Date: 11-04-2026

Minutes of Meeting of the BOS meeting held on 11-04-2026

The XVth Board of Studies (BOS) Meeting of the Department of Civil Engineering, MITS Madanapalle, was conducted virtually on 11th April 2026 at 04:00 PM via Microsoft Teams.

Agenda of the Meeting:

1. Discussion on R23 Structure (IV Year, Minor & Honors Degree Program).
2. Detailed Syllabus Review (IV Year, Minor & Honors Program).
3. Any other matter with the permission of the Chair

Meeting Link: https://teams.microsoft.com/meet/43107802462904?p=ldOJwP1FHXCoE096HP

Members Present:

Sl. No.	Name of the Member	Composition as per UGC-Autonomous Guidelines	Designation and Address
1	Dr. Vijayakumar Natesan	Chairman Head of the Department	Assistant Professor & HoD – Civil Engineering Department (CED), MITS
2	Prof. H. Sudarsana Rao	Expert nominated by the Vice-Chancellor	Honorable VC and Professor of Civil Engineering JNTUA College of Engineering Anantapur – 515 002 Ph. No: 9393088822
3	Prof. Harikrishna P	Subject expert from outside the Parent University, nominated by the Academic Council	Professor, Department of Civil Engineering. National Institute of Technology Warangal, NITW Campus. P.O, Warangal – 506004 Ph. No: +91-9490457404
4	Prof. Jaya Kumar Seelam	Subject expert from outside the Parent University, nominated by the Academic Council	Principal Scientist, CSIR and Associate professor Ac SIR School of Oceanography, Donapaula, Goa Ph.No: +91-8805524264

5	Dr. K Ayeratharasu Rajasekharan	Representative from Industry	Former Chief Engineer, PWD, Government of Tamil Nadu Ph: +91-9840237800
6	Mr. Krishna Prasad Kathala	Alumni Member	Executive Engineer Ramkey Infrastructure Limited Hyderabad Phone: +91-7893113145
7	Dr. Dipankar Roy	Subject Expert - Water Resource Engineering	Professor, Civil Engineering Department (CED), MITS
8	Dr. Sudheer Kumar Y	Subject Expert- Geotechnical Engineering	Associate Professor, CED, MITS
9	Dr. Priyam Nath B	Subject Expert- Transportation Engineering	Assistant Professor, CED, MITS
10	Dr. Nakkeeran G	Subject Expert- Construction Engineering and Management	Assistant Professor, CED, MITS
11	Dr. Nunna Tagore Sai Priya	Subject Expert- Urban Planning	Assistant Professor, CED, MITS
12	Dr. Imran Kuttagola	Subject Expert- Structural Engineering	Assistant Professor, CED, MITS
13	Dr. T. Venkatesh Varma	Subject Expert- Structural Engineering	Assistant Professor, CED, MITS
14	Mrs. Kandukuri Anitha	Subject Expert- Structural Engineering	Assistant Professor, CED, MITS
15	Mr. Veeresh B	Subject Expert- Environmental Engineering	Assistant Professor, CED, MITS
16	Mr. P. Sabarishkumar	Subject Expert- Structural Engineering	Assistant Professor, CED, MITS

After detailed deliberations, the following observations and recommendations were made:

1) For the subject Finite Element Methods (23CE115)
    - The topic of Shape Functions should be shifted from Unit–II to Unit–I, as it forms one of the fundamental concepts of the finite element method and is essential for building a strong conceptual foundation at the beginning of the course. Incorporating this topic in Unit–I will help students better understand element formulation and interpolation principles from the outset.
    - For Unit–III, greater clarity should be provided regarding the beam elements to be covered. The syllabus should explicitly specify the type of beam elements, such as 2-noded or 3-noded beam elements, so that the scope of the unit is well defined. Additionally, the unit may be broadened slightly to make the content more comprehensive rather than presenting it as a single-line description. However, the coverage may be suitably restricted to beam problems involving a maximum of two spans to ensure that the content remains manageable and aligned with the course level.
    - Unit–IV is appropriate in its present form; however, it is recommended to include the isoparametric formulation of the 4-noded quadrilateral element in this unit. This addition will strengthen students' understanding of two-dimensional element formulation and provide better exposure to practical finite element applications.

2) 23CE410 – Ground Improvement Techniques and 23CE407 – Geosynthetics and Reinforced Earth Structures
    - It is suggested that the subjects 23CE410 – Ground Improvement Techniques and 23CE407 – Geosynthetics and Reinforced Earth Structures be merged into a single integrated course, as both subjects share significant overlap in terms of soil stabilization, ground modification, and reinforced soil applications. Combining these subjects into one comprehensive paper would help avoid content repetition,

improve syllabus coherence, and provide students with a more unified understanding of modern geotechnical engineering practices.

- A suitable revised course title may be "Ground Improvement and Reinforced Earth Technologies" or "Advanced Ground Improvement and Geosynthetics", so that the scope of both areas is adequately reflected. Further, the vacant slot created due to this merger may be utilized to introduce a new subject that addresses emerging trends or industry-relevant skills in Civil Engineering.
- If feasible, a new course such as "Smart Infrastructure and Digital Construction", "Sustainable Construction Materials and Practices", or "Construction Automation and BIM Applications" may be considered. This would enhance the overall curriculum by aligning it with current technological advancements and future industry requirements.

3) 23CE408 – Railway, Airports, Docks and Harbour Engineering

- It is recommended that the syllabus of 23CE408 – Railway, Airports, Docks and Harbour Engineering be comprehensively revised, as the existing content appears outdated and does not adequately reflect recent advancements in transportation engineering.
- The syllabus may be updated by referring to the curricula of premier institutes such as NITs to align it with current industry practices and academic standards. Revised content may include modern railway systems, metro and high-speed rail, signaling and automation, airport pavement evaluation, ICAO standards, smart airport planning, port logistics, smart ports, coastal resilience, and sustainable harbour infrastructure.
- Emerging topics such as ITS, GIS applications, drone-based inspection, digital twins, and multimodal transport integration may also be incorporated. Such revision will make the course more relevant, industry-oriented, and beneficial for students' practical learning and future career opportunities.

4) For the subject 23CE409 – Experimental Stress Analysis,

- It is recommended to update Unit–III by incorporating advanced and industry-relevant Non-Destructive Testing (NDT) techniques, such as ultrasonic testing, infrared thermography, acoustic emission testing, and digital radiography.
- In addition, the topic of multichannel strain measurement and data acquisition systems should be included to provide students with practical exposure to modern stress monitoring and instrumentation practices. Contemporary courses and NPTEL modules increasingly emphasize digital sensing, strain gauges, and emerging optical methods such as digital image correlation (DIC).
- Further, Units IV and V may be comprehensively revised, as the present content appears outdated. These units may instead focus on modern computational and hybrid modeling techniques, including inverse analysis, finite element model updating, digital image correlation-based deformation analysis, structural health monitoring, sensor-based diagnostics, and data-driven stress analysis methods.
- Such updates will align the course with current research trends and industry practices, making it more relevant for students in terms of practical applications, advanced studies, and emerging technologies in structural engineering.

5) For the subject 23CE412 – Transportation Economics

- It is recommended that the course be broadened and redesigned as "Infrastructure Economics and Contract Management" or a similar title, so that its scope extends beyond transportation systems to cover the economic aspects of the broader civil engineering sector.
- Restricting the subject only to transportation economics may limit its relevance, whereas a wider perspective on infrastructure planning, financing, and management would provide greater practical value to students.
- The revised syllabus may include topics such as economic analysis of infrastructure projects, life cycle costing, cost–benefit analysis, project financing models, public–private partnerships, and asset management.

- In addition, essential professional topics such as tendering procedures, types of tenders, contract administration, procurement methods, dispute resolution, and project risk management may also be incorporated. Such an update will make the subject more industry-oriented, multidisciplinary, and aligned with the practical requirements of civil engineering graduates.

6) For the subject 23CE303 – Environmental Impact Assessment

- It is recommended to include specific regulatory provisions and statutory clauses directly relevant to infrastructure project approvals and clearances. Since Environmental Impact Assessment plays a critical role in project planning and execution, the syllabus should cover practical aspects such as environmental clearance procedures, statutory approvals, consent requirements, and compliance frameworks applicable to infrastructure projects.
- The revised content may include topics such as the EIA Notification and its amendments, stages of environmental clearance, Terms of Reference (ToR), public hearing process, environmental management plans (EMP), consent to establish and consent to operate, environmental audit, and post-clearance monitoring requirements.
- In addition, project-specific clearance procedures for highways, airports, industrial corridors, water resources, and urban infrastructure may also be incorporated. This will make the course more practical, industry-relevant, and useful for students in understanding real-world regulatory processes involved in infrastructure development.

7) For the subject 23CE304 – Ground Improvement Techniques,

- which is offered as an open elective for students from departments other than Civil Engineering, it is suggested that the subject may be replaced with a more generic and interdisciplinary course that can be easily understood and appreciated by students from all branches. Since Ground Improvement Techniques is highly

specialized and domain-specific, it may not be equally relevant or accessible to non-Civil Engineering students.

- Therefore, it is recommended to consider introducing a broader and more application-oriented elective in its place, such as Sustainable Infrastructure, Smart Cities and Urban Development, Disaster Management and Resilient Infrastructure, or Building Technology. Such subjects would be more engaging, industry-relevant, and beneficial for students from diverse engineering backgrounds, while also encouraging wider student participation and interest.

8) For the subject 23MDCE105 – Construction Methods (Minor in Civil Engineering)

- Which is offered under the Minor in Civil Engineering programme, it is suggested that Unit–II and Unit–III be expanded, as the present content in these units appears limited and may not be sufficient to provide students with a comprehensive understanding of modern construction practices. Since this course is intended to build practical knowledge and industry awareness, these units should be strengthened with more detailed and application-oriented topics.

9) The course structure and syllabus pertaining to the IV Year B.Tech under the R23 regulations (including courses under Minor and Honors programs) were unanimously approved by all the members.

10) As suggested by the expert BOS member, the syllabus and course have been appropriately modified.

Sl. No.	Name of the Member	Designation and Address	Signature
1	Dr. Vijayakumar Natesan	Assistant Professor & HoD – Civil Engineering Department (CED)	
2	Prof. H. Sudarsana Rao	Honorable VC and Professor of Civil Engineering JNTUA College of Engineering Anantapur – 515 002 Ph. No: 9393088822	Online
3	Prof. Harikrishna P	Professor, Department of Civil Engineering. National Institute of Technology Warangal, NITW Campus. P.O, Warangal – 506004 Ph. No: +91-9490457404	Online
4	Prof. Jaya Kumar Seelam	Principal Scientist, CSIR and Associate professor Ac SIR School of Oceanography, Donapaula, Goa Ph.No: +91-8805524264	Online
5	Dr. K Ayeratharasu Rajasekharan	Former Chief Engineer, PWD, Government of Tamil Nadu Ph: +91-9840237800	Online
6	Mr. Krishna Prasad Kathala	Executive Engineer Ramkey Infrastructure Limited Hyderabad Phone: +91-7893113145	Online
7	Dr. Dipankar Roy	Professor, Civil Engineering Department (CED)	
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9	Dr. Priyam Nath B	Assistant Professor, CED, MITS	
10	Dr. Nakkeeran G	Assistant Professor, CED, MITS	

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13	Dr. T. Venkatesh Varma	Assistant Professor, CED, MITS	
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16	Mr. P. Sabarishkumar	Assistant Professor, CED, MITS	

Outlook

Re: Updated Syllabus and Minutes of XV th BOS Meeting on 11-04-2026

From Prof. H. Sudarsana Rao <vc@jntua.ac.in>
Date Tue 5/12/2026 5:31 PM
To HoD-Civil Engineering <civilhod@mits.ac.in>

Minutes of meeting APPROVED

with regards,
Prof. H. Sudarsana Rao
Vice Chancellor
Jawaharlal Nehru Technological University, Anantapur
Ananthapuramu, Andhra Pradesh - 515 002
Mob : +91 9393088822
email: vc@jntua.ac.in

On Tue, May 12, 2026 at 12:58 PM HoD-Civil Engineering <civilhod@mits.ac.in> wrote:

> Dear Esteemed BOS Expert Member,
>
> Greetings from the Department of Civil Engineering, MITS
>
> Please find attached the minutes of the 15th Board of Studies (BOS) meeting of the Department of Civil Engineering, Madanapalle Institute of Technology and Science held on 11-04-2026.
> We would like to inform you that the syllabus has been revised in accordance with the valuable suggestions and recommendations provided during the meeting. Necessary updates and refinements have been incorporated carefully and we believe that the revised syllabus is now comprehensive, contemporary, and aligned with current academic and industry expectations.
>
> We sincerely thank you for your insightful inputs and continued support in strengthening our academic framework. We request you to kindly review the attached documents and share any further suggestions, if required.
>
> We also request you to kindly revert with a signed copy of the Minutes of Meeting (MoM) at your earliest convenience.
>
> **Thanks and Regards**
> **Dr Vijayakumar Natesan,**
> **Assistant Professor and Head of Civil Engineering,**
> **MITS Deemed to be University, Madanapalle, Chittoor District, Andhra Pradesh,**
> **Mobile No: 91- 6381130988 (Personal)**
> **Mobile No: 91-9100973371 (Office)**
> **Email: civilhod@mits.ac.in**

Outlook

Re: Submission of Updated Syllabus and Minutes of XV th BOS Meeting on 11-04-2026

From Hari Krishna P <phari@nitw.ac.in>
Date Wed 4/22/2026 4:49 PM
To HoD-Civil Engineering <civilhod@mits.ac.in>

1 attachment (385 KB)
Adobe Scan 22 Apr 2026.pdf;

Dear Sir

A very good evening to you

While appreciating your endeavors in modifying the syllabus, I am herewith approving the same and sharing the sheet with my signature

Have a great day ahead

Regards

On Wed, Apr 22, 2026 at 2:21 PM HoD-Civil Engineering <civilhod@mits.ac.in> wrote:

> Dear Esteemed BOS Expert Member,
>
> Greetings from the Department of Civil Engineering, MITS
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Thanks and Regards
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Assistant Professor and Head of Civil Engineering,
MITS Deemed to be University, Madanapalle, Chittoor District, Andhra Pradesh,
Mobile No: 91- 6381130988 (Personal)
Mobile No: 91-9100973371 (Office)
Email: civilhod@mits.ac.in

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Dr. P. Hari Krishna
Professor of civil engineering
Head, Indian Knowledge Systems
National Institute of Technology
Warangal

ORCID: 0000-0002-4581-0555
https://wsdc.nitw.ac.in/facultynew/facultyprofile/id/16208
Phone: 9490457404

Outlook

Bos minutes signed copy resent

From Ayeratharasu Rajasekharan K <ayeram.raja@gmail.com>
Date Mon 4/27/2026 10:51 AM
To HoD-Civil Engineering <civilhod@mits.ac.in>

1 attachment (187 KB)
Adobe Scan 27 Apr 2026.pdf;

Dear professor

PFA the signed Bos minutes resent for your kind perusal

Thanks and regards

Dr K.Ayeratharasu Rajasekharan

Industry Expert

Former chief engineer pwd

Govt of Tamilnadu

Outlook

Re: Submission of Updated Syllabus and Minutes of XV th BOS Meeting on 11-04-2026

From krishna kathala <krishnakathala1997@gmail.com>
Date Mon 4/27/2026 4:24 PM
To HoD-Civil Engineering <civilhod@mits.ac.in>

1 attachment (515 KB)
MOM for XVth BOS Meeting for R 23 on 11-04-2026.docx;

Dear sir,
Please find the attachment of signed MOM copy of 15th BOS Meeting'

Thanks & Regards
K.KRISHNA PRASAD
7893113145

On Wed, Apr 22, 2026 at 2:21 PM HoD-Civil Engineering <civilhod@mits.ac.in> wrote:

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Dr Vijayakumar Natesan,
Assistant Professor and Head of Civil Engineering,
MITS Deemed to be University, Madanapalle, Chittoor District, Andhra Pradesh,
Mobile No: 91- 6381130988 (Personal)
Mobile No: 91-9100973371 (Office)
Email: civilhod@mits.ac.in

Outlook

Re: Submission of Updated Syllabus and Minutes of XV th BOS Meeting on 11-04-2026

From Jaya Kumar Seelam <jay.nio@csir.res.in>
Date Mon 4/27/2026 2:25 PM
To HoD-Civil Engineering <civilhod@mits.ac.in>
Cc Dr Priyam Nath B <drpriyamnathb@mits.ac.in>; Dr Nakkeeran G <drnakkeerang@mits.ac.in>

1 attachment (558 KB)
MOM for XVth BOS Meeting for R 23 on 11-04-2026.pdf;

Dear Dr. Vijayakumar Natesan,

Please find attached signed copy of the Minutes of the Meeting. Thank you!

best regards,
Jay
(he/his)

Dr. Jaya Kumar Seelam, Chief Scientist
CSIR - National Institute of Oceanography, Dona Paula, Goa - 403004, INDIA
Tel: +91-832-2450316 (O) | emails: jay.nio@nic.in; jay.nio@csir.res.in
Professor, Academy of Scientific & Innovative Research
Member, Expert Advisory Committee (CRZ & Infra-1), Ministry of Environment Forest & Climate Change, New Delhi
Member, Governing Council, National Institute of Wind Energy, Ministry of New & Renewable Energy, Chennai
Member, Technical Advisory Group, WRD, Govt. of Kerala
Vice President, Ocean Society of India

From: HoD-Civil Engineering <civilhod@mits.ac.in>
To: "jay.nio@csir.res.in"<jay.nio@csir.res.in>
Cc: "Dr Priyam Nath B"<drpriyamnathb@mits.ac.in>, "Dr Nakkeeran G"<drnakkeerang@mits.ac.in>
Date: Wed, 22 Apr 2026 14:19:46 +0530
Subject: Submission of Updated Syllabus and Minutes of XV th BOS Meeting on 11-04-2026

Dear Esteemed BOS Expert Member,

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