



PRAGATI ENGINEERING COLLEGE

(Autonomous)

DEPARTMENT OF MECHANICAL ENGINEERING

Date: 11-08-2025

CIRCULAR

All the members of Board of Studies (BoS) are here by informed that there will be a meeting on 14th August 2025 for discussing the following agenda.

Agenda:

1. Welcome Address by BoS-Chairman.
2. Discussion on proposed B. Tech III Year I Semester and III Year II Semester Course Structure & Course Syllabi of R23 Regulation and Ratification of the same.
3. Discussion on proposed M. Tech Course Structure & Course Syllabi of R25 Regulation and Ratification of the same.
4. Discussion on Ratification of Courses Objectives, Course Outcomes and CO-PO Mapping.
5. Ratification of Inter-departmental Courses offered by Mechanical Engineering Department for B. Tech III Year R23 Regulation.
6. Discussion on New Courses introduced in R23 Regulation.
7. Discussion of Action Taken Report from stake holders:
 - a. Inclusion of Entrepreneurship and Venture Creation Course in III Year II Semester Open Elective-II.
 - b. Inclusion of Salesforce Course based on Employer Feedback.
8. Inclusion of MOOC courses in Professional Electives as per R23 Regulation and Authorization of BoS Chairman to finalize Courses in the MOOCs list.
9. Discussion on finalization of Text Books, Reference Books and Web References.
10. It is proposed to conduct Engineering Graphics Course work for B. Tech I Year Students using AutoCAD Software for Practice, Assessment and Evaluation from 2025-26 Academic Year Onwards and Ratification of the same.
11. Any other item.



HOD-ME.

Copy to:

1. All members of BoS.
2. Department circular file.



PRAGATI ENGINEERING COLLEGE

(Autonomous)

DEPARTMENT OF MECHANICAL ENGINEERING

Constitution of the Board of Studies from 2024-2025 onwards

The Board of Studies (BOS) in Department of Mechanical Engineering is constituted for the Academic year 2025-2026. Meeting is conducted on 14-08-2025 for approval/ratification for Third Year Course Structure, Course Syllabi for students Admitted from 2023-24 onwards and M. Tech First Year and Second Year Course Structure, Course Syllabi for the Admitted Students from 2025-26.

S. No.	Recommended Composition	Details of Person(s) Identified
1	Head of the Department concerned (Chairman)	Dr. Avinash Gudimetla, Associate Professor
2	One expert nominated by the Vice – Chancellor from a panel of six recommended by the college principal.	Dr. V. Vara Prasad, Assistant Professor, Dept. of ME, UCEK, JNTUK, Kakinada.
3	Two experts in the subject from outside the college nominated by the Academic Council.	1. Dr. E. Anil Kumar, Professor of ME, IIT Tirupati. 2. Dr. Ch. Srinivasa Rao, Professor of ME, Andhra University.
4	Internal Members	All the Faculty members of the Department



BOS-CHAIRMAN



Learning is Supreme Duty

PRAGATI ENGINEERING COLLEGE

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DEPARTMENT OF MECHANICAL ENGINEERING

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11. Any other item.

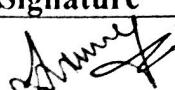


PRAGATI ENGINEERING COLLEGE
(Autonomous)

DEPARTMENT OF MECHANICAL ENGINEERING

Minutes of meeting of the Board of Studies of Mechanical Engineering held on 13th August 2025 through online.

Members Present

S.No.	Composition	Name	Signature
1	Head of the Department (Chairman)	Dr. Avinash Gudimetla, Associate Professor.	
2	University Nominee	Dr. V. Vara Prasad, Assistant Professor, Dept. of ME, UCEK, JNTUK, Kakinada.	
3	External Expert	Dr. E. Anil Kumar Professor, IIT Tirupati.	Attended through Online
4		Dr. Ch. Srinivasa Rao, Professor, Andhra University.	Attended through Online

6. Internal BoS Members

S.No.	Name of the Staff	Signature
1	Dr. G. Avinash	
2	Dr. P. Vinod Kumar Naidu	<i>P. Vinod Kumar Naidu</i>
3	Mr. M. Sunil Raj	<i>Sunil Raj</i>
4	Mr. N. Raghuveer	<i>N. Raghuveer</i>
5	Mr. V.V.N. Sarath	<i>V.V.N. Sarath</i>
6	Mrs. B. Anusha Srikanta	<i>B. Anusha Srikanta</i>
7	Mr. P. Ram Prasad	<i>P. Ram Prasad</i>
8	Mr. A. Phani Bhaskar	<i>A. Phani Bhaskar</i>
9	Mrs. P. Gayathri	<i>P. Gayathri</i>
10	Mrs. U. Chaitanya Vardhini	<i>U. Chaitanya Vardhini</i>
11	Mr. A. Yeswanth	<i>A. Yeswanth</i>
12	Mr. M. V. V. Siva Krishna	<i>M. V. V. Siva Krishna</i>
13	Mrs. B. Siva Naga Ramya	<i>B. Siva Naga Ramya</i>
14	Mrs. K. Tulasi	<i>K. Tulasi</i>
15	Mr. B. Hari Krishna	<i>B. Hari Krishna</i>
16	Mr. P. Chinna	<i>P. Chinna</i>
17	Mr. K. Anil Kumar	<i>K. Anil Kumar</i>
18	Mr. M. Anil Kumar	<i>M. Anil Kumar</i>
19	Mr. B. Bharath Kumar	<i>B. Bharath Kumar</i>
20	Mr. M. Vinil	<i>M. Vinil</i>
21	Mrs. B. Kranthi	<i>B. Kranthi</i>
22	Mr. Ch. Sai Mohan Reddy	<i>Ch. Sai Mohan Reddy</i>
23	Mr. Ch. Satya Prakash	<i>Ch. Satya Prakash</i>
24	Ms. G. B. T. S. Alekhya	<i>G. B. T. S. Alekhya</i>
25	Mr. K. Simon Rupas	<i>K. Simon Rupas</i>

Chairman
BOS-CHAIRMAN



Pragati Engineering College (Autonomous)

Department of Mechanical Engineering

R23

B.Tech. III Year I Semester

S.No.	Category	Title	L	T	P	C	
1.	Professional Core	Machine Tools and Metrology	3	0	0	3	
2.	Professional Core	Thermal Engineering	3	0	0	3	
3.	Professional Core	Design of Machine Elements	3	0	0	3	
4.	Professional Elective-I	1. Design for Manufacturing 2. Conventional and Futuristic Vehicle Technology 3. Renewable Energy Technologies 4. Non-Destructive Evaluation 5. Any of the below 12-week SWAYAM NPTEL (MOOC) Course i. Mechanical Behavior of Materials. ii. Introduction to Composites. iii. Fundamentals of Additive Manufacturing Technologies. iv. Metal Additive Manufacturing.	3	0	0	3	
5.	Open Elective-I	1. Construction Project Management. 2. Renewable Energy Sources. 3. Electronic Devices and Circuits. 4. Introduction to Cloud Computing.	3	0	0	3	
6.	Professional Core	Thermal Engineering Laboratory	0	0	3	1.5	
7.	Professional Core	Theory of Machines Laboratory	0	0	3	1.5	
8.	Skill Enhancement course	Machine Tools and Metrology Laboratory/ Salesforce Administrator Explorer	0	0	4	2	
9.	Engineering Science	Tinkering Laboratory	0	0	2	1	
10.	Community Service Project Internship		-	-	-	2	
Total				15	0	12	23

Members of BoS:

	Approved through mail	Approved through mail		
Dr. V. Varaprasad Assistant Professor UCEK, JNTUK, Kakinada	Dr. E. Anil Kumar Professor IIT Tirupati	Dr. Ch. Srinivasa Rao Professor Andhra University	Dr. P. Vinod Kumar Naidu Assistant Professor Pragati Engg. College (A)	Dr. G. Avinash Associate Professor Pragati Engg. College (A)



Department of Mechanical Engineering

B.Tech. III Year II Semester

S.No.	Category	Title	L	T	P	C
1.	Professional Core	Heat Transfer	3	0	0	3
2.	Professional Core	Artificial Intelligence and Machine Learning	3	0	0	3
3.	Professional Core	Finite Element Methods	3	0	0	3
4.	Professional Elective-II	1. Mechanical Vibrations 2. Advanced Manufacturing Processes 3. Micro Electro Mechanical Systems 4. Sensors and Instrumentation 5. Any of the below 12-Week SWAYAM NPTEL (MOOC) Course i. Advanced Machining Processes ii. Automation in Manufacturing iii. Engine System and Performance iv. Fundamentals of Nuclear Power Generation.	3	0	0	3
5.	Professional Elective-III	1. Energy Storage Technologies 2. Industrial Hydraulics and Pneumatics 3. Industrial Robotics 4. Refrigeration and Air-Conditioning 5. Any of the below 12-week SWAYAM NPTEL (MOOC) Course i. Design of Mechanical Transmission Systems ii. Computer Integrated Manufacturing iii. Welding Metallurgy iv. Product Design and Manufacturing	3	0	0	3
6.	Open Elective - II	1. Disaster Management 2. Fundamentals of Electric Vehicles 3. Principles of Communications 4. Object Oriented Programming through JAVA 5. Entrepreneurship and Venture Creation	3	0	0	3
7.	Professional Core	Heat Transfer Laboratory	0	0	3	1.5
8.	Professional Core	Artificial Intelligence and Machine Learning Laboratory	0	0	3	1.5
9.	Skill Enhancement course	Robotics and Drone Technologies Laboratory/ Salesforce Developer Catalyst	0	0	4	2
10.	Audit Course	Technical Paper Writing and IPR	2	0	0	-
Total			20	0	10	23
Mandatory Industry Internship of 08 weeks duration during summer vacation						

Members of BoS:

	Approved through mail	Approved through mail		
Dr. V. Varaprasad Assistant Professor UCEK, JNTUK, Kakinada	Dr. E. Anil Kumar Professor IIT Tirupati	Dr. Ch. Srinivasa Rao Professor Andhra University	Dr. P. Vinod Kumar Naidu Assistant Professor Pragati Engg. College (A)	Dr. G. Avinash Associate Professor Pragati Engg. College (A)



Pragati Engineering College (Autonomous)

Department of Mechanical Engineering

Courses offered by Mechanical Engineering Department to Other Department(s)

S.No.	Category	Title	L	T	P	C
1	Open Elective - I	1. Sustainable Energy Technologies 2. Applied Operations Research 3. Nano Technology 4. Thermal Management of Electronic systems	3	0	0	3
2	Open Elective - II	1. Introduction to Industrial Robotics 2. Industrial Management 3. Additive Manufacturing 4. Vehicle Technology 5. Industrial Safety	3	0	0	3

Members of BoS:

	Approved through mail	Approved through mail		
Dr. V. Vara Prasad Assistant Professor UCEK, JNTUK, Kakinada	Dr. E. Anil Kumar Professor IIT Tirupati	Dr. Ch. Srinivasa Rao Professor Andhra University	Dr. P. Vinod Kumar Naidu Assistant Professor Pragati Engg. College (A)	Dr. G. Avinash Associate Professor Pragati Engg. College (A)



Pragati Engineering College (Autonomous)
Department of Mechanical Engineering

R25

M.TECH CAD/CAM COURSE STRUCTURE

I Semester

S.No	Category	Course Title	L	T	P	C
1	Program Core	Advanced Finite Element Methods	3	1	-	4
2	Program Core	Advanced CAD	3	1	-	4
3	Program Core	AI & ML for Mechanical Engineering	3	1	-	4
4	Program Elective-I	1. Mechanical Behavior of Materials and Characterization 2. Optimization and Reliability 3. Mechatronics 4. Computational Fluid Dynamics 5. NPTEL/SWAYAM MOOCs Course with 12 Weeks Duration	3	0	-	3
5	Program Elective -II	1. MEMS: Design and Manufacturing 2. Design for Manufacturing and Assembly 3. Fracture Mechanics 4. Smart Materials 5. NPTEL/SWAYAM MOOCs Course with 12 Week Duration	3	0	-	3
6	Program Core	Material Processing and Characterization Laboratory	-	1	2	2
7	Program Core	Advanced CAE Laboratory	-	1	2	2
8	Mini Project	Seminar-I	-	0	2	1
<i>Total Credits</i>						23

Members of BoS:

	Approved through mail	Approved through mail		
Dr. V. Vara Prasad Assistant Professor UCEK, JNTUK, Kakinada	Dr. E. Anil Kumar Professor IIT Tirupati	Dr. Ch. Srinivasa Rao Professor Andhra University	Dr. P Vinod Kumar Naidu Assistant Professor Pragati Engg. College (A)	Dr. G. Avinash Associate Professor Pragati Engg. College (A)



Pragati Engineering College (Autonomous)

Department of Mechanical Engineering

R25

II Semester

S.No	Category	Course Title	L	T	P	C
1	Program Core	Robotics and UAV Systems	3	1	-	4
2	Program Core	Advanced Manufacturing Processes	3	1	-	4
3	Program Core	Computer Aided Manufacturing	3	1	-	4
4	Program Elective-I	1. Precision Engineering 2. Theory of Elasticity and Plasticity 3. Entrepreneurship and Design of Business Models 4. Additive Manufacturing 5. NPTEL/SWAYAM MOOCs Course with 12 Weeks Duration	3	0	-	3
5	Program Elective -II	1. Introduction to Embedded systems 2. Modeling and Simulation of Manufacturing Systems 3. Smart Manufacturing 4. Introduction to Quantum Technologies 5. NPTEL/SWAYAM MOOCs Course with 12 Week Duration	3	0	-	3
6	Program Core	Robotics and UAV Systems Laboratory	-	1	2	2
7	Program Core	Advanced CAM Laboratory	-	1	2	2
8	Mini Project	Seminar-II	-	0	2	1
Total Credits						23

Note: Students are informed to complete Summer Internship (duration 8-10 weeks) at the end of the II Semester.

Members of BoS:

	Approved through mail	Approved through mail		
Dr. V. Varaprasad Assistant Professor UCEK, JNTUK, Kakinada	Dr. E. Anil Kumar Professor IIT Tirupati	Dr. Ch. Srinivasa Rao Professor Andhra University	Dr. P. Vinod Kumar Naidu Assistant Professor Pragati Engg. College (A)	Dr. G. Avinash Associate Professor Pragati Engg. College (A)



Pragati Engineering College (Autonomous)

Department of Mechanical Engineering

III Semester

S.No	Category	Course Title	L	T	P	C
1	Credit Course	Research Methodology and IPR/ Swayam 12 Week MOOCS Course	3	0	-	3
2	Internship	Evaluation of Summer Internship/Industrial Training (8-10 Weeks)	-	-	-	3
3	-	Comprehensive Viva	-	-	-	2
4	Project	Dissertation Part – A	-	-	20	10
<i>Total Credits</i>						18

Students going for Industrial Project/Thesis will complete these courses through MOOCs.

IV Semester

S.No	Category	Course Title	L	T	P	C
1	Project	Dissertation Part – B	-	-	32	16
<i>Total Credits</i>						16

Members of BoS:

	Approved through mail	Approved through mail		
Dr. V. Vara Prasad Assistant Professor UCEK, JNTUK, Kakinada	Dr. E. Anil Kumar Professor IIT Tirupati	Dr. Ch. Srinivasa Rao Professor Andhra University	Dr. P. Vinod Kumar Naidu Assistant Professor Pragati Engg. College (A)	Dr. G. Avinash Associate Professor Pragati Engg. College (A)



PRAGATI ENGINEERING COLLEGE

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DEPARTMENT OF MECHANICAL ENGINEERING

The meeting began at 02.30 P.M. in Online Mode. The Chairman of the Board of Studies Dr.Avinash Gudimetla welcomed all the members for the meeting.

Resolutions:

The following resolutions have been made in the meeting:

- With respect to point 2 of Agenda, B.Tech III year I Semester and B.Tech III year II semester Course Structure & Course Syllabi of R23 Regulation is approved and ratified.
- With respect to point 3 of Agenda, the M. Tech Course Structure & Course Syllabi of R25 Regulation is approved and ratified.
- With respect to Point 4 of Agenda, the Course Objectives, Course Outcomes and CO-PO Mapping for all the courses for B. Tech and M. Tech were ratified.
- With respect to point 5 of Agenda, Inter-departmental Courses offered by Mechanical Engineering Department for B. Tech III Year R23 Regulation were ratified.
- With respect to point 6 of Agenda, The following are the New Courses introduced in R23 Regulation and were ratified.
 - Conventional and Futuristic Vehicle Technology.
 - Renewable Energy Technologies.
 - Tinkering laboratory.
 - Mechanical Vibrations.
 - Advanced Manufacturing Processes.
 - Micro Electro Mechanical Systems.
 - Sensors and Instrumentation.
 - Energy Storage Technologies
 - Industrial Hydraulics and Pneumatics.
- With respect to point 7a of Agenda, Inclusion of Entrepreneurship and Venture Creation Course in III Year II Semester was approved.
- With respect to point 7b of Agenda based on the Employer feedback,
 - Salesforce Administrator Explorer Course is included in III Year I Semester.
 - Salesforce Developer Catalyst Course is included in III Year II Semester.
- With respect to point 8 of Agenda, inclusion of MOOC Courses in Professional Elective as per R23 Regulation was ratified and BoS Chairman is authorized to finalize MOOCs Courses as per the availability of courses in the NPTEL platform.
- With respect to point 9 of Agenda, Text books, Reference books and Web references were ratified.
- With respect to point 10 of Agenda, Conduction of Engineering Drawing Course work for B.Tech I Year students using AutoCAD Software for Practice, Assessment and Evaluation for the students admitted from 2025-2026 Academic Year onwards is Ratified.

The meeting ended with vote of thanks.

Members of BoS:

	Approved through mail	Approved through mail		
Dr. V Varaprasad Assistant Professor, UCEK, JNTUK, Kakinada	Dr. E. Anil Kumar Professor, IIT Tirupati	Dr. Ch. Srinivasa Rao Professor, Andhra University	Dr. P Vinod Kumar Naidu Assistant Professor, Pragati Engg. College (A)	Dr. G. Avinash Associate Professor, Pragati Engg. College (A)

**Re: Request to approve the minutes of 10th BoS conducted on 14.08.25 _ Reg****From** Anil Kumar <anil@iitt.ac.in>**Date** Thu 21-Aug-25 1:52 PM**To** hod_me <hod_me@pragati.ac.in>**Approved****Dr. E. Anil Kumar****Professor**

Department of Mechanical Engineering

Dean Sponsored Research and Consultancy

Indian Institute of Technology Tirupati

Yerpedu-Venkatagiri Road

Yerpedu Post – 517 619

Tirupati District, A.P.

Phone: 07879779188 (Mobile)

Email: anil@iitt.ac.in, mreanilkumar@gmail.com

On Thu, 21 Aug, 2025, 1:06 pm hod_me, <hod_me@pragati.ac.in> wrote:

Respected sir,

I am herewith attaching the copies of Course Structure and Syllabus for III Year B.Tech of R23 regulations, M.Tech for R25 regulations and resolutions of the meeting.

I request you to kindly approve the same sir.

Thanking you sir

Dr. Avinash Gudimetla

M.Tech., Ph.D., MIE, SMISMAE

Associate Professor and Head of the Department,

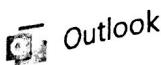
Department of Mechanical Engineering (Accredited by NBT)

|Pragati Engineering College(A)| 1-378 ADB Road| Surampalem |

|near Peddapuram| E.G.Dt. |A.P|

|Phone : (L) +91 8852-252233|

(M) +91 9866443604 | URL: www.pragati.ac.in |

**Re: Request to approve the minutes of 10th BoS conducted on 14.08.25 _ Reg**

From Srinivasa Rao Dr. Ch. <csr_auce@yahoo.co.in>

Date Thu 21-Aug-25 1:55 PM

To hod_me <hod_me@pragati.ac.in>

Approved

Yahoo Mail: Search, organise, conquer

On Thu, 21 Aug 2025 at 1:05 pm, hod_me <hod_me@pragati.ac.in> wrote:

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I request you to kindly approve the same sir.

Thanking you sir,

Dr. Avinash Gudimetla

M.Tech., Ph.D., MIE, SMISME

Associate Professor and Head of the Department,

Department of Mechanical Engineering(Accredited by NBA).

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