

# A.M. REDDY MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Approved by AICTE New Delhi, Permanently Affiliated to JNTU - Kakinada, Accredited by NAAC

Recognized by UGC 2(f), An ISO Certified 9001:2015

Vinukonda Road, Petturivaripalem, Narasaraopet, Palnada District, Andhra Pradesh - 522 601.



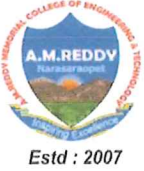
## DEPARTMENT OF TRANSPORTATION ENGINEERING

### CONVENING ORDER - BOARD OF STUDIES

The Board of Studies is the basic constituent of the academic system of an autonomous college. Its functions will include framing the syllabi for various courses, reviewing and updating syllabi from time to time, introducing new courses of study, determining details of continuous assessment, recommending panels. of examiners under the semester system, etc. The Board of studies is constituted with the following members:

S. No	Name of the Member	Designation/occupation	category
1	Dr. K. Sreekar Chand	Head of the Department	Chairman
2	Dr. M. Swaroopa Rani	Professor, CIVIL Department, UCEK, JNTUK Kakinada	University Nominee
3	Dr.D.Srinivas	Associate Professor & HOD, Department of Architecture, School Of Planning & Architecture Vijayawada	Subject experts outside parent university
4	Dr. T. Chandra Sekhar Rao	Professor, HoD of Dept. of CE, Bapatla Engineering College, Bapatla	
5	Mr. N. Dilip Kumar	Deputy Project Manager in Projects DEC infra india private limited	Industrialist
6	Mr. K. Ramu	Asst. Professor	Faculty Member
7	Mrs. P. Madhuri Swaraj	Government Employee, State Government of A.P	Alumni Member

P.T.O



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**Term:** The term of the nominated members shall be three years.

**Meetings:** The Board of Studies shall meet at least twice a year.

**Functions:**

The Board of Studies of a Transportation Engineering in Civil Department in the college shall:

- Prepare syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders and national requirement for consideration and approval of the Academic Council;
- Suggest methodologies for innovative teaching and evaluation techniques;
- Suggest panel of names to the Academic Council for appointment of examiners;
- Coordinate research, teaching, extension and other academic activities in the Department! College.

HOD  
Dept. Of CE

Copy to:  
1. Principal.  
2. IQAC

HEAD OF THE DEPARTMENT  
CIVIL ENGINEERING  
A.M. REDDY MEMORIAL COLLEGE OF ENGG & TECH  
PETLURIVARIPALEM  
Narasaraopet (Md.), Guntur (Dt.).



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AMR/TE/BOS/2025-26/Circular/1

Date: 03/09/2025

## Meeting Notice

Greetings from A.M. Reddy Memorial College of Engineering and Technology we request you to participate in Transportation Engineering in Civil Department Board of Study meeting scheduled on 03<sup>rd</sup> September 2025 at 03.00 PM through online (Google Meeting)

S.No	Name of the Member	Designation/occupation	category
1	Dr. K. Sreekar Chand	Head of the Department	Chairman
2	Dr. M. Swaroopa Rani	Professor, CIVIL Department, UCEK, JNTUK Kakinada	University Nominee
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## Agenda of the meeting--

- Introducing the members of Board of Studies.
- Finalization of AMR- 24 CBCS (Choice Based Credit System) – Syllabus for II year III Sem & IV Sem which are related to TE Department.
- Course structure modifications (If any)
- Discuss on Approval for II-year M.Tech III Sem and IV Sem.
- Any other matters.

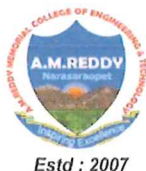
  
HOD

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AMR/TE/BOS/2025-26/MOM/1

Date : 05-09-2025

## DEPARTMENT OF TRANSPORTATION ENGINEERING MINUTES OF MEETING - BOARD OF STUDIES (BOS)

The Meeting of the Board of Studies of Transportation Engineering in Civil Department was held on 05<sup>th</sup> September 2025 at 03.00 PM through online (Google Meeting Platform). The following members were attended the online meeting.

S.No	Name of the Member	Designation/occupation	category	Signature
1	Dr. K. Sreekar Chand	Head of the Department	Chairman	
2	Dr. M. Swaroopa Rani	Professor, CIVIL Department, UCEK, JNTUK Kakinada	University Nominee	
3	Dr.D.Srinivas	Associate Professor & HOD, Department of Architecture, School of Planning & Architecture Vijayawada	Subject experts outside parent university	
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The Meeting began with chairman, Board of studies extending a warm welcome to all the members of participating in the meeting.

The following points were discussed and approved during the meeting

1. The following proposed AMR 24 Course Structure and the detailed syllabus of II-I, II-II were presented, discussed and approved.



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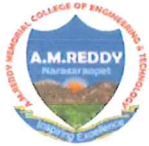
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COURSES (TE)		
II Year – III SEM		
S.No.	Title	Credits
1	Financial and Economic Analysis of Transportation Projects	3
2	Industrial Safety	3
<b>II SEM - TOTAL CREDITS</b>		<b>6</b>
COURSES (TE)		
II Year – IV SEM		
S. No.	Title	Marks
1	Dissertation Phase II (Continued from III Semester)	100
<b>IV SEM - TOTAL MARKS</b>		<b>100</b>



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The syllabus for Financial and Economic Analysis of Transportation Projects Syllabus (AMR-25), Industrial Safety Syllabus (AMR-25), Dissertation Phase-I / Industrial Project, Dissertation Phase II (Continued from III Semester) and has been approved by the Board of Studies.

**The following points were suggested for future possible implementations: Prescribed**

**Textbooks:**

Advised to add recent prescribed textbooks or updated editions for the course.

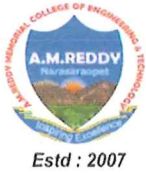
**References:**

More references are recommended to be added for various topics.

**Information Sharing:**

All the updated information should be shared at least 15 days before the next Board of Studies (BOS) meeting.

The BOS chairman concluded the session and informed that the suggested points will be implemented and mail the same for approval and requested the experts to approve and ended with Vote of Thanks

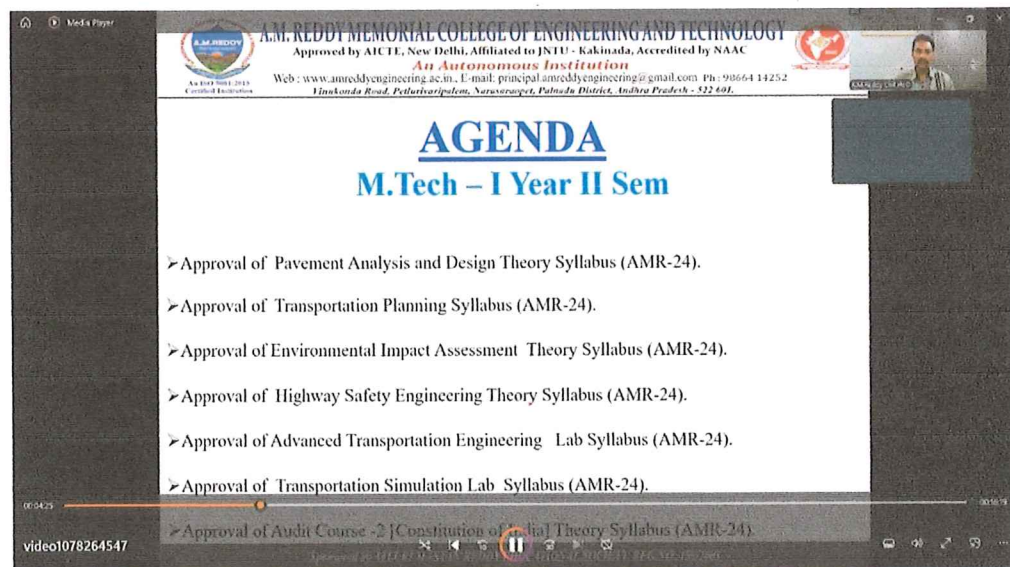
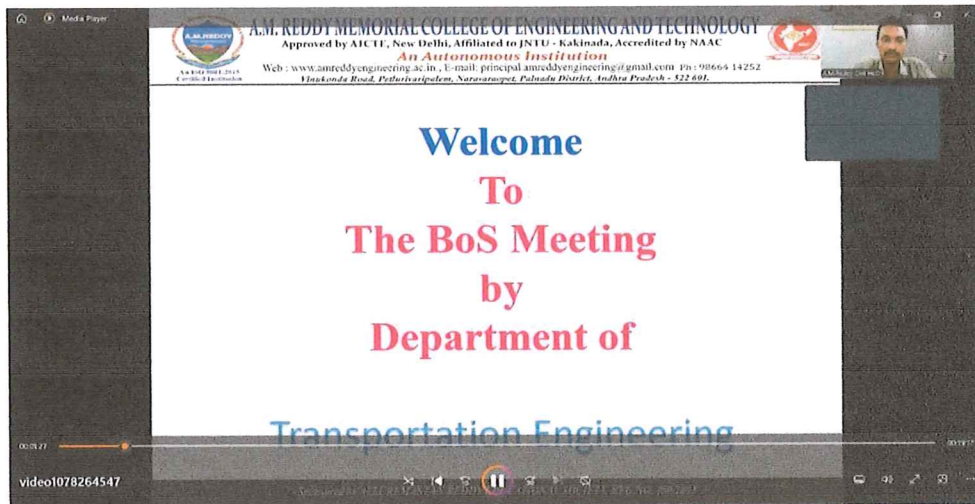


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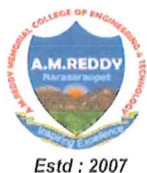
  
**Chairman**

**BoS - Dept. of CE**

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## ANNEXURE -1

AMR- 24

L	T	P	C
3	0	0	3

## FINANCIAL AND ECONOMIC ANALYSIS OF TRANSPORTATION PROJECTS

### UNIT: I

Transportation Projects Formulation and Development: Requirements in project formulation. Components of project, non-monetary and monetary Criteria in formulation of project. Decision making Criteria input in Project formulation. Preparation of DPR – Guidelines Transport Projects and development: preparation of Project, Highway Planning, Traffic infrastructure, Project formulation, Road Network project development

### UNIT: II

Economic evaluation of Transportation plans: Need for Economic Evaluation; Principles of economic evaluation; Welfare economics; Social costs, Vest change, Rate of return. Value of Travel time Savings; Economic concept of evaluation of travel time savings, Issues connected with evaluation of travel time savings. Vehicle operating costs; Components of VOC, Road user Cost study in India; Accident costs; Methodologies for economic evaluation of an accident; Factors involved

### UNIT: III

Methods of Economic Analysis: Cash flow diagrams, Time value of money, Inflation, Interest, Depreciation, Cost and benefit components, discounting criteria. Equivalent Uniform Annual cost Method; Present worth of cost method; Equivalent uniform annual net return method; Net-present value method; Benefit cost ratio method; Rate of Return Method; Application of these methods to numerical examples.

### UNIT: IV

Analysis of variable costs and Transportation Asset Management: Types of Capital Financing; valuation; Project appraisal by shadow pricing with case studies. Economic Analysis of BOT and BOOT projects and allocations. Introduction and scope of asset management in India.

### UNIT:V

Environmental Impact Assessment: Basic concepts, Objectives, Transportation related Environmental Impacts - Vehicular Impacts - Safety and Capacity Impacts - Roadway Impacts – Construction Impacts, Environmental Impact Assessment-Environmental Impact Statement, Environment Audit, Typical case studies.

### References:

1. Transportation Engineering Economics - Heggie. I.G., McGraw Hill Publishers.
2. Economic Analysis for Highways - Winfrey. R; International Text Book Company.
3. Traffic Engineering and Transport Planning - L. R. Kadiyali, Khanna Publishers.
4. Road User Cost Study, CRRI.
5. Road Project Appraisal for Developing Countries, J. W. Dickey, John Wiley & Sons.
6. Construction Management & Planning, B.Sengupta, H.Guha, Tata McGraw Hill, New Delhi



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## ANNEXURE -2

AMR- 24

L	T	P	C
3	0	0	3

## INDUSTRIAL SAFETY SYLLABUS

### UNIT: I

Industrial safety: Accident, causes, types, results and control, mechanical and electrical hazards, types, causes and preventive steps/procedure, describe salient points of factories act 1948 for health and safety, wash rooms, drinking water layouts, light, cleanliness, fire, guarding, pressure vessels, etc, Safety color codes. Fire prevention and firefighting, equipment and methods.

### UNIT: II

Fundamentals of maintenance engineering: Definition and aim of maintenance engineering, Primary and secondary functions and responsibility of maintenance department, Types of maintenance, Types and applications of tools used for maintenance, Maintenance cost & its relation with replacement economy, Service life of equipment.

### UNIT: III

Fundamentals of maintenance engineering: Definition and aim of maintenance engineering, Primary and secondary functions and responsibility of maintenance department, Types of maintenance, Types and applications of tools used for maintenance, Maintenance cost & its relation with replacement economy, Service life of equipment.

### UNIT: IV

Fault tracing: Fault tracing-concept and importance, decision tree concept, need and applications, sequence of fault-finding activities, show as decision tree, draw decision tree for problems in machine tools, hydraulic, pneumatic, automotive, thermal and electrical equipment's like, i. Any one machine tool, ii. Pump iii. Air compressor iv. Internal combustion engine, v. Boiler, vi. Electrical motors, Types of faults in machine tools and their general causes

### UNIT: V

Periodic and preventive maintenance: Periodic inspection-concept and need, degreasing, cleaning and repairing schemes, overhauling of mechanical components, overhauling of electrical motor, common troubles and remedies of electric motor, repair complexities and its use, definition, need, steps and advantages of preventive maintenance. Steps/procedure for periodic and preventive maintenance of i. tools, ii. Pumps, iii. Air compressors, iv. Diesel generating (DG) sets, Program and schedule of preventive maintenance of mechanical and electrical equipment, Advantages of preventive maintenance. Repair cycle concept and importance

### REFERENCE:

1. Maintenance Engineering Handbook, Higgins & Morrow, Da Information Services.
2. Maintenance Engineering, H. P. Garg, S. Chand and Company.
3. Pump-hydraulic Compressors, Audels, Mcgrew Hill Publication.
4. Foundation Engineering Handbook, Winterkorn, Hans, Chapman & Hall London