13         Mechanics of Deformable Bodies         4         -         -         50         50         100           20CSE14         Structural Dynamics         4         -         -         50         50         100           20CSE15X         ELECTIVE - I         4         -         -         50         50         100           20CSE16X         ELECTIVE - II         4         -         -         50         50         100           20CSE117         Structural Engineering Laboratory         -         4         -         50         50         100           20CSE318         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/         -         6         50         -         50           4         -         -         6         50         -         50	Si.		Subject Title	Teaching Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Project	CIE	SEE		Credits
20CSE12         Advanced Design of RC Structures         4         -         -         50         50         100           20CSE13         Mechanics of Deformable Bodies         4         -         -         50         50         100           20CSE14         Structural Dynamics         4         -         -         50         50         100           20CSE15X         ELECTIVE - I         4         -         50         50         100           20CSE16X         ELECTIVE - II         4         -         50         50         100           20CSE17         Structural Engineering Laboratory         -         4         -         50         50         100           20CSESI8         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/         -         -         4         -         50         -         50           4         -         -         6         50         -         50         -         50           4         -         -         6         50         -         50         -         50           5         Field work	-	20CSE11	Computational Structural Mechanics		4	-	1	90	50	100	е.
20CSE13         Mechanics of Deformable Bodies         4         -         -         50         50         100           20CSE14         Structural Dynamics         4         -         -         50         50         100           20CSE15X         ELECTIVE - I         4         -         -         50         50         100           20CSE15X         ELECTIVE - II         4         -         -         50         50         100           20CSE17X         ELECTIVE - II         -         -         3         50         50         100           20CSE17         Structural Engineering Laboratory         -         4         -         50         100           20CSE318         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/         -         6         50         -         50           20CSEM19         Field work         -         -         6         50         -         50	2	20CSE12	Advanced Design of RC Structures		4		1	50	50	100	3
20CSE14         Structural Dynamics         4         -         -         50         50         100           20CSE15X         ELECTIVE—I         4         -         -         50         50         100           20CSE16X         ELECTIVE—II         4         -         -         50         50         100           20CSEL17         Structural Engineering Laboratory         -         4         -         50         100           20CSES18         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/         -         6         50         -         50           Field work         Total         -         -         6         50         -         50	3	20CSE13	Mechanics of Deformable Bodies		4		-	50	50	100	3
20CSE15X         ELECTIVE—I         4         -         -         50         50         100           20CSE16X         ELECTIVE—II         4         -         -         50         50         100           20CSEL17         Structural Engineering Laboratory         -         4         -         50         100           20CSES18         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/         -         -         6         50         -         50           Pield work         Total         -         -         6         50         -         50	4	20CSE14	Structural Dynamics		4		- /	90	50	100	3
20CSE16X         ELECTIVE—II         4         -         -         50         50         100           20CSEL17         Structural Engineering Laboratory         -         4         -         50         50         100           20CSEX18         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/         -         6         50         -         50           Pield work         Total         -         6         50         -         50	S	20CSE15X	ELECTIVE – I		4	-	1	20	50	100	3
20CSEL17         Structural Engineering Laboratory         -         -         -         4         -         50         -         50         -         50           20CSES18         Technical Seminar*         -         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/         -         -         6         50         -         50           Field work         Total         800         800	9	20CSE16X	ELECTIVE – II		4	1	-	50	50	100	3
20CSES18         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/ Field work         -         6         50         -         50           Total         Total         450         350         800	1	20CSEL17	-		1		3	20	50	100	7
20CSEM19         Minor project/ Industry visit/         -         -         6         50         -         50           Field work         Total         450         350         800	00	20CSES18	Technical Seminar*		4	4		50	1	50	2
450 350 800	6	20CSEM19	Minor project/ Industry visit/ Field work	A	•	ı	9	20	1	50	2
			Total	P				450	350	800	24

\*Technical Seminar: Seminar on Advanced topics from refereed journals by each student. ELECTIVE - II ELECTIVE - I

SI. No	SI. No   Subject Code   Subject title	Subject title
1	20CSE151	Advanced Design of Pre-stressed Concrete Structures
2	20CSE152	Special Concrete
3	20CSE153	Design of Pre-cast and Composite Structures
4	20CSE154	Reliability Analysis of Structures

		450	350	008	24
rom refe	s from refereed journals by each student.  ELECTIVE - II	y each st	udent.		
SI. No	SI. No   Subject Code   Subject title	Subjec	t title		
1	20CSE161	Optim	ization Te	Optimization Techniques	
2	20CSE162	Compo	osites and	Composites and Smart materials	erials
3	20CSE163	Advan	ced Struc	Advanced Structural Mechanics	anics
4	20CSE164	Earth a	and Earth	Earth and Earth Retaining Structures	Structures

(An Autonomous Institute affiliated to VTU, Accredited by NAAC with 'A' grade)

Department of Civil Engineering

SCHEME OF TEACHING AND EXAMINATION II SEMESTER (Autonomous) 2020-21, 2021-22 M. Tech in Structural Engineering

t. Ambedkar Institute of Technol Bangalore - 560 056.

Department of civil Engineering

Professor and Hos

Examination Credits 3 24 3 3 3 3 3 2 N N Total 100 100 100 100 100 100 100 100 850 50 Maximum Marks allotted SEE 50 400 50 50 50 50 50 50 50 CIE 450 50 50 50 50 50 50 50 50 50 Practical / Project Teaching hours per week 1 3 9 Assignment Tutorial/ Seminar/ l 1 Lecture 4 4 4 4 4 2 Department Teaching Total Earthquake Resistant Structures Finite Element Method of Advanced Design of Steel (Presentation of Synopsis) Subject Title Research Methodology Computational Structural Project Work Phase - I Engineering Laboratory Design Concepts of ELECTIVE - IV ELECTIVE - III Substructures Structures Analysis Sub Code 20CSE25X 20CSE26X 20CSEL28 **20CSEP29** 20CSE21 20CSE22 20CSE23 20CSE24 20RM27 II semester S. S. 2 3 4 S 9  $\infty$ 0

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Sl. No Subject Code Subject title 1 20CSE251 Design of Tall Structures 2 20CSE252 Repair and Rehabilitation of Structures	3 20CSE253 Stability of Structures	4 20CSE254 Decion of Plates and Challe	No 1 2 2 1	Subject Code 3 20CSE251 2 20CSE252 1 20CSE253 3	Subject title Design of Tall Structures Repair and Rehabilitation of Struc Stability of Structures
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### ELECTIVE-IV

SI. No   Subject Code   Name of the Subject	Design of Industrial Structures	Theory of Plasticity and Fracture Mechanics	Masonry structures	Design of Concrete Bridge Structures
Subject Code	20CSE261	20CSE262	20CSE263	20CSE264
SI. No	1	2	3	4

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### SCHEME OF TEACHING AND EXAMINATION III SEMESTER (Autonomous) 2020-21, 2021-22 M. Tech in Structural Engineering

#### III semester

THE STATE OF THE S				Tea	Teaching hours per week	er week	M.	allotted	Maximum Marks allotted	T. C.
SI. No.	Sub Code	Subject Title	Teaching Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Field Work	CIE	SEE	Total	Credits
	20CSE31	Self-Study – Massive Open Online Course (MOOC)*			8	1	50	50	100	4
2	20CSEI32	Internship#		1	/	16	50	50	100	∞
	20CSES33	Technical Seminar		1	4		50	1	50	2
	20CSEP34	Evaluation of Project Work		1		12	50	50	100	9
1		Total					200	150	350	20

List of Massive Open Online Courses (NPTEL/SWAYAM) shall be decided in the Board of Studies meeting. Students shall register for MOOC during 1st /2nd /3rd semester and shall be completed before the last working day of the 3rd semester. The assignment and examination marks along with certificate should be submitted to the examination section.

The student shall make a midterm presentation of the activities undertaken during the first 8 weeks of internship to a panel comprising Internship Guide, a senior faculty from the department and Head of the Department. #

The Department shall facilitate and monitor the student internship program.

The internship report of each student shall be submitted to the Institute.



Professor and Head Department of civil Engineering t. Ambedkar Institute of Technology Bangatore - 560 655.

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Department of Civil Engineering SCHEME OF TEACHING AND EXAMINATION IV SEMESTER (Autonomous) 2020-21, 2021-22 M. Tech in Structural Engineering

IV semester

2				Tea	Teaching hours per week	er week	M	aximum M	Maximum Marks allotted	
No.	Sub Code	Subject Title	Teaching Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Field Work	CIE	SEE	Total	- Examination Credits
1	20CSEP41	Project Phase – II Midterm Internal Evaluation		1	1	8	100	1	100	2
2	20CSEP42	Project Work Evaluation and Viva Voce		1	4	24	100	100	200	18
		Total					200	100	300	20
		Grand Total (I to IV Semester)	emester) :	23	2300 Marks; 88 Credits	8 Credits				



Professor and Head
Department of civil Engineering
1, Ambedicar institute of Technology
Bangalore - 560 056.

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### **Department of Civil Engineering**

SCHEME OF TEACHING AND EXAMINATION I SEMESTER (Autonomous) 2020-21, 2021-22 M. Tech in Structural Engineering

I semester

2			:	Teacl	Teaching hours per week	week	Max	Maximum Marks allotted	larks	
No.	Sub Code	Subject Title	Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Project	CIE	SEE	Total	Credits
-	20CSE11	Computational Structural Mechanics		4			50	50	100	3
2	20CSE12	Advanced Design of RC Structures		4		-	50	50	100	3
ယ	20CSE13	Mechanics of Deformable Bodies		4		1	50	50	100	3
4	20CSE14	Structural Dynamics		4	1	1	50	50	100	3
S	20CSE15X	ELECTIVE - I		4	1	-	50	50	100	3
6	20CSE16X	ELECTIVE - II		4		1	50	50	100	3
7	20CSEL17	Structural Engineering Laboratory	9	1	-	3	50	50	100	2
∞	20CSES18	Technical Seminar*		)	4	1	50	1	50	2
9	20CSEM19	Minor project/ Industry visit/ Field work		. (	•	6	50		50	2
		Total	1				450	350	800	24

ELECTIVE - I Technical Seminar: Seminar on Advanced topics from refereed Journals by each student. ELECTIVE - II

	Contract of the Contract of th	STATE OF THE PARTY OF THE PARTY OF
Reliability Analysis of Structures	20CSE154	4
Design of Pre-cast and Composite Structures	20CSE153	3
Special Concrete	20CSE152	2
Advanced Design of Pre-stressed Concrete Structures	20CSE151	1
Subject title	Sl. No Subject Code Subject title	SI. No

C			_
Earth and Earth Retaining Structures	20CSE164	4	
<b>Advanced Structural Mechanics</b>	20CSE163	3	
Composites and Smart materials	20CSE162	2	
Optimization Techniques	20CSE161	1	
Subject title	Sl. No Subject Code Subject title	Sl. No	

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SCHEME OF TEACHING AND EXAMINATION II SEMESTER (Autonomous) 2020-21, 2021-22 Department of Civil Engineering

Professor and Head

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Bangalore - 560 056.

M. Tech in Structural Engineering

II semester	ster	0		Teac	Teaching hours per week	week	Ma	Maximum Marks allotted	arks	Evamination
No.	Sub Code	Subject Title	Teaching Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Project	CIE	SEE	Total	Credits
		Advanced Design of Steel		۷		1	50	50	100	· ·
-	20CSE21	Advanced Design of Steel Structures		4	1		500	50	100	ه د
2	20CSE22	Earthquake Resistant Structures		4	1		50	00	100	·
ا در	20CSE23	Finite Element Method of		4			50	50	100	w
,		Analysis								
4	20CSE24	Design Concepts of Substructures		4	1	1	50	50	100	. w
n	20CSE25X	ELECTIVE – III		4			50	50	100	3
,		TO THE PARTY OF TH		4			50	50	100	w
6	20CSE26X	ELECTIVE - IV	)	-			5	60	100	2
7	20RM27	Research Methodology		2	1		00	00	100	ı
∞	20CSEL28	Computational Structural Engineering Laboratory		4		ω	50	50	100	2
9	20CSEP29	Project Work Phase – I (Presentation of Synopsis)			1	6	50	1	50	2
		Total					450	400	850	24
					ELECTIVE-IV	W				

### ELECTIVE-III

Degram of Plates and Shells	つのこのロンケム	_
101-11-		
Stability of Structures	20CSF253	u
Repair and Remarkation of	20CSE252	2
Danie and Dahahilitation of Structures		1
Design of Tall Structures	20CSE251	1
	Subject Code	DI. INO
Subject title	CI No Subject Code Subject title	CI NO

#### ELECTIVE-IV

SCHEME OF TEACHING AND EXAMINATION III SEMESTER (Autonomous) 2020-21, 2021-22 (An Autonomous Institute affiliated to VTU, Accredited by NAAC with 'A' grade) Department of Civil Engineering

M. Tech in Structural Engineering

	330	DCT	200				1	Total		
20	350	150	300					Phase I	20CSEP34	4
6	100	50	50	12		1		Evaluation of Project Work		
	00	1	50	1	4	-		Technical Seminar	20CSES33	ω
3	20							Internship#	20CSEI32	2
00	100	50	50	16				Cilinio Compo (con o o )		
4	100	50	50	L	8	7		Self-Study – Massive Open Online Course (MOOC)*	20CSE31	-
				11011	Troong					
Credits	Total	CIE SEE	CIE	Practical / Field Work	Tutorial/ Seminar/	Lecture	Teaching Department	Subject Title	Sub Code	No.
Examination	Marks	Maximum Marks allotted	Ma	er week	Teaching hours per week	Teac				

during 1st /2nd /3rd semester and shall be completed before the last working day of the 3rd semester. The assignment and examination marks along List of Massive Open Online Courses (NPTEL/SWAYAM) shall be decided in the Board of Studies meeting. Students shall register for MOOC with certificate should be submitted to the examination section.

The student shall make a midterm presentation of the activities undertaken during the first 8 weeks of internship to a panel comprising Internship Guide, a senior faculty from the department and Head of the Department.

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SCHEME OF TEACHING AND EXAMINATION IV SEMESTER (Autonomous) 2020-21, 2021-22 (An Autonomous Institute affiliated to VTU, Accredited by NAAC with 'A' grade) M. Tech in Structural Engineering Department of Civil Engineering

				88 Credits	2300 Marks; 88 Credits	2:	Semester):	Grand Total (I to IV Semester):		
1000000		100	200					Total		
20	300	200 100	200					Viva Voce	F00000	1
19	200	100 100	100	24	4	-		Project Work Evaluation and	20CSEP42	3
10		)						Midtern internal Evaluation		
1	100		100	8	/	-		Project Phase – II	20CSEP41	-
2	100	1	100	0						
				Work	Assignment					
Credits	Total	CIE SEE	CIE	Practical / Field	Tutorial/ Seminar/	Lecture	Department	Subject Title	Sub Code	S. S.
Examination	ed	allotted		er week	Teaching hours per week	Tea				
	Marks	<b>Maximum Marks</b>	Ma						IV semester	V se

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