VIGNAN'S
FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH
(Deemed to be University) - Estd. u/s 3 of UGC Act 1956

School of Core Engineering
Department of Civil Engineering

29.03.2025

Minutes of Board of Studies Meeting

Board of Studies (BoS) meeting for the B. Tech programme was conducted on 29.03.2025 in a blended mode from 10:00 A.M to 05:00 P.M. The physical meeting will be held at U-Block, Ground Floor, (AGF-06), while the online session can be accessed via the following link Mr. K. Bala Gopi Krishna: Scheduled a meeting. All members are kindly requested to make it convenient to attend the meeting.

Agenda of the BoS Meeting:

1. Discussion and finalization of the curriculum structure, credit distribution, and L-T-P-SL components for the R25-C25 regulation.
2. Review and verification of the detailed syllabus, CO-PO mapping, SDG & IKS mapping for core and elective courses in the B. Tech Civil Engineering programme.
3. Minor and Honour streams, including a review of their respective courses and detailed syllabus.
4. Pattern of Formative and Summative assessment for R25-C25.
5. Consideration and Discussions on incorporation of emerging technologies, interdisciplinary courses, industry-aligned courses, internships, and skill development programmes for students to enhance the curriculum.
6. Discussion on any other points with the permission of the Chair

The following members were present either thorough offline or online.

Sl. No	Name of the member	Position	Signature
1	Dr. M. Ramakrishna Professor Dean, School of Core Engineering	Chair-Person	
2	Dr. P. Sundara Kumar Head & Associate Professor	Internal Member	
3	Dr. Subhasish Dey Distinguished Professor, IIT Jodhpur	External Member (Academia)	-Attended online-
4	Ms. Ch. Naga Priyanka Manager-Civil Larsen & Toubro Pvt. Ltd.,	External Member (Industry)	
5	Dr. K. Srinivasa Rao Professor, Andhra University	Invited Member (Research)	
6	Mr. Y. R. Nagaraja Managing Director Ramky Infrastructure Limited	Invited Member (Industry)	- Absent -
7	Dr. M. Karthikeyan Professor	Internal Member	

8	Dr. P. Parthiban Assistant Professor	Internal Member	
9	Dr. Payel Chaudhuri Assistant Professor	Internal Member	
10	Dr. J. Gopala Rao Assistant Professor	Internal Member (Dean R&D Nominee)	
11	Dr. A. V. A. Bharat Kumar Assistant Professor	Internal Member (School Dean Nominee)	
12	Dr. P. Rakesh Assistant Professor	Internal Member	-Attended Online-
13	Mr. M. Anirudh Assistant Professor	Internal Member	
14	Mr. D. Ravikanth Assistant Professor	Internal Member	
15	Mr. K. Bala Gopi Krishna Assistant Professor	Member Secretary	

The following members have taken leave of absence:

1. Mr. Y. R. Nagaraja, Managing Director, Ramky Infrastructure Limited.

Chairperson Dr. M. Rama Krishna, Professor and Dean – School of Core Engineering, VFSTR initiated the meeting by welcoming and introducing the external members and invitees to the internal members. Head of the Department Dr. P. Sundara Kumar, Associate Professor, presented about the NEP 2020 Compliant Regulation - R25-C25 which emphasis on creating learning centric (continuous learning and continuous assessment model), offering B. Tech., B. Tech. with Honours / Research Honours / Minor / Add-on Diploma, providing lateral entry and honourable exit. The Secretary of Board of Studies, Mr. K. Bala Gopi Krishna, Assistant Professor, presented about the R25 Regulation, Course Structure, Assessment Patterns and the syllabus of all the courses.

The following points were discussed in the BoS meeting:

1. Regulation R25-C25.
2. Curriculum structure with credits, credits distribution (L-T-P-SL).
3. Significance of self-learning (SL).
4. 2 Modules, Module-1 is fundamental with 2 units and Module-2 is with 3 units.
5. Assessment methods (Formative & Summative).
6. Grading Schemes.
7. Department Elective and Honour courses (streams/pools).

8. Open Elective and Minor courses (streams/pools).
9. Information related to NPTEL courses for the Academic Year 2025-26.
10. Creative work-in-Liu-Course work
11. SDG Mapping and incorporation of IKS components
12. Consideration of new program outcomes (POs) as prescribed by the NBA

The following are the observations:

1. Major restructuring has taken place in the curriculum which is oriented towards continuous learning and assessment based on Module structure.
2. Major reformation has taken place in the curriculum by offering Honours/Specialization degree or Minor degree thorough 16 more credits with additional courses.
3. R25-C25 curriculum structure including list of professional core, department elective, open elective, Minor, Honour, NPTEL courses of B. Tech in Civil Engineering programme & M. Tech in Structural Engineering Structural Engineering in **Appendix - I**
4. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development, provided in **Appendix - II**.
5. Total average percentage of syllabus revised was **65.46%** for B. Tech & **41.67%** for M. Tech compared to previous curriculum provided in **Appendix - III**.
6. The significant changes are made in the content of all courses and hence the courses are considered as new courses provided in **Appendix - IV**.
7. **Indian Knowledge System (IKS)** components are incorporated in the relevant courses and the details are mentioned in **Appendix - V**.
8. The courses in the curricula are mapped with the **Sustainable Development Goals (SDG)** and the mapping details are provided in **Appendix - VI**.
9. Feedback from various stakeholders are incorporated appropriately in the R25-C25 curriculum.
10. New core courses, department electives, open electives, honors have been introduced in this regulation of R25-C25.
11. Information on NPTEL course offerings for the 2025-26 academic year, for B. Tech students in Civil Engineering.

S. No	Course Title	Credits
1	Urban Utilities Planning: Water Supply, Sanitation and Drainage	3
2	Organizational Behaviour	3
3	Industrial Safety Engineering	3
4	Project Management for Managers	3
5	Environment and Development	3
6	Sustainable Transportation Systems	3
7	Geosynthetics and Reinforced Soil Structures	3
8	Ground Improvement	3

The following improvements are suggested: (Action Points)

1. It was recommended to add a Lab component to the Strength of Materials course as a practice-based element to provide hands-on experience and reinforce the theoretical concepts through practical application.
2. It was proposed to consider mainly on focusing Detailing and Drafting in the Design of Reinforced Concrete Structures course.
3. The BoS members suggested introducing a Structural Computational Lab in Semester III-II, utilizing software tools such as STAAD. Pro or ETABS.
4. The industry expert raised a concern regarding the absence of Construction and Project Management in the Professional Core courses. It was strongly recommended to include this course as a mandatory core subject, along with a Lab component utilizing PRIMAVERA software to equip students with essential project planning and management skills relevant to industry practices.
5. It was suggested to include a module on Professional Ethics as part of the Engineering Orientation Program, to instill ethical awareness and responsibility among students from the outset of their academic journey.
6. The experts suggested considering the inclusion of binary graded courses such as Laws, Human Rights, and Finance, based on students' interest.
7. It was recommended to modify the course title of "Advanced Hydraulics" and "Advanced Reinforced Concrete Design" to "Hydraulics and Hydraulic Machines" & "Advanced Structural Design" in the elective courses list, to better reflect the course content and align with industry terminology.

8. A new course titled "Modern Approaches in Pre-Engineered Building Systems" was discussed in the Board of Studies meeting, and the Board suggested a few minor modifications to the course content, which were accepted for incorporation.
9. In the Honours stream of Structural Engineering, the following modifications were recommended:
   - ✓ Change the course title from "Design of Underground Water Structures" to "Design of Liquid Retaining Structures" for better alignment with course content.
   - ✓ Replace the course "Finite Element Analysis" with a new course on "Green Buildings" to introduce students to sustainable structural design practices.
10. In the Honors stream of Transportation Engineering, it was recommended to modify the course title "Road Safety" to a more comprehensive and updated title.
11. In the Building Materials and Construction Technology (BMCT) syllabus, the following revisions were recommended:
    - ✓ Include Bricks, Tiles, Glass, Timber, and Steel in Module–1 to broaden the coverage of traditional and modern construction materials.
    - ✓ Elaborate the names of tests in the practice components of Module–1 and Module–2 for clarity and standardization.
    - ✓ Add the Silt Content Test for fine aggregates in the list of tests.
    - ✓ Modify the title of Module–2, Unit–2 to "Special Concrete" to better reflect the focus of the content.
    - ✓ Interchange the text book authors of 1 and 2 to improve the logical flow and sequencing of topics.
12. In the Strength of Materials course, the following revisions were recommended:
    - ✓ Include the relationship between stress and strain explicitly in the syllabus.
    - ✓ Add the complete derivation of both the Flexure Formula and the Torsional Formula for thorough conceptual understanding.
13. Update the textbooks as follows:
    - o Add:
      - Engineering Mechanics of Solids by Popov, P.
      - Elements of Strength of Materials by S.P. Timoshenko and D.H. Young (Will Young)
    - o Remove:
      - R.K. Bansal
      - Bhavikatti

14. Swap Unit-2 of Module-1 with Unit-3 of Module-2 to improve content flow and alignment of topics.
15. In the Transportation Engineering course, it was recommended to add a case study related to high-speed test drives or similar practical scenarios. This will allow students to understand real-world challenges and engineering solutions in high-speed transportation systems.
16. In the Environmental Engineering course, it was recommended to add 2-3 reference books for comprehensive study.
17. In the Structural Analysis course, the following revisions were recommended:
    - ✓ Review and update the unit names for both Module-1 and Module-2 to ensure clarity and better alignment with course objectives.
    - ✓ Specify the topics related to Single Storey Single Frame and the Determination of Pin-Jointed Frames for better focus.
    - ✓ Include the textbook Structural Analysis by C.K. Wang as a reference for comprehensive study and understanding.
18. It was recommended to include residential building plans for both a Two-Storey Building and a Duplex Building in the syllabus. This will provide students with practical knowledge and experience in architectural design and layout for residential structures.
19. In the Design of Reinforced Concrete Structures course, the following revisions were recommended:
    - ✓ In Module-1, specify the codes IS 875 Part 1 & 2 for better understanding of design loads and structural safety.
    - ✓ In Module-2, Unit-3, add the types of footing, specifically focusing on Isolated Footing and Combined Footing (Two Columns) to enhance students' understanding of foundation design.
    - ✓ Include the textbook Design of Reinforced Concrete Structures by P.C. Varghese in the reference list for comprehensive study.
20. In the Advanced Structural Analysis course, the following revisions were recommended:
    - ✓ In Module-1, Unit-1, include the types of spans to provide a comprehensive understanding of structural design.

- ✓ In Unit-2, it was suggested to reconsider Kani's Method as it is considered outdated by the BoS members. The method should be reviewed for possible updates or alternatives.
- ✓ Revise the practices in Module-1 to ensure relevance and alignment with current industry standards.
- ✓ In Module-2, include the number of storeys (e.g., for continuous beams and structural analysis of multi-storey buildings). Additionally, address concepts like flexibility and structures with degrees of freedom greater than 3.
- ✓ Update the textbooks by removing Bhavikatti and including Pandit and Gupta for structural analysis. Additionally, Weaver and Grey can be considered as a reference for Matrix Methods.

21. In the Design of Steel Structures course, the following revisions were recommended:
    - ✓ Include the topics of Introduction to Splicing of Columns and Built-up Beams to enhance the understanding of practical steel connections and member compositions.
    - ✓ In Module-2, Unit-3, revise the title to better reflect the content, replacing "Introduction to Plate Girders and Column Base" with a more descriptive and specific heading.
    - ✓ Modify the list of practices in Module-1 to align with the updated course content and current industry practices.
    - ✓ Remove the textbooks by Bhavikatti and Varghese from the reference list.
    - ✓ Include the textbook Design of Steel Structures by K.S. Sai Ram as a primary reference.
    - ✓ Shift Subramanian text book to references.
22. In the Estimation and Costing course, the following changes were recommended:
    - ✓ Remove "Metric Systems" from the syllabus, as "Units of Measurement" is already specified.
    - ✓ Revise the title of Unit-2 in Module-1 to better reflect the updated content.
    - ✓ Under the topic of Tenders, include important terminology such as Expression of Interest (EOI), Invitation of Tender, Bidding, and other relevant terms.
    - ✓ Shift the topics on estimates related to Materials, Plant & Machinery, and Labour to Module-1, Unit-2 for better content flow.
    - ✓ Include a case study on Tender Documents, with a focus on how to draft Terms & Conditions (T&C) for tenders.

- ✓ Emphasize detailed understanding and practical application of Rate Analysis across relevant units.

23. It was recommended to rename the course title from "Advanced Reinforced Concrete Design" to "Advanced Structural Design" to better reflect the broader scope of structural elements covered.
24. In Module-2, add the topics of Gantry Girder and Plate Girder to expand the course content and enhance understanding of advanced steel structural components.
25. In the Prestressed Concrete course, the following updates to the reference books were recommended:
    - ✓ Add Prestressed Concrete by Pandit & Gupta to the reference list.
    - ✓ Include Prestressed Concrete by T.Y. Lin for advanced understanding and design concepts.
    - ✓ Remove the textbook by Nelson from the references, as it is considered less relevant to the revised syllabus.
26. In the Structural Dynamics course, the following revisions were recommended:
    - ✓ In Unit-2, include the topic of Multi-Degree of Freedom (MDOF) systems to provide deeper insight into complex dynamic behavior.
    - ✓ Modify the title of the topic "Introduction to Plate Vibrators" to better reflect its content and terminology—suggested revision could be "Introduction to Vibrations of Plates" or similar, depending on final syllabus framing.
    - ✓ Add the textbook Structural Dynamics by S.K. Duggal to the reference list for comprehensive coverage and clarity.
27. Revise the entire syllabus of Construction & Project Management.
28. In the Repair and Rehabilitation of Structures course, it was recommended to include the topic "Non-destructive Testing (NDT) of RCC Structures" to equip students with knowledge of modern assessment techniques used in evaluating structural integrity without causing damage.

The following recommendations and approvals are made after the discussion:

1. BoS Members approved the revised regulations, curriculum structure, syllabus, assessment schemes of B. Tech., Civil Engineering programme and M. Tech in Structural Engineering programme and it follows based on the NEP 2020.
2. The details of elective courses (Department/ Open/ Minor / Honour) of B. Tech., Civil Engineering Programme for the regulation R25-C25 are approved.

4. SDG mapping and incorporation of the IKS components in the syllabus is approved.

Based on the suggestions given by the members, the chairperson of BoS told that, those suggestions would be incorporated appropriately in the curriculum and syllabi of the regulation R25 C25 and this will be recommended to the Academic Council of VFSTR for the approval.

There being no further points for discussion, the Chairperson thanks all the external, internal, invited members and announced that the meeting was concluded.

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