### 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.
- 7. 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
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### 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>
	3. Sri. H R Girish, CEO & MD, Girish Ventures, Strategic Consultants in Construction & Infrastructure Sector – India and Middle East, Bengaluru.
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	1	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	w	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 .	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	w	1	03	03	50	50	100
00	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.

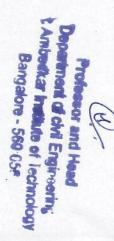
2. Ambedkar Institute of Fechnologies
8 angetone - 560 USC Professor and Head

Batch 2017 - 2018

B.E (Civil Engineering)

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

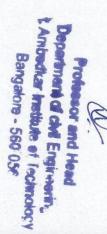
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Batch 2017 - 2018

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

IV SEMESTER



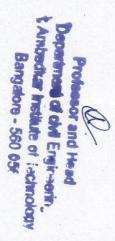
Batch 2017 - 2018

B.E (Civil Engineering)

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

VSEMESTER

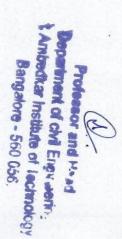
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	TSHST	CALAS	CVLS/	CVOO	CVSS	CV24	CVSS	CV52	CV51		Course code	Course
	Aptitude & Verbal Ability Skills	Computer Aided Design Lab	Hydraulics & Hydraulic Machinery Lab	Transportation Engineering - I	Hydrology & Irrigation Engineering	Geolechnical Engineering - I	Structural Analysis - II	Design of RCC Structural Elements	Wastewater Treatment & Disposal		Course Title	
TOTAL	CV	CV	CV	CV	CV	CV	CV	CV	BS		Depa rtme nt	Teac
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23	PP/NP	1.5	1.5	3	3	3	4	4	4		Cre	



Batch 2017 - 2018

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

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CV52	Design of RCC Structural Elements	CV	4	1	-	(c)	50	50	100	
CV53	Structural Analysis - II	CV	4	-	-		50	50	100	-
CV54	Geotechnical Engineering - I	CV	ယ	1	-	ادن	50	50	100	-
CVSS	Hydrology & Irrigation Engineering	CV	ယ	!	-	w	50	50	100	-
CV 20	Transportation Engineering - I	CV	S	1	ယ	ယ	50	50	100	
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Batch 2017 - 2018

B.E (Civil Engineering)

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

VI SEMESTER

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Subject Code	Title of the Subject	Subject Code	Title of the Subject
CV661	Theorem of Flouring		
C V 001	Theory of Elasticity	CV665 .	Ground Water Hydrology



Ambediar institute of Technolog Department of civil Engineering Bangalore - 560 056. Professor and Head

	CVKKA	0.000	CVKK3	.CV662
Advanced Surveying	A.4. 12	Ground Improvement Techniques		Alternate Building materials & Technologies
CV668		CV667		CV666
Repair & Rehabilitation of Structures		Traffic Engineering		Solid Waste Management

Professor and Head
Department of civil Engineering
LAINDERING Institute of Technology
Bangature - 560 056.

Batch 2017 - 2018 B.E (Civil Engineering)

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

VII SEMESTER

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Professor and Head
Department of CAVI Engineering
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Barrigators - 560 CC.

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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

Professor and Head

Department of civil Engineering

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Batch 2017 - 2018

B.E (Civil Engineering)

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

VIII SEMESTER

Professor and Head
Department of civil Engineering
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Bangelore - 560 056.

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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	
TOTAL	CV	CV	CV	CV	CV	CV	HSS		ing Depar tment	
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Interdepartmental Elective - II	Professional Elective - V	Professional Elective - IV
Interdepartmental Elective	Elective	Professional Elective

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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 Graphics and Design  ES 18PHL16 Engineering Physics Laboratory  ENGISEPH Engineering Laboratory  English/ Kannada	350	350	21	80	90	12	TOTAL		0	18HS12		0
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	18HS21/ 18HS22	18CSL27	18CHL26	18ME25	18ELN24	18CS23	18CH22	18MA21		Course and Course Code			
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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Dr. Ambedkar Institute of Technology, Bengaluru-560 056

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I ''' L		SOIL SKIIIS (INC.)	Sat abilis (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 Collsudenon	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)
77: E		TOTAL	Humanities		HS/CV	CV	CW	CV	CV	CV	CV CV	CV	CV.	CV	Mathematics			Ceaching epartment		AND EXAMINATION fr B.E (Civil Engineering) (OBE) and Choice Base
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Note: BC: Science Course, PC: Professional Core. Hu: Humanities, MC: Mandatory Course.

Professor and Read

\* 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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								C	Concrete & Highway materials Lab	18CVL47	PC	8
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Note: BC: Science Course, PC: Professional Core. Hu: Humanities, NCMC: Non-Credit Mandatory Course. 18MAD41 Basic Engg Mathematics - II

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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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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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SI. Course and  Course Title  Course Title  Course Title  Course Title  Course Title  L  L  L  L  L  L  L  L  L  L  L  L  L	N   Course and   Course Title   Teaching Hour   N   Course and   Course Title   Teaching Hour   N   Teaching Hour   Teac	N   Course and   Course Title   Teaching Hours / Week	Course and   Course Title			T	T	· various		T	T		_	-	-			-	_	_	-,				
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 PE 18CV65X Open Elective - B PC 18CVL66 Structures PC 18CVL67 Geotechnical Engineering Laboratory M 18CVM68 Mini-Project PC 18CVL69 Extensive Survey Project PC 18CVL69 Extensive Survey Project PC 18CVL69 Placement Training PC: Professional Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Pro	Course and         Course Title         Teaching Hour Ingenting           HS         18HS61/62         M&E/IPR         L         T           PC         18CV61         Design of Steel Structures         L         T           PC         18CV62         Railways, Airport, Tunnel and Harbour         CV         3         -           PC         18CV63         Foundation Engineering         CV         3         -           PC         18CV65X         Professional Elective - 2         CV         3         -           PC         18CVL66         Structures         CV         3         -           PC         18CVL66         Computer Aided Drawing of RC and Steel         CV         3         -           PC         18CVL66         Geotechnical Engineering Laboratory         CV         -         -           PC         18CVL69         Extensive Survey Project         CV         -         -         -           PC         18CVL69         Extensive Survey Project         CV         -         -         -           PC: Professional Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project         INT	Course and         Course and         Course Title         Teaching Hours Week           HS         18HS61/62         M&E/IPR         IBHS61/62         M&E/IPR         IBHS61/62         I	3 C C C C C C C C C C C C C C C C C C C	Note		-	+	10	9	000		7	0	7	V	4	w		1)	-	•			Z	2
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M&E/IPR  Design of Steel Structures  Railways, Airport, Tunnel and Harbour Engineering Foundation Engineering Professional Elective - 2  Open Elective - B  COV Structures  Geotechnical Engineering Laboratory  COV Extensive Survey Project Placement Training  TOTAL  TOTAL  Teach  Hu 3  CV 4  CV 3  CV 4  TOTAL 20  Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Pro	Teaching Hour Survey Project  Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project  Teaching Hour Ireaching Hour Includes Ireaching Hour Includes Ireaching Hour Ireaching Hour Includes Ireaching Ireaching Ireaching Ireaching Ireaching Ireaching Hour Ireaching Ireaching Hour Ireaching Ireaching Hour Ireaching Ireaching Hour Ireaching Ireaching Ireaching Hour Ireaching Ireac	Teaching Hours / Week   In the part   Iteaching   Iteaching Hours / Iteaching H	3 0 0 0 0 0 0 0 0 0 0 0 0 ion	Note: PC: Professional Core, PE: Professional Elective, OE: Open Elective, MP: Mini-Project, INT: Internship		OCCITOT	184866	18CVL69	18CVM68	18CVL67	100	18CVI.66	XCOA D&I	TOCAOAV	1000000	18CV63	18CV62	1	18CV61	18HS61/62				ourse and	
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and VIII semesters admitted to 111 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.

18CV642 Alternate Building Mat
ate Building Materials and Technologies
Students can select any one of the open electives (Please refer to consolidated list of Dr. AIT for open electives) offered by any Department
18CV642 Alternate Building Materials and Technologies for open electives) offered by any Department

Mentor.	
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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Department of civil Engire-entry

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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

> S Ambedicar institute of Tacterologi lerament of civil Engireering

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B.E (Civil Engineering)

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

T				T	T					T		7	T	-
	9	8	8	7	6	5	4	w	2	1		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		ER
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		
0	(If not	CV	CV	CV	CV	CV	CV	CV	CV	IM/CV	I	Teaching Departmen	t	
19	complete during the	1	1		3	3	3	4	4	2	T	Theory Lecture	Teacl	
	d after VI interveni	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	P	Practica 1/ Drawin	s /Week	
27	amination of VII a	03	03	03	03	03	03	03	03	03		Duration in hours		
450	s, it has to	50	50	50	50	50	50	50	50.	50		CIE Marks	Examination	
450	mesters)	50	00	50	50	50	00	50	00	50		SEE Marks	nation	
900	ed out	100	100	100	100	100	100	100	100	100	100	Total Marks		
2.5	1	7	-	-	. w	u	0	4 4	1	4 1		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			

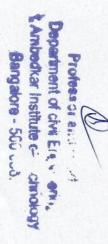
	✓ Registration to electives shall be documented under the guidance of Programme Coordinator/ Mentor.	Reinforced Earth Structures	
	✓ The syllabus content of open elective is similar to that of Departmental core courses or	Structural Dynamics	18CV735
Structural Dynamics    The syllabus content of open	The candidate has studied the same course during the previous semesters of the program	Design of Bridges	18CV734
Design of Bridges  The candidate has studied the se Structural Dynamics  The syllabus content of open	open electives) offered by any Department.	Environmental Impact Assessment	18CV733
Environmental Impact Assessment  Design of Bridges  Structural Dynamics  Open electives) offered by any Department of open electives of an open elective is not open elective is not open elective.  The candidate has studied the same open electives of the same open electives of the parameter of open electives.	Students can select any one of the open electives (Please refer to consolidated list of Dr. All 101	Photogrammetry and Remote Sensing	18CV732

### Electives: 4

Engineering	
Quality Management System in Civil	18CV/45
Earthquake Resistant Design of Structures	18CV744
Pavement Design	18CV743
Advanced Foundation Design	18CV742
Water Resources Engineering	18CV741
e Professional Elective	Course code

### Electives: B

TOTOCCITO . D	
Course code	Course code   Open Elective - C
18CV751	Ecology and Environmental Impact Assessment
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)

			4		3	2	1		No SI.		VIII S	
			INT		Seminar	Project	MC		Cou Cou		VIII SEMESTER	
1	T		18CV183		18CVS82	18CVP81	18HS81/82		Course and Course code		~	
IOIAL	OTAI		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)
02	00	VII and VIII semesters.	of VI and V	leted during			2	T	Theory Lecture	Teach		and Choic
1		semesters.	'II semeste	g the interv	1	-	-	T	Tutorial	Teaching Hours /Week		e Based
1	4		rs and /or	ening	2	2	1	P	Practical / Drawing	/Week		Credit Syst
7.1	17		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		
400	400		100		100	100	100		Total Marks			
	7		2		1	10	2		Credits			

#### Note:

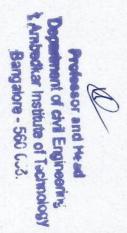
CMEP: Cost Management of Engineering Projects, OSHA: Occupational Safety and Health Administration PC: Professional Core, PE: Professional Elective, OE: Open Elective, INT: Internship, MC: Mandatory Course

### 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 I
0 24	III
24	IV
25	V
24	VI
23	VII
15	VIII
175	<b>Total Credits</b>



-	8 Hu		7 ES	6 BC		5 ES	4 ES		3 ES	7 90	+	1 BC				SI. Con				
18HS12	18HS11/		18EEL17	18PHL16		18MEL15	18CV14		18EE13	7111101	180117	11 VIM81				Course and				
	English/ Kannada	pugineering paggraws.)	Basic Electrical	Engineering rnysics Laboratory		Engineering Graphics and Design	Mechanics	Civil Engineering and	Engineering	Docio Flectrical	Engineering Physics	Algebra	Calculus and Linear			Course Title				Outcome Bas
	Humanities		Engineering	Physics	Filemoning	IEM, Mfg	Engineering	Civil	Engineering	E and E	Physics		Mathematics		D	Teachin Departme	g ent		I SEMES	ed Education(O
TOTAL	Humanities		Engineering	Science		Mechanical Engineering	Engineering	CIVII	Engineering	E and E	Science	Callenge	Science		P	aper Sett Board	ting	3	I SEMESTER B.E (PHYSICS GROUP)	BE) and Choi
13	-		1	1		2	-	2		3	-	A	w	L	+	Theory <u>Lecture</u> Tutorial			SICSGI	ce Based
06 08		J	2		3	_ 2		2	1	2	1	1	2 -	-	1	Practica l/ Drawin		Hours /Week	Toohing	Outcome Based Education (OBE) and Choice Based Credit System (CDC)
17	2	02	03		03	03		0.3	3	03		03	03			Ouration in hours		*		(CBCs)
000	350	50	50		50	50		00	50	50		50	00	7		CIE Marks		EX	1	
000	350	50	00		50	50			50.	00		50	00	40		SEE Marks		Examination	1	
	700	100	100	100	100	100	100		100	100	100	100	100	100		Total Marks		311	1	
	20	1	-	-	_		i)		ယ	·	,,	4		4		Cree	lits	3		

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	8	7	6	O.	4	ω	2	-		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				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		Teachi Departm	ng ient		II SEMESTER B.E (CHEMISTRY GROUP)	Scheme of Teaching and Examination from the Academic Year 2019-20 Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
TOTAL	Humanities	Computer Science and Engineering	Science	Mechanical Engineering	E and C Engineering	Computer Science and	Science	Science		Paper Se Board	tting d		(CHEMISTRY	nation from the
13		1	1	2	2	2	4	ω	T	Theory Lecture	Hours /Week	Teaching	GROU	e Acade
80	1	1	1	2	2	2	1	2	T	Tutoria I	urs ek	hing	P)	mic Yo
90	2	2	2	1	. 1	1	1	1	P	Practic al/ Drawin				ear 2019-20 tem (CBC
23	02	03	03	03	03	03	03	03		Ouration in hours	Exa			s)
400	50	50	50	50	50	50	50	50		CIE Marks	Examination			
400	50	50	50	50	50	50	50	50		SEE Marks	B			
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)

		E COCCARAN	T AAV WA			the same and a same as a same	The same of the same		
Course Title		Theory Lecture	Tutorial	1/	AND THE RESERVE OF THE PARTY OF	Marks	Marks	ll Marks	Credits
		L	T	P		CII	SE	Tot	
Transform calculus and Special functions	Mathematics	2	2	-	03	50	50	100	w
ng Materials and Construction	CV	3			03	50	50	100	·
th of Materials	CV	4		-	03	50	50	100	4
Surveying	CV	4		1	03	50	50	100	4
Fluid Mechanics	CV	4	-		03	50	50	100	4
Applied Engineering Geology	CV	w	1		03	50	50	100	3
Civil Engg. Material Testing Laboratory	CV	1	1	2	03	50	50	100	_
Surveying Practice	CV	1		w	03	50	50	100	-
Constitution of India Professional Ethics and Human Rights/	HS/CV	1	t	ı	02	50	50	100	_
Sille (MC)	Humanities	04			03	50	ı	50	0
NIIS (MC)	TOTAL	19	02	05	29	500	450	950	24
	lus and and Constra als al Testing al Testing al Testing al Professio Rights/ ence	lculus and Special Mathe als and Construction cerials cerial Testing cerial Testing cerial Testing Geology	lculus and Special Mathematics 2  als and Construction CV 3 erials CV 4 erial Testing CV 4 crial Testing CV 4 India Professional an Rights/ CV 3 Science Humanities 04 TOTAL 19	lculus and Special Mathematics 2  als and Construction CV 3 erials CV 4 erials CV 4 erial Testing CV 4 scrial Testing CV 4 India Professional an Rights/ Science Humanities 04  TOTAL 19	lculus and Special Mathematics 2  als and Construction CV 3 erials CV 4 erials CV 4 erial Testing CV 4 scrial Testing CV 4 India Professional an Rights/ Science Humanities 04  TOTAL 19	urse Title  Teaching Department  L T P  Lecture  Theory Each Lecture  L T Lecture  Theory Lecture  Theory Lecture  Theory Lecture  Theory Lecture  Theory Lecture  Theory Lecture  Practica P  Practica I Secondary  CV 4  CV 4  CV 4  CV 4  CV 4  India Professional  HS/CV 1 2  Science  Humanities 04  TOTAL 19 02 05	Total   Humanities   Humaniti	CIE   Marks   CIE   CI	Teaching   Theory   Lecture   L   T   P   Duration in hours   CIE Marks   Science   Humanities   Duration   L   T   Duration   CV   Lecture   CV   Lecture   CV   CV   Lecture   CV   CV   CV   Lecture   CV   CV   CV   CV   Lecture   CV   CV   CV   CV   Lecture   CV   CV   CV   CV   CV   CV   CV   C

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

MC

18MAD31

Basic Engg Mathematics - I

Mathematics

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03

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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)

BC 18MA41 Numeri PC 18CV41 Water S PC 18CV42 Analysi PC 18CV43 Hydraul PC 18CV45 Concret PC 18CVL46 Comput PC 18CVL47 Concret Constitu HS 18HS41/42 and Hun Science MC 18MAD41 Basic En	Cou Cour	Co	Course and		Course Title	Course Title Teaching Department	Teaching Department	Teaching Department	Teaching Department  Theory Lectur	Teaching Department  Theory Lectur  Tutori al  Practical	Teaching Department  Theory Lectur  Tutori al  Practical/ Drawing  Duration in hours	Teaching Department  Theory Lectur  Tutori al  Practical/ Drawing  Duration in hours  CIE	Teaching Department  Theory Lectur  Tutori al  Practical/ Drawing  Duration in hours
V42 Analysis of Determinate V43 Hydraulics and Hydraulic V44 Hydrology and Irrigation V45 Concrete Technology VL46 Computer Aided Building VL47 Concrete & Highway mat Constitution of India Prof 41/42 and Human Rights/ Envir Science S43 Employability skills (MC) S43 Employability skills (MC) Basic Engg Mathematics -		18N	1A41 V41	Numerical methods and Probability Water Supply Engineering	orobability g	Probability Mathematics  GV		Mathematics CV	Mathematics 2 .	Mathematics 2 2  CV 3	Mathematics 2 2	Mathematics 2 2 03	Mathematics 2 2 _ 03 50  CV 3 03 50
Hydraulics and Hydraulic Ma Hydrology and Irrigation Eng Concrete Technology Computer Aided Building Pla Drawing Concrete & Highway material Constitution of India Professic and Human Rights/ Environm Science Employability skills (MC) Basic Engg Mathematics - II		18CV41		Water Supply Engineering Analysis of Determinate Structures	ctures		CV	CV 3 CV 4	CV 3	CV 3 CV 4	CV 3 03 CV 4 03	CV 3 03 50 CV 4 03 50	CV 3 03 50 50 CV 4 03 50 50
Concrete Technology Computer Aided Building Pla Drawing Constitution of India Professiond Human Rights/ Environm Science Employability skills (MC) Sasic Engg Mathematics - II Basic Engg Mathematics - II	18CV42			Analysis of Determinate Structures Hydraulics and Hydraulic Machines	es		CV	CV 4	CV 4	CV 4	CV 4 03	CV 4 03 50 CV 4 03 50	CV 4 03 50 50 CV 4 03 50 50
concrete Technology computer Aided Building Pla brawing concrete & Highway material constitution of India Professiand Human Rights/ Environm cience imployability skills (MC)  prescribed to lateral entry asic Engg Mathematics - II	18CV44		7	Hydrology and Irrigation Engineering	ad		CV	CV 3	CV 3	CV 3	CV 3 03	CV 3 03 50	CV 3 03 50 50
TL46 Computer Aided Building Pla Drawing TL47 Concrete & Highway material Constitution of India Professia 11/42 and Human Rights/ Environm Science S43 Employability skills (MC) Course prescribed to lateral entry D41 Basic Engg Mathematics - II		18C	V45	Concrete Technology		CV			4	4	4 03	4 03 50	4 03 50 50
8CVL47 Concrete & Highway material Constitution of India Professia 3HS41/42 and Human Rights/ Environm Science  18HS43 Employability skills (MC)  Course prescribed to lateral entry MAD41 Basic Engg Mathematics - II		_	8CVL46	Computer Aided Building Planning and Drawing	17	СУ		CV	CV	CV — 1 3	CV — 1 3 03	CV 1 3 03 50	CV 1 3 03 50 50
Constitution of India Professic  18HS41/42 and Human Rights/ Environm  18HS43 Employability skills (MC)  Course prescribed to lateral entry  18MAD41 Basic Engg Mathematics - II	Õ		18CVL47	Concrete & Highway materials Lab		CV	CV				1 1 2	2 03	2 03 50
18HS4	-	SF	18HS41/42	Constitution of India Professional Ethics and Human Rights/ Environmental Science	Ethics	Ethics HS/CV	thics	thics	thics HS/CV 1 -	thics HS/CV 1	thics HS/CV 1 02	thics HS/CV 1 02 50	thics HS/CV 1 02 50 50
18MAD	7	70	18HS43	Employability skills (MC)		Humanities	Humanities 04		04	04 -	04	04 03	04 03 50
18MAD						TOTAL	TOTAL 25		25	25 03	25 03 05	25 03 05 29	25 03 05 29 500
18MAD			Cou	rse prescribed to lateral entry D	iploma h	iploma holders admitted t	iploma holders admitted to III sem	iploma holders admitted to III semester o	iploma holders admitted to III semester of Engin	iploma holders admitted to III semester of Engineering p	iploma holders admitted to III semester of Engineering program	Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs	iploma holders admitted to III semester of Engineering programs
	Z		18MAD41	Basic Engg Mathematics - II		Mathematics	Mathematics 02	Mathematics 02 01	Mathematics 02 01	Mathematics 02 01 03	Mathematics 02 01 03 50	Mathematics   02   01     03   50	Mathematics 02 01 03 50 50
to worth the same and a second of	пошш	1	EILEI SIUGIE	of "To morning on or	India Protections	India Protectional Ethics and Hum	India Protectional Ethine and Liman Dicht	IMANA DWARD CONTRACT IN ALL AND ALL AN		TWO TO THE THE TAX TO	India Protoccional Ethina and Duman Dighta	ELIVE PRIVIL ORDINGRICAL STUDIES. C.F.: CONSTITUTION OF INCIA Professional Ethics and Human Rights	India Protectional Ethics and Human Dights

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.	000	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	
				I	1	T	P		1	1		
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	S	1	1	03	50	50	100	
3	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	1
S	PC	18CV54	Geotechnical Engineering	CV	2	2	:	03	50	50	100	
6	PE	18CV55X	Professional Elective - 1	CV	w	-	1	03	50	50	100	
7	OE	18CV56X	Open Elective - A	CV	w	1	:	03	50	50	100	1
∞	PC	18CVL57	Hydraulics and Hydraulic Machinery Laboratory	CV	1	ı	2	03	50	50	100	
9	PC	18CVL58	Computer Aided Design Laboratory	CV	1	1	2	03	50	50	100	
10	HS	18HS55	Placement Training	Hu	2	1	ı	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	してくない	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

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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										CITI	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	
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
L-Ambeditor Institute of Lichnology

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 second secon					
_				1	Teach	Teaching Hours /Week	s /Week		Examination	nation	
SI.	Cour	Course and	Course Title	Теасһіпg пэпптврэ(	Тheory	Tutorial	Practica   V   Drawin	noiteruC sruod ni	Marks CIE	Nsrks SEE	Total
				I	r	T	Ь				
	MC	18HS71/72	18HS71/72 CMEP / OSHA	IM/CV	2	1	1	03	50	50	100
2	PC	18CV:71	Design of RC & Steel Structures	CV	4	-	1	03	50	50	100
3	PC	18CV72	Estimation and Valuation	CV	4		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	-	2	.03	50	50	100
8 Pr	Project	18CVP78	Project Work Phase - I	CV	1	1	2	03	50	50	100
I	TNI	18CVI79	Internship	(If not	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 ar	s, it has to nd VIII se	be carri mesters)	o pa
1			TOTAL		19	1	9	27	450	450	006

#### 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

23

### 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	

In Remote 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,	S The explains content of open 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	Structural Dynamics	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.		ourse and		MESTER B.E		Teach Hou /Wee	ing rs		Ex	aminatio	n		
	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	100	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.

TOTAL 13 08 06 23 350 350 7  II SEMESTER B.E (PHYSICS GROUP)  Teaching Hours (Week)  Course Title	
BC   18MA11   Calculus and Linear Algebra   Mathematics   Science   3   2     03   50   50   100	Credits
BC	4
BC	
BC   18CH12   Engineering   Chemistry	4
ES   18CS13   C Programming for Problem Solving   C Programming for Problem Solving   C Programming for Problem Solving   C Programming Engineering   E and C Engineering   E	3
Problem Solving	
ES	3
ES	3
BC	
BC 18CHL16 Engineering Chemistry Laboratory Computer Science and Engineering Laboratory ES 18CSL17 Computer Programming Laboratory Humanities Humanities 1 2 02 50 50 10 10 10 10 10 10 10 10 10 10 10 10 10	
ES 18CSL17 Computer Programming Laboratory Science and Engineering Humanities Humanities 1 - 2 02 50 50 10 10 10 10 10 10 10 10 10 10 10 10 10	0 1
Laboratory   Engineering   E	00 1
18HS12   English/ Kannada	
TOTAL 13 .08 06 25 350 ccc  II SEMESTER B.E (PHYSICS GROUP)  Teaching Hours /Week	00 2
Course Title B /Week / /Week	
Course Title B /Week / /Week	-1
No Contraction i hours SEE Mark	Total Marks

T			11 SEM Course Title	ESTER B.E (		Teachi Hour /Wee	5			Exan	ination		T	-	
	Cou Cou	rse and rse Code	Course time	Teaching Department	Paper Setting Board	Theory	Tutorial	1		Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits	
1						L	T 2	1	-	03	50	50	10	10	4
		18MA21	Advanced Calculus	Mathematics	Science	3	1	1							
	BC	18WAZ1	and Numerical		Science	4	-	+		03	50	50		00	4
	BC	18PH22	Engineering Physics	Physics	E and E	2	2	+		03	50	50	)   1	00	3
2 3	ES	18EE23	Basic Electrical	E and E Engineering	Engineering	2	1 2	+		03	50	51	0	100	3
		18CV24	Engineering Civil Engineering and	Civil Engineering	Civil Engineering		1	-	2	93	50	5	0	100	3
4	ES		Mechanics Engineering Graphics	ME, Auto, IP,	Mechanical Engineering	2			2	1 33					
5	ES	18MEL25	and Design	IEM, Mfg Engineering		-	+	-	2	03	50	1	50	100	1
	-	18PHL26	Engineering Physics	Physics	Science		-	-	2	03	51	0	50	100	1
6	BC	4	Laboratory Basic Electrical	E and E	E and E E and E Engineering		-								
7	ES	18EEL27	Engineering	Engineering		-	+	-	2	0	2 5	0	50	100	1
		18HS21/	Laboratory English/ Kannada	Humanities	Humanities							-	400	800	1 2
8	HS	18HS22			TOTA	L	13	06	08	1 2	3 4	00	400	1 000	

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

-					Des ales and	TO ILLY	The state of the s		-			
					Jeaching	Hours / Hours	T COM				S	
SI.	Course and	and	Course Title	Teaching InomirageO	Треогу Гестиге	Tutorial	Practical/ Drawing	Duration in surva	CIE Marks	SEE Marks	Total Mark	Credits
2					Ţ	T	Ь					
	-		No. also constitute	Mathematics	. 7	71	1	03	50	50	100	m
	BC 18]	18MA41	(Title as per the decision of BoS in Sciences)				1	03	50	90	100	3
			- Carineering	Civil	5	1		03	50	-05	100	4
2	PC 18	18CV41	Water Supply Eugheeting	Civil	4	-	1	00	20	20	100	4
3	PC 18	18CV42	Analysis of Determinate Structures	Civil	4	-	1	co	00	20	100	3
4	PC 18	18CV43	Hydraulics and Hydraulic Machines	Civil	3	1	1	03	00	000	100	4
5	-	18CV44	Hydrology and Irrigation Engineering	Civil	4	1	1	03	00	00	001	-
9	PC 18	18CV45	Concrete Technology	Civil	1	1	3	03	20	20	201	.   -
7	PC 18	18CVL46	Computer Aided Building Planning and Drawing	Civil	1	1	2	03	50	20	100	-
∞	-	18CVL47	Concrete and Highway materials Laboratory	Ivio / soiting		1	1	02	90	20	100	-
6	HS 18	18HS41/42	Constitution of India Professional Euros and Rights/ Environmental Science	Humanines / Crar		1	1	03	50		50	PP/NP
	+	0,000	Employability skills	Humanities		000	20	29	200	450	950	24
10	MC	18HS45	Employaems com	TOTAL	24	00	South of the second	roorams				
			to lateral entry Diploma holders admitted to III semester of Engineering programmes	a holders admitted to l	III semester	r of Engli	licer mg	108	L	-	200	DP/NP
			Course prescribed to lateral	Mathematics	02	0.1	1	03	50	1	00	
11	MC 18	MAD41	11 MC 18MAD41 Advance Mathematics - II Advance Mathematics - II Semester of BE programs	somes if needed, with	hout altering	the total	number	of credits	(TOTAL:	24).	mester of 1	BE program

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. ENV: Environmental Studies, CIP: Constitution of India Professional Ethics and Human Rights programme to eligibility to VII semester.

Professor and Head Department of civil Engineering 7. Ambedkar Institute of Technology Bangalore - 560 (55).

#### 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)

	EST	

			t t		hing H /Week			Exami	nation		
	urse and irse code	Course Title	Teaching Department	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	fassional 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
T. 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	I	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	100	
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	1	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 of	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.

V642 Altern Techn V643 Traff	Professional Electives - 2 Stressed Concrete ernate Building Materials and hnologies	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 Traff		The condidate has studied the same course during the provides
V645 Earth	ffic Engineering en Channel Hydraulics th and Earth Retaining Structures	<ul> <li>the programme.</li> <li>The syllabus content of open elective is similar to that of Departmental cor</li> </ul>
T. take	Open Elective - B egrated Solid Waste Management	A similar course, under any category, is prescribed in the ingenies.
CVE03 Integ	otogrammetry and Remote Sensing	the programme.  Registration to electives shall be documented under the guidance of Programm Coordinator/ Mentor.

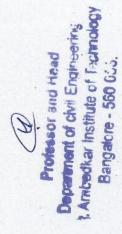
Professor and Head Department of civil Engineering 7. Ambedkar Institute of Technology Bangalore - 560 Gus.

# 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)

			l eachilly	Leaching Arts	Carry Car		Crodits.
CI NO	Subject	Title of the Subject	Dept.	T	T	Ь	Cicaro
31- 140.	Code		Civil	04	1	1	4
-	CV 71	Design of Steel Structures	CIVII		00		3
1	1 1	Design of the section	Civil	02	0.5		
7	CV 72	Estimation and valuation	Livin	03	-	1	3
-	CE 130	Design of Dre Stressed Concrete Structures	CIVII				
3	CV 13	Design of the Buresea Comment	Civil	03	1	-	2
V	CV 74X	Elective-II (Group B)	:: ::	00			3
-			Civil	03			-
2	CV 75X	Elective-III (Group C)			-	03	1.5
-	JW 44 AW	Transported Hagineering   3h	CIVII				
9	CVL /6	Environmental Engineering: Each	Civil		1	03	1.5
1	CT 77	Concrete and Highway Materials lab.	Civin	-	-		100
,	CALL			04		A STATE OF THE PARTY OF THE PAR	5
00		Interdepartmental Elective				-	-
0		- 1. Diane I	Civil	-			-
6	CVP84	Project work Phase 1		20	0.4	90	23
-		TOTAL		707			

	TI THE TY (Crown B)		Elective-III (Group C)
	Flective-ti (Gloup D)		Title of the Subject
O Lines Code	Title of the Subject	Subject Code	THE OF THE CASE
Subject Code	Matrix Mo	CV 751	Numerical methods in Civil Engineering
CV /41	A 4-mond Design of RC Structures	CV 752	Rock Mechanics
CV 742	Dasign of Masonry Structures	CV 753	Pavement Materials and Construction
CV 743	Earth and Farth Retaining Structures	CV 754	Photogrammetry and Remote Sensing
CV /44	Tr. Land Cametric Design	CV 755	Air Pollution and Control
CV 745	Highway Ocometric 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	CV758	Construction Project Management
CVE01	Integrated Solid Waste Management	CVE02	Air Pollution and Control methods (IDE)



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 code   Course Title   Fige and   Course Title   Fige activities   Fige activities	AIL SI	VIII SEMESTER				Teachi	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           INT         18CVI83         Internship         VI and VII semesters and /or VII and VIII         03         50         50         100           TOTAL         10TAL         102          4         12         200         200         400	SI. No	Cour	se and	Course Title		Треогу	r 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           INT         18CVIS3         Internship         VI and VII semesters and /or VII and VIII         03         50         50         100           TOTAL         10TAL         02         -         4         12         200         200         400					I	T	T	P	a	)	S	L	
MC   18H381/02   CML21   OSTATA   CV     2   03   50   50   100     Project   18CVP81   Project Work Phase - II   CV     2   03   50   50   100     Seminar   18CVS82   Technical Seminar   (Completed during the intervening vacations of remesters and /or VII and VIII semesters and /or VIII and VIII   03   50   50   100     INT   18CVI83   Internship   VI and VII semesters.)     4   12   200   200   400     TOTAL	-		C0/1021101	CMED / OCHA	IM /CV	2	1	1	03	50	50	100	2
Project   18CVP81   Project Work Phase - II   CV     2   0.5   5.0   5.0   100	1	MC	18H281/97	CIMER / OSLER					00	C	02	100	10
Seminar   18CVS82   Technical Seminar   CV       2   03   50   50   100	0	Design	18CVP81	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 semesters.)         Semesters.)         4         12         200         200         400           TOTAL	1	Project	100 1101	Traject is analysis				c	0.3	50	20	100	-
18CVI83         Internship         Completed during the intervening vacations of vI and VII semesters and /or VII and VIII semesters.)         50         50         100           TOTAL         02          4         12         200         200         400	c	Seminar	18CVS82	Technical Seminar	CV	1	1	7	60	200		201	
02 4 12 200 200 400	4	INT	18CVI83	Internship	(Completed VI and V	during the in semesters a	tervening vand /or VII a	acations of and VIII	03	50	20	100	2
				1 1		20	1	4	12	200	200	400	15
				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>	>	VI	MII	VIII	Total Credits
Semester	1	П	777		1		CC	15	175
O. L. J. L.	00	00	24	24	72	74	73	CI	1/3
Credits	77	77							



## 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	Leach	leaching Hrs / Week	Week	Cradite
Subject	Title of the Subject	Dept.	T	T	Ъ	
Code	Squitouth Start Newsian of Start Structures	Civil	-	10	03	02
CV 81	Design and Computer Aided Diawing of Steel Succession					3
XC8 V7	Flective - IV (Group D)	Civil	0.5	1		
C 020	1	Civil	03	1		3
CV 83X	Elective - V (Group E)	Civil			100	13
A GTYPO	Droject work Phase II	Civil	-	-	47	17
CVFO		1:4:10		04	1	2
CVS 85	Seminar	CIVII		,		00
	+	Humanities	02	1	-	70
HS 04	Intellectual Property rugilità					0.4
A DE	Interdepartmental Elective		04	1	-	5
くくロック	miciachai miciai		13	95	77	28
	TOTAL		77	20		

	Flective-IV (Group D)		Elective-V (Group E)
		Subject Code	Title of the Subject
Subject Code	Title of the Subject	Sanjeer coae	
Out on 1	A dwanged Pre-stressed Concrete Structures	CV 831	Finite Element Analysis
CV 821	עתאמונים דובים וביים ביים	CV 832	Reinforced Earth Structures
CV 822	Advanced Foundation Design	1000	
CK0 730	Daviement Design	CV 833	Urban Transport Planning
CV 023	I avoucit Longa	CV 834	Advanced Design of Steel Structures
CV 824	Earthquake Kesistant Design of Structures		Series Carried Control of the Contro
300 130	Industrial Waste Water Treatment	CV 835	Water Resources Engineering
CV 823	Industrial waste water freezewa	200780	Emironmental Impact Assessment
708 V	Onality Management System in Civil Engineering	CV 830	Environmental ampact a secondary
070	Complete Crotem	CV 837	Infrastructure Development
CV 827	Remote Sensing and Geographic Intellitation System		actionation of the second by
		10000	Remote Sensing and Geograpme missimation
CVE 03	Ecology and Environmental Impact Assessment (IDE)	CVEOT	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 0		h	4	v		3		1	
MC: Mandatory Course	Racio Sci			MC		AE		SH	S	BS	ES		ES	ES	BS			RS	Category
	Note: BS: Basic Science Course		21HSN210	21HSN110	Z1HST209	ZICV1109	Z1HS1208	21H21108	21CSL207/ 21CSL207	21CHL106/ 21CHL206	21MET205	21ECT204	21ECT104/	21CST103/ 21CST203	21CHT202	21MA1201		21MAT101	
ES: Engineering Science Course HS: Humanitias & Social Science	0.5		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 Communication	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	Denaching
			1		1		-		0	0	2	. 2		2	3	C.		-	T
			0		0		0		0	0	2	2		2	0	2		-	Teac
		L	*		*		1*		2	2	0	0		0	0	0		P	hing H
	Total		0		0		0		0	0	0	0		0	0	0		S	Teaching Hrs/ Week
	30		2		2		2		2	2	4	4		4	3	O1		Total	
			-		2		2		ca	3	3	3	,	ددا	ယ	w		Duration (Hrs)	
200	700		50		50		50		50	50	50	50	00	80	50	50		CIE	Exar
	450		1		50		50		50	50	50	50	00	70	50	50		SEE	Examination
200	900		PP/NP		100		100		100	100	100	100	100	100	100	100		Total	
	20		0		_		-		-	-	L.	· w	0		,	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	Si		4		3		1	,	1	T	No.
Note: BS: Basic Science Course.		MC		AE		HS	15	50	Ca	Be	ES		ES		23		BS		BS		. Category
ciono	211	211	21	21	21	21	2 1	,	2 1	2 2	N								<i>y</i>		gory
	21HSN210	21HSN110	21CVT209	21HST109	21HST208	21HST108	21EEL207	1774	21PHL206	21MED205	21MED105/	21CVT204	21CVT104/	21EET203	OIFETTON!	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	9	Computer aided Engineering Drawing	Mechanics	Elements of Civil Engineering 6 34	Basic Electrical Engineering		0	Engineering Physics	Advanced Calculus and Numerical methods	Calculus and Linear Algebra		
	Humanities		Civil	Humanities		Humanities	Electrical		Physics		Mechanical	Civil	1	Electrical		rnysics	-		Mathematics		Department
	1		-		1		0		0	2	1	w		2		w	1	3	ń	7	Т
	0		0		0		0		0	0	-	0		2		0	-	2	+	-	
	*		1*		1*	1	2	1	3	2		0		0		0	1	0	1	P	ing H
	0		0		0		0	•		0	1	0		0	-	•	-	0	+	S	irs/ Week
	2		2		2		2	1	,	4		w	4	4	U	2		Ui	1	Total	ek
-	1		2		2		S	3		3	,	J.			٠	,		w		Duration (Hrs)	
	50		50		50		50	50		50	50	70	30	70	50			50		CIE	Exa
			50		50	0	5	50		50	36	50	30	3	50		50	5	-	SEE	Examination
The second name of the second	PP/NP		100		100	100	100	100		100	100	100	100		100		100	100	-	Total	
	0		1		1	-	-	1		3		u	w		u		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

	u /	300	400					Tobaical		
	50		50	6				Mini Project /Field work/ Technical visit	CSE18	
	50	1	50		2			Schillia		∞
	100	50	50	ω			1	Structural Engineering Lab - I	CSEL16 S	
	100	50	50	1	-	4	:	Elective - I		
	100	50	50	-	1	. 4	:	or uctural Dynamics		
	100	50	50	-				Structural Description of Descriptions		4.
	100	00	30			۷ .		Mechanics of Deformable balls	CSE13	3.
		50	50			4		Advanced Design of RC Structures	CSE12	2.
	100	50	50	1		4	:	L on actual Mechanics		
Examination Credits	Total	SEE	CIE	Practic al / Project	Tutorial/ Seminar/ Assignment	Lectur e	Teaching Department	Subject Title Computational Structural Machanica	Sub Code CSEII	Zo.
	s allotted	n Mark	Maximum Marks allotted	week	Teaching hours per week	Teac			,	S

ced topics from refereed journals by each student.

## **ELECTIVE I**

7	4	0	۵	1	٥	-	-	ONT. IC	2
Reliability Analysis of Structures		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	COLICO	CCE152	COLICE	CSEISO	COLICI	CSE151	ממטליטו כיטופ	Subject Code	

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

85-2508-BJ

# Dr. Ambedkar Institute of Technology

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		L		Seminar	CSEM28 S	ė.
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	
	larks	Maximum Marks allotted	M	r week	Teaching hours per	Teac	Teaching		S. F. Cal	Si.

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

# Dr. Ambedkar Institute of Technology

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

## III Semester M TECH

SI.	Carb Code		Teaching	Tea	Teaching hours per	er week	M	Maximum Marks allotted	Marks	
Zo.	Sub Coue	Subject 11tle	Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Field Work	CIE	70	Total	Examination Credits
		Seminar/Presentation on Internship			g	WIOAA				
1.	CSE31	(After 8 weeks from the date of commencement)	i	04	.,	4	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	0
		Total								
							004	004	400	18
			W							

#### 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 Dr. Ambedkar Institute of Technology

M. Tech in STRUCTURAL ENGINEERING

## IV Semester M TECH

					2	_	. 2	. SI
		CSE44	CSE43	CSE42X	CSE41			L 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			Subject Title
(I to IV Se							Department	Teaching
mester) :						7	Lecture	Tes
88 Credits				V			Tutorial/ Seminar/ Assignment	Teaching hours per week
							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	E-coming to

	Elective III	
SI.No	SI .No Name of the Subject	Subject Code
		Carlott Con
-	Optimization Techniques	CSE421
٥		1
1	Design of Industrial Structures	CSE422
3	Theory of Plasticity and Fracture Mechanics	CSEADS
_	Maconi	000-10
t	iviasonry structures	CSE424

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.

Ambadkar Institute of Tachagiocy Department of civil Engineering Bangatore - 560 058 Professor and Head

# Dr. Ambedkar Institute of Technology

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

B

Professor and Head
Department of civil Engineering

1. Ambedicar institute of Technological Bangalore - 560 056.

II Semester M TECH

Sub Code         Subject Title         Department of Exercises         Lecture Seminary (Aproing Integrated Design of Steel Structures)         Lecture Seminary (Aproject Integrated Design of Steel Structures)         Lecture Seminary (Aproject Integrated Design of Steel Structures)         The control of Seminary (Approject Integrated Design Concepts of Sub Structures)         The control of Seminary (Approject Integrated Design Concepts of Sub Structures)         The control of Seminary (Approject Integrated Design Concepts of Sub Structures)         The control of Seminary (Approject Integrated Design Concepts of Sub Structures)         The control of Seminary (Approject Integrated Design Concepts of Sub Structures)         The control of Seminary (Approject Integrated Design Concepts of Sub Structures)         The control of Seminary (Approject Integrated Design Concepts (Approved Design Concepts (Ap	7			Teaching	Teac	Teaching hours per week	r week	Mi	Maximum Marks allotted	Tarks	
18CSE21         Advanced Design of Steel          4         -         50         50           18CSE22         Earthquake Resistant Structures          4         -         -         50         50           18CSE23         Finite Element Method of Industry visit/          4         -         -         50         50           18CSE24         Design Concepts of Sub Structures          4         -         -         50         50           18CSE25X         ELECTIVE - II          4         -         -         50         50           18CSEL26         Structural Engineering Laboratory          -         2         -         50         50           18CSEL26         Mini project/ Industry visit/          -         2         -         50         50           18CSEM28         Field work          -         6         50         -	No.	Sub Code	Subject Title	Departmen t	Lecture	Tutorial/ Seminar/ Assignment	Practical / Project	CIE	SEE	Total	Examination Credits
18CSE23         Earthquake Resistant Structures          4         -         -         50         50           18CSE23         Finite Element Method of Analysis          4         -         -         50         50           18CSE24         Design Concepts of Sub Structures          4         -         -         50         50           18CSE25X         ELECTIVE - II          4         -         -         50         50           18CSEL26         Structural Engineering Laboratory          -         3         50         50         1           18RM27         Research Methodology          -         2         -         50         50         1           18CSEM28         Mini project/ Industry visit/          -         6         50         -	1.	18CSE21	Advanced Design of Steel Structures	:	4		1	50	50	100	8
18CSE23   Finite Element Method of	2.	18CSE22	Earthquake Resistant Structures	:	4		1	50	50	100	"
18CSE24         Design Concepts of Sub Structures          4         -         -         50         50           18CSE25X         ELECTIVE - II          4         -         -         50         50           18CSEL26         Structural Engineering Laboratory - II          -         3         50         50           18RM27         Research Methodology - II          -         2         -         50         50           18CSEM28         Mini project/ Industry visit/ Field work         -         -         6         50         -	3.	18CSE23	Finite Element Method of Analysis	:	4			50	50	100	, 6
18CSE25X         ELECTIVE – II          4         -         -         50         50           18CSEL26         Structural Engineering Laboratory          -         3         50         50           18RM27         Research Methodology          -         2         -         50         50           18CSEM28         Mini project/ Industry visit/          -         6         50         -           Field work         Total         -         -         6         50         -	4.	18CSE24	Design Concepts of Sub Structures	:	4		1	50	50	100	.3
18CSEL26         Structural Engineering Laboratory - II          -         -         3         50         50           18RM27         Research Methodology          -         2         -         50         50           18CSEM28         Mini project/ Industry visit/          -         6         50         -           Field work         Total         -         6         50         -	5.	18CSE25X	ELECTIVE – II	:	4		1	50	50	100	
18RM27         Research Methodology          -         2         -         50         50           18CSEM28         Mini project/ Industry visit/          -         6         50         -           Field work         Total         -         6         50         -	9.	18CSEL26	Structural Engineering Laboratory - II	1		2	3	50	50	100	2
18CSEM28         Mini project/ Industry visit/         -         6         50         -           Total         Total         400         350	7.	18RM27	Research Methodology		1	2		50	50	100	2
400 350	∞.	18CSEM28	Mini project/ Industry visit/ Field work			1	9	50	1	50	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

Dr. Ambedkar Institute of Technology

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.

Professional Elective 4	
Subject Code SI No Name of the Subject	0.1.
Transcor di	Subject Code
1	10000000
	TOCOESSI
18CSE322   2	18CCE333
	TOCOLO
w	18CSE333
	.000000
4	s 18CSE33
Name of the SubjectSubject CodeSI .NDesign of Industrial Structures18CSE3211Theory of Plasticity and Fracture Mechanics18CSE3222Masonry structures18CSE3233	oName of the SubjectSubject CoordinateOptimization Techniques18CSE331Composites and Smart materials18CSE332Advanced Structural Mechanics18CSE333Earth and Earth Retaining Structures18CSE334

#### 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

Credits	Credits	Credits	Credits	Credits	88	emester)	(I to IV S	Grand Total (I to IV Semester): 88 Credits		
150 100 250	150 100	150						Total		
100 100 200	100 100	100	X					viva voce	18CSEP42	1
50 50	- 50	50				-	i	Midterm Internal Evaluation	18CSEP41	3
Assignment WOFK	+	+	+	Wasie Comment	+			Desired Will By		1
Tutorial/ Practical Seminar/ / Field CIE SEE Total	Practical / Field	Practical / Field		Tutorial/ Seminar/	-	Lecture	Department	Subject Little	Sub Code	No.
Teaching hours per week Maximum Marks allotted			ching hours per week	ching hours p	20	Tes	Teaching		Sub Code	SI.

## 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	·oo
2	50	1	50		2	1		Technical Seminar	18CSES17	7.
2	100	50	50	3	•	-		Structural Engineering Laboratory - I	18CSEL16	6.
3	100	50	50	-	- 1	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	
3	100	50	50	1	•	4		Advanced Design of RC Structures	18CSE12	2.
w	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 anotted	III IVIALKS	viaximum viarks allotted	week	leaching 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.

08-P108-BA

(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		A							

### **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

<u>S</u>		ì	Tanahing	Tea	Teaching hours per week	per week	×	Maximum Marks allotted	Marks	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
2	18CSE32X	Professional Elective 3	1	04		1	50	50	100	3
ω.	18CSE33X	Professional Elective 4	•	04	1		50	50	100	3
4	18CSEI34	Internship					50	50	100	00
S	18CSES35	Technical Seminar	:				50	1	50	2
6.	18CSEP36	Project phase - I		1		ı	50		50	2
		Total		9			300	200	500	27

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		3 Masonry structures	2 Theory of Plasticity and	7 Thom: of Diati-it	Design of Industrial Structures	7	or the Subject	CI NI NI CHI CHI	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	18CS1	18CS1	d Fracture Mechanics 18CSI		AND THE PERSON NAMED IN		Subject		
Pessional Elective 4  No Name of the Subject Optimization Techniques Composites and Smart materials Advanced Structural Mechanics Earth and Earth Retaining Structures	E324 4	E323 3	E322 2		E321 1		ct Code SI		Prof
	Earth and Earth Retaining Structures 18CSE334	Advanced Structural Mechanics	Composites and Smart materials	The state of the s	Optimization Techniques	The carrie of the carrier	No Name of the Subject	The state of the s	essional 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	X				Project work evaluation and viva voce	18CSEP42	2
2	50		50	Į.				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.
Fermination	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	l sem	I semester			Teach	Teaching hours per week	week	Max	Maximum Marks allotted	[arks	Evamination
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           20CSEM19         Minor project/ Industry visit/         -         4         -         50         -         50           20CSEM19         Field work         -         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           20CSEM19         Field work         -         -         6         50         -         50	-	20CSE11	Computational Structural Mechanics		4	1	1	90	50	100	ю.
20CSE13         Mechanics of Deformable Bodies         4         -         -         50         50         100           20CSE14         Structural Dynamics         4         -         -         50         50         100           20CSE15X         ELECTIVE - II         4         -         -         50         50         100           20CSE16X         ELECTIVE - II         4         -         50         50         100           20CSE117         Structural Engineering Laboratory         -         4         -         50         50         100           20CSE117         Structural Engineering Laboratory         -         4         -         50         -         50         -         50           20CSEN19         Minor project/ Industry visit/         -         6         50         -         50         -         50           20CSEM19         Field work         -         -         6         50         -         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           20CSEL18         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		-	50	50	100	3
20CSEL0TY         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	1	20	90	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	90	100	3
20CSES18         Technical Seminar*         -         4         -         50         -         50           20CSEM19         Minor project/ Industry visit/ Field work         -         6         50         -         50           Total         Total         450         350         800	7	20CSEL17		6	-		3	50	50	100	2
20CSEM19         Minor project/ Industry visit/         -         -         6         50         -         50           Field work         Total         Total         800	000	20CSES18	Technical Seminar*		-	4		50	1	50	2
450 350 800	6	20CSEM19	Minor project/ Industry visit/ Field work	1	•	1	9	50	1	50	2
			Total	A				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	800	74
rom refe	s from refereed journals by each student.  ELECTIVE - II	y each st VE - II	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

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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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E

Sl. No Subject Code Subject title 1 20CSE251 Design of Tall Structures		3   20CSE253   Stability of Structures	1 20CCE25A Decian of Plates and Challe
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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

1000				Tea	Teaching hours per week	er week	Ma	allotted	Maximum Marks allotted	Decomination
SI. No.	Sub Code	Subject Title	Teaching Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Field Work	CIE	SEE	Total	Credits
1	20CSE31	Self-Study – Massive Open Online Course (MOOC)*			8	1	50	50	100	4
2	20CSEI32	Internship#		1		16	50	50	100	∞
1	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	nximum M allotted	Maximum Marks allotted	ļ
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	arks	
Zo.	Sub Code	Subject Title	Department	Lecture	Tutorial/ Seminar/ Assignment	Practical / Project	CIE	SEE	Total	Credits
-	20CSE11	Computational Structural Mechanics		4		1	50	50	100	3
2	20CSE12	Advanced Design of RC Structures		4	ı	1	50	50	100	3
w	20CSE13	Mechanics of Deformable Bodies		4	1	,	50	50	100	3
4	20CSE14	Structural Dynamics	*	4	1	-	50	50	100	3
5	20CSE15X	ELECTIVE - I		4	1	1	50	50	100	3
6	20CSE16X	ELECTIVE – II		4		1	50	50	100	3
7	20CSEL17	Structural Engineering Laboratory		ı	-	3	50	50	100	2
00	20CSES18	Technical Seminar*		)	4	1	50	1	50	2
9	20CSEM19	Minor project/ Industry visit/ Field work		. (		6	50	1	50	2
		Total	1				450	350	800	24
		*Technical Ceminar: Seminar on Advanced tonics from refereed journals by each student	ingr on Adva	nced tonic	s from refereer	iournale hy	r anch etn	dant		

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
A STATE OF THE PARTY OF THE PAR	CONTRACTOR STATE S	

Earth and Earth Retaining Structures	20CSE164	4
Advanced Structural Mechanics	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

Professor and Head

Department of civil Engineerin

1. Ambedkar Institute of Tachno

Bangalore - 560 056.

M. Tech in Structural Engineering

II semester	ster			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
	2005121	Advanced Design of Steel		4	1	-	50	50	100	3
-	20CSE21	Structures					2	60	100	u
2	20CSE22	Earthquake Resistant Structures		4	1		00	30	100	
ا د	20CGE23	Finite Element Method of		4			50	50	100	3
U	2000000	Analysis								
4	20CSE24	Design Concepts of Substructures		4			50	50	100	ω
		The same of the sa		4			50	50	100	3
S	20CSE25X	ELECTIVE - III					50	60	100	
6	20CSE26X	ELECTIVE - IV		4			00	30	100	
1	20BM27	Research Methodology	1	2	-	1	50	50	100	2
-	POTETITE !	Company of the control of the contro				u	50	50	100	2
∞	20CSEL28	Computational Structural Engineering Laboratory	A	-	1	3	00	30	100	
9	20CSEP29	Project Work Phase – I (Presentation of Synopsis)	1		1	6	50	1	50	2
		Total					450	400	850	24
					ELECTIVE-IV	V				

## ELECTIVE-III

Decian of Plates and Shells	いつつのはいかん	
101 11		J
Stability of Structures	20CSF253	2
McDan and resident	20C3E232	7
Renair and Rehabilitation of Structures		
Design of Tall Structures	20CSE251	_
Tall Characterson		
Subject title	SI No Subject Code Subject title	SI. No

## ELECTIVE-IV

Decign of Concrete Bridge Structures
20CSE263 Masonry structures
20CSE262 Theory of Plasticity and Fracture Mechanics
20CSE261 Design of Industrial Structures
Sl. No Subject Code Name of the Subject

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	200	4				Phase I	20CSEP34	4
6	100	50	50	12				Evaluation of Project Work		
. 1			00		4	-		Technical Seminar	20CSES33	w
2	50		50					THE CALL OF THE PARTY OF THE PA	7000000	1
0	100	50	50	16	1	1		Internship#	CELES	٥
0	100							Online Course (IVIOOC)	10000	+
4	100	50	50		8	1		Self-Study – Massive Open	20CSE31	-
				11011	22008					
Credits	Total	CIE SEE	CIE	Practical / Field Work	Tutorial/ Seminar/	Lecture	Teaching Department	Subject Title	Sub Code	No.
Examination	ed	allotted	IMIS	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.

The Department shall facilitate and monitor the student internship program.

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

t. Ambedkar Institute of Technology Department of civil Engineering Bangalore - 560 G56. Professor and Head

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

				38 Credits	2300 Marks; 88 Credits	23	Semester):	Grand Total (I to IV Semester):		
								Total		
20	300	100	200					Viva Voce	20000172	1
18	200	100	100 100	24	4	1		Project Work Evaluation and	20CCEP42	2
10								Midterm Internal Evaluation	70000	-
	100	1	100	8		1		Project Phase – II	OCSEP41	-
,		1	1							
				Work	Assignment					5
Credits	Total	CIE SEE	CIE	Practical / Field	Tutorial/ Seminar/	Lecture	Teaching Department	Subject Title	Sub Code	Z SI
Examination	ed	allotted		er week	Teaching hours per week	Teac				
	Marks	Maximum Marks	Ma						IV semester	V se

Professor and Head
Professor and Head
Department of chil Engineering
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Bangalore - 500 055.