



SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Narsapur, West Godavari District, A.P. 534 280

Department of ROBOTICS

MINUTES OF 6th BOARD OF STUDIES MEETING

Date: 24-06-2026

Topic: 6th Board of Studies Meeting

Time: 15th May, 2026 11:00 AM

Mode: Online Zoom Platform

Meeting link: <https://us06web.zoom.us/j/83813682573?pwd=vj80YAajNgkC0gNZqd4kGJQ5li6gl.1>

Fifth BOS Meeting Video Link: https://drive.google.com/file/d/1KNEfMq-VNgVCvF2wOH5DIQoMwDhEmy6Q/view?usp=drive_link

The sixth Board of studies meeting of the Robotics department held on 15th May 2026 at 11.00 AM through online mode for the approval of R23 course structure and syllabus of VII and VIII semesters.

The following members were attended to the BOS meeting

S.No.	Name of BoS Member	Designation in BoS
1	Dr M Francis Luther King	Chairman
2	Dr. A. Gopala Krishna JNTUK, KAKINADA	Subject Expert, Nominated by V.C
3	Dr. P. Rajalakshmy, Karunya University, Tamilnadu	Subject Expert, Nominated by Institute
4	Dr. K.Tulasi Balaram Padal AU, VISAKHAPATNAM	Subject Expert, Nominated by Institute
5	Mr. B. Srinivasa Rao Additional General Manager, Bharat Electronics Limited, Machilipatnam	Industrial Expert
6	Ms. S. Sri Vaishnavi Studying MS, University of Bonn, Germany	Alumni Member
7	Dr. R. Lalitha Narayana	Internal Member
8	Dr. R. Sanjeev Kumar	Internal Member
9	Mr. B. Srinivas	Internal Member
10	Mr. B. Mahesh Krishna	Internal Member
11	Mr. Ch. Harish Kumar	Internal Member
12	Mr. Abdul Azeez	Internal Member



**Agenda:**

1. Review of previous BOS meeting minutes.
2. Finalization of B.Tech R23 Course Structure for VII and VIII semesters.
3. Finalization of B.Tech R23 syllabus for VII and VIII semesters.
4. Any other matter with the permission of chair.

Minutes:

BOS meeting started at 11.00 AM online mode. The BOS chairman welcomed the University Nominee Subject Experts, Industrial Expert, Alumni Member and Faculty members.

1. Review of previous BOS meeting minutes

The committee reviewed the fifth BOS meeting minutes.

2. Discussion on R23 Course Structure of VII and VIII Semesters for B.Tech

The chairman presented the R23 regulation Course structure for VII and VIII Semesters. The BOS Committee discussed the Robotics Course structure of VII and VIII semesters R23 Regulations. BOS Committee has viewed and approved the same.

The following were the suggested resolutions by the BOS members.

- Suggested to replace Industry 5.0 in the place of Industry4.0 course in VII Semester Open Elective course.
- Suggested to include AI and algorithms to strengthen the robotics courses.
- Suggested to include basics in automation courses for Open elective courses.
- Suggested to replace Robot fabrication lab instead of Robot simulation lab
- Suggested to change the title of the course as Introduction to Mobile Robots in Open elective.
- Approved the Course structure for VII and VIII semesters R23.

3. Discussion on R23 syllabus of VII and VIII Semesters for B.Tech

The chairman presented the R23 regulation syllabus for the courses of VII and VIII Semesters. The BOS Committee discussed the Robotics Courses Syllabus of VII & VIII semesters R23 Regulations. BOS Committee has viewed and approved the same.

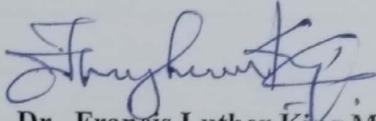
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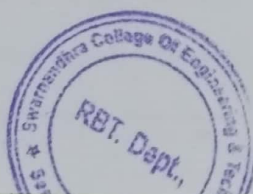
- Suggested to include design calculations in every course.
- Suggested to improve course outcomes with higher level active verbs.
- Suggested to include Augmented Reality and Virtual Reality course in the curriculum.

- Approved the CO, PO & PSO mapping and web references for every course in VII semester R23.
- Approved the syllabus for VII semesters R23.

The BOS meeting was concluded by the Chairman with a letter of gratitude to all BOS members by 12.30 PM.




Dr. Francis Luther King M
Chairman BOS
Department of Robotics



Workplace

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Dr. R. Lakshmi Narayana

HOD-Robotics

Radini S

Dr. P. Rajalakshmy

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Swarnandhra
College of Engineering and Technology
Department of Robotics
06th Board of Studies (BOS) Meeting

Date: 15th May, 2026
Time: 11:00 AM

Agenda:

1. Review of previous BOS meeting minutes
2. Finalization of R23 Course structure for B.Tech VII and VIII Semester.
3. Finalization of R23 Syllabus for B.Tech VII and VIII Semester.
4. Any other matter with the permission of chair.

Participants (9)

Dr. R. Lakshmi Narayana (MC)

Mechanical Department (Host)

HOD-Robotics (Co-Host)

MAHESH KRISHNA (Co-Host)

Prof. K.T. Balaram Padai, Andhra University, Visakhapatnam

Radini S

Dr. P. Rajalakshmy

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Prof. A. Gopala Krishna

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B. Tech (Robotics) - VII Semester Course Structure

S.No	Category	Title	L	T	P	Credits
1	Professional Core	Mobile Robots	2	0	0	2
2	Management Course-II	Operations Research	2	0	0	2
3	Professional Core	Control system lab	0	0	2	1
4	Professional Elective	Professional Elective - IV	3	0	0	3
5	Professional Elective	Professional Elective - V	3	0	0	3
6	Open Elective - III	1. Mobile Robots 2. Artificial Intelligence in Robotics 3. Industry 4.0	3	0	0	3
7	Open Elective-IV	1. Drone Technology 2. Optimization for Robot Modelling 3. Autonomous Robots	3	0	0	3
8	Skill Enhancement Course	Robot simulation lab	0	0	4	2
9	Audit Course	Constitution of India	2	0	0	
10	Internship	Evaluation of Industry	-	-	-	

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Dr. R. Lalitha Narayana

Prof A Gopala Krishna

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VII SEMESTER

	L	T	P	C
23RB51001: ROBOTICS SYSTEM AND ANALYSIS (Professional Elective - V)	3	0	0	3

Course Objectives: The students completing the course are expected

- To establish a solid foundation in the mathematical representation of robot geometry using Homogeneous Transformation Matrices and D-H parameters
- To analyze the differential motion, dynamics, and static force distribution of multi-DOF robotic manipulators.
- To develop algorithms for smooth trajectory planning in both joint and Cartesian spaces.
- To synthesize various machine-control strategies, including force, torque, and impedance control for precise robot operation.
- To integrate computer vision techniques to enable robots to process and analyze visual data for environmental interaction.

Course Outcomes: On completion of the course, the student should be able to:

CO1: Apply matrix transformations and kinematics, according to represent

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- DR Dr. R. Lalitha Narayana (Host)
- MD Mechanical Department (Host)
- HI HOD-Robotics (Co-host)
- MK MAHESH KRISHNA (Co-host)
- PK Prof. K.T. Balaram Padal, Andhra University, Visakhapatnam
- DP Dr. P. Rajalakshmy
- 20A21AS313
- PA Prof A Gopala Krishna
- SANJEEV KUMAR R

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MAHESH KRISHNA

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VII SEMESTER

	L	T	P	C
23RB51001: OPTIMIZATION FOR ROBOT MODELLING (Open Elective - IV)	3	0	0	3

Course Objectives: The students after completing the course are expected to:

- To familiarize students with traditional and modern optimization algorithms.
- To impart knowledge on spatial transformations and optimal orientation/leveling.
- To understand the structural synthesis and topology optimization of robotic links.
- To apply optimization techniques to solve complex manipulator kinematic equations.
- To explore optimal path planning and smooth trajectory generation in cluttered environments.

Course Outcomes: On completion of the course, the student should be able to:

CO1: Identify and solve basic optimization problems using gradient-based and heuristic methods. K2

CO2: Compute optimal spatial transformations and Euler angles for robotic systems. K3

CO3: Analyze robotic structures for optimal stiffness and topological efficiency. K4

CO4: Formulate objective functions to solve inverse kinematics and joint angle. K3

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