Annexure – IV

DIRECTORATE OF POLYTECHNIC EDUCATION

CIRCULAR

Date: 17.03.2025

Directorate of Polytechnic Education is going to conduct Board of Studies (BoS) meeting for the Computer Science and Engineering programme on **29.03.2025** from 10.00 AM in blended mode. (Physical meeting Venue: VPTF-02, Third floor, Pharmacy Block, VFSTR and virtual meetinglink,https://us06web.zoom.us/j/88208291215?pwd=tgOnBttQwuJmZKEOtCekwfhOUSmvDh.1. All the members are requested to make it convenient to attend the meeting.

The members are

1	Dr.Susanta Kumar Satpathy	Chair person
2	Mr.Y.Ravindra Babu	External member (Academia)
3	Dr.Sudhakar Pandey	Invited member (Academia)
4	Mr. V Santhosh Kumar .T	External member (Industry)
5	Dr. Eva Patel	Internal member
6	Dr. Jawad Ahmad Dar	Internal member
7	Dr. K. Annapurna	Internal member
8	Dr. Sudam Panda	Internal member
09	Mr. M.Siva Jagadish Kumar	Internal member
10	Dr. Venkata Kishore K	Internal member
11	Mr. A. Siva Rao	Internal member
12	Mr. A. Suresh Babu	Member Secretary

Agenda of the BoS Meeting:

1. To Discuss and finalize the curriculum structure and credits distribution of Polytechnic, Computer Science Engineering, Programme for the regulation 2025 (R25)
2. To Discuss and finalize the elective courses list (Department / Open) of Polytechnic,CSE Programme for the regulation R25.
3. To approve the R25 curriculum, syllabus and assessment schemes of Polytechnic, CSE Programme.

Member Secretary

Chairperson
Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S
FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH

Directorate of Polytechnic Education

Date: 29.03.2025

Minutes of Board of Studies Meeting

Board of Studies (BoS) meeting of Directorate of Polytechnic Education CSE- programme was conducted on 29.03.2024 in blended mode from 10.00AM to 1.00PM., At VPTF-02, Pharmacy Block Third Floor VFSTR and virtual meeting link given below.

https://us06web.zoom.us/j/88208291215?pwd=tgOnBttQwuJmZKEOtCekwfhOUSmvDh.1

Agenda of the BoS Meeting:

1. To Discuss and finalize the curriculum structure and detailed syllabus of Diploma CSE Programme for the regulation 2025.
2. To approve the R25 curriculum and syllabus of Diploma., CSE programme.
3. Any other points with the permission of Chairperson.

The following members were present either thorough offline or online.

S. No.	Name and designation of the Member	Position	Signature
1	Dr. Susanta Kumar Satpathy	Chair person	
2	Mr. Y. Ravindra Babu	External member (Academia)	
3	Dr. Sudhakar Pandey	Invited member (Academia)	
4	Mr. V Santhosh Kumar .T	External member (Industry)	ONLINE
5	Dr. Eva Patel	Internal member	
6	Dr. Jawad Ahmad Dar	Internal member	
7	Dr. K. Annapurna	Internal member	
8	Dr. Sudam Panda	Internal member	
9	Mr. M. Siva Jagadish Kumar	Internal member	
10	Dr. Venkata Kishore K	Internal member	ABSENT
11	Mr. A. Siva Rao	Internal member	
12	Mr. A. Suresh Babu	Member Secretary	

Chairperson Dr. Susanta Kumar Satpathy Officiating Professor, Director – Diploma, VFSTR initiated the meeting by welcoming and introducing the external members and invitees to the internal members. Chairperson presented about the *Regulation - R25* which emphasis on creating *learning centric* (continuous learning and continuous assessment model), offering by Directorate of Polytechnic Education, CSE in Diploma, and honorable exit.

The following points were discussed in the BoS meeting:

1. Regulation R25.
2. Curriculum structure with credits, credits distribution
3. Assessment methods (Formative & Summative).
4. Department Elective courses.
5. Open Elective courses.
6. Honorable exit

The following are the observations:

1. Major restructuring has taken place in the curriculum which is oriented towards continuous learning and assessment based on structure.
2. R25 curriculum structure including list of professional core, department elective, open elective, Polytechnic, CSE programme.
3. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development.
4. The significant changes are made in the content of all courses and hence the courses are considered as new courses provided.
5. Feedback from various stakeholders are incorporated appropriately in the R25 curriculum.

The following improvements are suggested: (Action Points)

1. Guest Lecture should be conducted for the awareness regarding latest Technology
2. Students will be awarded with ITI certificate if he / she discontinue the course after second year and he / she must and should have 85 credits.

The following recommendations and approvals are made after the discussion:

1. BoS Members approved the revised regulations, curriculum structure, syllabus, assessment schemes of Polytechnic, CSE programme.
2. The details of elective courses (Department/ Open) of Polytechnic, CSE Programme for the regulation R25 are approved.
3. The Subject Mathematics-I has been changed to Mathematical Foundation for Problem Solving with the change in the content as per the Intermediate and SBTET syllabus.
4. The English Proficiency & Communication Skills credits has been Distributed into two semesters i.e. I-I – 3 credits & I-II – 1 Credit.
5. The subject Programming in C has been distributed across two semesters each with 4 and 3 credits respectively. Subject Name Programming in C renamed to Programming for Problem Solving using C – I & C-II.
6. Basics of Computer Engineering subject name changed to Basics of Computer & Internet
7. Basics of Computer & Internet has been introduced in I-I with 3 credits.
8. Engineering Chemistry & Environmental Studies has been shifted I-I to I-II Semester.
9. The Subject Mathematics-II has been changed to Fundamentals of Algebra & Calculus.
10. As per discussion and suggestions by the BoS members there is a change of 10 % of syllabus in Fundamentals of Electrical and Electronics Engineering Subject.
11. The Subject Mathematics-III has been changed to Foundation of Discrete Structures
12. OOPs Through C++ Subject is Removed from I-II Semester.

13. English Proficiency & Communication Skills 4 credit has been splitted across I-I and I-II. 3 Credits in I-I and 1 Credit in I-II.
14. Python programming subject name is changed to Introduction to Python Programming
15. Software Engineering subject name changed to Fundamentals of Software Engineering
16. Data Structures subject name changed to Fundamentals of Data Structure
17. Design and Analysis of Algorithms name has been changed to Fundamentals of Design and Analysis of Algorithms
18. Java Programming subject name changed to Programming with Java
19. Web Technologies subject name changed to Fundamentals of Web Technologies
20. Operating Systems subject name changed to Fundamentals of Operating Systems
21. Introduction to Artificial Intelligence new subject is included in III-I

The Chairperson thanks all the external, internal, invited members and announced that the meeting was concluded and once the changes are incorporated it will be informed to all through their official mail id.

Member Secretary

Chairperson

Director
Directorate of Polytechnic Educatio
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 2

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

APPENDIX I

CSE Program: Three Year Curriculum Structure

I Year I Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Mathematical Foundation For Problem Solving	3	2	-	4	Basic Sciences	Mathematics
2		Applied Physics –I	2	-	2	3	Basic Sciences	Physics
3		English Proficiency & Communication Skills	2	-	2	3	Humanities	English
4		Basics of Computer & Internet	2	-	2	3	Basic Engineering	CSE
5		Programming for Problem Solving using C - 1	3	-	2	4	Basic Engineering	CSE
6		Engineering Graphics	-	-	4	2	Basic Engineering	MECH
7		Engineering Workshop Practice	-	-	4	2	Basic Engineering	MECH
8		Physical Fitness, Sports & Games – 1	-	-	2	1	Humanities	Physical Education
		Total	12	2	18	**22**		
		Contact Hours	**32 Hours**			**22**		

L=Lecture; T= Tutorial; P= Practical; C=Credits

I Year II Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Fundamentals of Algebra & Calculus	3	2	-	4	Basic Sciences	Mathematics
2		Applied Physics –II	2	-	2	3	Basic Science	Physics
3		Programming for Problem Solving using C - II	2	-	2	3	Basic Engineering	CSE
4		Fundamentals of Electrical & Electronics Engineering	2	-	2	3	Basic Engineering	EEE
5		Engineering Chemistry and Environmental Studies	2	-	2	3	Basic Sciences	Chemistry
6		English Proficiency & Communication Skills Lab		-	2	1	Humanities	English
7		Physical Fitness, Sports & Games – II	-	-	2	1	Humanities	Physical Education
8		Constitution of India	1	-	-	1	Binary grade	SSH
9		Life Skills	-	-	2	1	Binary Grade Floating credits	SAC
		Total	**12**	**2**	**14**	**20**		
		Contact Hours	**28 Hours**			**20**		

II Year I Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Foundation of Discrete Structures	2	2	-	3	Basic Sciences	Mathematics
2		Modern Digital Electronics	3	-	2	4	Professional Core	ECE
3		Introduction to Python Programming	3	-	2	4	Professional Core	CSE
4		Introduction to DBMS	2	-	2	3	Professional Core	CSE
5		Fundamentals of Software Engineering	3	-	-	3	Professional Core	CSE
6		Department Elective-1	2	-	2	3	Department Elective	CSE
7		NCC/ NSS/ E-cell/ Social activities	-	-	-	1	Binary Grade Floating credits	SAC
		Total	**15**	**2**	**8**	**21**		
		Contact Hours	**25 Hours**			**21**		

II Year II Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Fundamentals of Data Structures	3	-	2	4	Professional Core	CSE
2		Computer Networks and Data Communications	3	-	2	4	Professional Core	CSE
3		Programming with Java	3	-	2	4	Professional Core	CSE
4		Entrepreneurship and Start-ups	2	2	-	3	Humanities	Mgmt. Studies
5		Department Elective-2	2	-	2	3	Department Elective	CSE
6		Open Elective – 1	2	2	-	3	Open Elective	
7		Minor Project-I	-	-	2	1	Project	CSE
		Total	**15**	**4**	**10**	**22**		
		Contact Hours	**29 Hours**			**22**		

III Year I Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Fundamentals of Design and Analysis of Algorithms	3	-	2	4	Professional Core	CSE
2		Fundamentals of Web Technologies	3	-	2	4	Professional Core	CSE
3		Fundamentals of Operating Systems	2	-	2	3	Professional Core	CSE
4		Introduction to Artificial Intelligence	2	-	2	3	Professional Core	CSE
5		Summer Project/ Internship-I (4 weeks) after II year II Semester	-	-	4	2	Project / Internship	CSE
6		Department Elective-3	2	-	2	3	Department Elective	CSE
7		Open Elective – 2	2	2	-	3	Department Elective	
8		Minor Project -2	-	-	2	1	Project	CSE
9		Essence of Indian Knowledge and Tradition	1	-	-	1	Binary Grade	SSH
		Total	**15**	**2**	**16**	**24**		
		Contact Hours	**33 Hours**			**24**		

III Year II Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Industrial Training (Project) / Internship	-	-	30	15	Internship / Project	
		Total	**0**	**0**	**30**	**15**		
		Contact Hours	**30 Hours**			**15**		

Credit Distribution:

S. No	Semester	Credits
1	I-I	22
2	I-II	20
3	II-I	21
4	II-II	22
5	III-I	24
6	III-II	15
Total Credits		**124**

I. List of Department Elective Courses

S. No.	Course Code	Course Title	L	T	P	C
1.		Mobile Application Development	2	-	2	3
2.		Fundamentals of Cloud Computing	2	-	2	3
3.		Fundamentals of Data Warehousing & Data Mining	2	-	2	3
4.		Fundamentals of Digital Image Processing]	2	-	2	3
5.		Fundamentals of Cryptography and Network Security	2	-	2	3
6.		Internet of Things	2	-	2	3
7.		Introduction to Machine Learning	2	-	2	3
8.		Fundamentals of computer Organization and Architecture	2	-	2	3

II. List of Open Elective Courses

S. No.	Course Code	Course Title	L	T	P	C
1.		Management Science	2	2	-	3
2		Organizational Behaviour	2	2	-	3

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

APPENDIX II

List of Courses that Enables Employability or Entrepreneurship or Skill Development

S. No.	Course Code	Course Title	Year of Introduction	Employability / Entrepreneurship / Skill development
1		Mathematical Foundation For Problem Solving	2025	**Skill Development**: Enhances analytical thinking and foundational mathematical skills essential for problem-solving in programming, physics, and engineering contexts.
2		Applied Physics –I	2022	**Skill Development:** Builds conceptual knowledge in mechanics, waves, and thermodynamics, which form the basis for engineering applications and research.
3		English Proficiency & Communication Skills	2022	**Employability:** Improves verbal, written, and professional communication, enabling students to succeed in interviews, teamwork, and workplace interactions.
4		Basics of Computer & Internet	2022	**Skill Development:** Introduces computer fundamentals, architecture, and operating principles, providing a foundation for further technical learning.
5		Programming for Problem Solving using C - I	2025	**Skill Development:** Develops logical reasoning and structured programming skills, helping students write efficient code to solve real-world problems.
6		Engineering Graphics	2022	**Skill Development:** Trains students in visualization, drafting, and technical drawing, essential for design-based engineering roles.
7		Engineering Workshop Practice	2022	**Skill Development:** Provides hands-on experience with tools, manufacturing techniques, and basic mechanical/electrical practices, fostering practical skills.
8		Fundamentals of Algebra & Calculus	2025	**Employability**: Equips students with tools such as matrices, differential equations, and integrals used in engineering applications, modeling, and quantitative problem-solving.
9		Applied Physics –II	2022	**Skill Development:** Focuses on electricity, magnetism, and optics, building a foundation for electronics, communication, and engineering technology.
10		Programming for Problem Solving using C - II	2025	**Skill Development:** Enhances advanced problem-solving, modular programming, and algorithmic implementation for real-time applications.

11		Fundamentals of Electrical & Electronics Engineering	2022	**Employability:** Provides knowledge of circuits, power systems, and electronics, preparing students for roles in electrical/electronic industries.
12		Engineering Chemistry and Environmental Studies	2022	**Skill Development:** Develops understanding of materials, chemical processes, and environmental awareness, useful for sustainable engineering practices.
13		English Proficiency & Communication Skills Lab	2025	**Employability:** Strengthens spoken English, presentations, and group discussions, making students job-ready in professional settings.
14		Constitution of India	2022	**Skill Development:** Promotes awareness of civic responsibilities, ethics, and legal frameworks, shaping students into responsible professionals.
15		Foundation of Discrete Structures	2025	**Skill Development**: Develops logic, graph theory, combinatorics, and probability skills crucial for algorithm design and computer science problem-solving.
16		Digital Electronics	2022	**Employability:** Provides knowledge of digital circuits, logic gates, and sequential systems, essential for computer hardware and embedded systems careers.
17		Introduction to Python Programming	2022	**Skill Development:** Builds coding expertise in Python for automation, data analysis, and AI, widely used across industries.
18		Introduction to DBMS	2022	**Employability:** Equips students with database design, SQL, and data management skills required in IT and software development roles.
19		Fundamentals of Software Engineering	2022	**Employability:** Prepares students with project management, SDLC models, and software design principles, valuable for IT careers.
20		Fundamentals of Data Structures	2022	**Skill Development:** Strengthens logical problem-solving through stacks, queues, trees, and graphs, forming the backbone of efficient programming.
21		Computer Networks and Data Communications	2022	**Employability:** Provides knowledge of network models, protocols, and communication systems, crucial for networking and cybersecurity careers.
22		Programming with Java	2022	**Skill Development:** Builds object-oriented programming expertise and application development skills for web, mobile, and enterprise solutions.
23		Entrepreneurship and Start-ups	2022	**Entrepreneurship:** Encourages innovation, business planning, and start-up creation, preparing students for self-employment and leadership roles.

24		Fundamentals of Design and Analysis of Algorithms	2022	**Skill Development:** Improves problem-solving efficiency through algorithm optimization, time complexity analysis, and advanced coding practices.
25		Fundamentals of Web Technologies	2022	**Employability:** Equips students with web development skills including HTML, CSS, JavaScript, and frameworks, opening careers in IT/web design.
26		Fundamentals of Operating Systems	2022	**Employability:** Builds knowledge of process management, memory handling, and OS concepts, vital for software and system-level development.
27		Introduction to Artificial Intelligence	2025	**Employability:** Provides expertise in AI concepts, ML models, and intelligent systems, preparing students for roles in data science and automation.
28		Essence of Indian Knowledge and Tradition	2022	**Skill Development:** Promotes cultural awareness, ethical values, and interdisciplinary thinking, shaping holistic personal and professional growth.

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

(CSE)

APPENDIX III

Comparison of Course Contents between R21 and R25 Curriculums

S. No.	Course Code	Course Title	% of Changes	Justification for the changes
1.		Mathematical Foundation For Problem Solving	30%	New topics like real-valued functions, inverse functions, and deeper coverage of limits and continuity are added. Complex numbers are removed. Enhancements aim to strengthen conceptual calculus skills early.
2.		Applied Physics –I	20%	New topics on modern physics applications and material properties were added to strengthen engineering relevance
3.		English Proficiency & Communication Skills	20%	English Proficiency & Communication Skills Lab has
4.		Basics of Computer & Internet	5%	Internet tools are added
5.		Programming for Problem Solving using C - I	100%	Splitted into II Semesters
6.		Engineering Graphics	0%	Nil
7.		Engineering Workshop Practice	0%	Nil
8.		Fundamentals of Algebra & Calculus	25%	Analytical geometry has been removed, while differential equations and vector algebra are expanded with real-world application focus. Content has been streamlined for engineering relevance.
9.		Applied Physics –II	10%	Additional topics on semiconductor physics and wave optics were included to support advanced engineering applications
10.		Programming for Problem Solving using C - II	100%	Structures,unions,pointers and Files topics are added

11.		Fundamentals of Electrical & Electronics Engineering	10%	Redundant introductory topics were deleted to avoid overlap with advanced electrical and electronics courses in higher semesters.
12.		Engineering Chemistry and Environmental Studies	10%	Additional topics on green chemistry, environmental sustainability, and modern analytical techniques were included to enhance relevance to current industrial and ecological needs
13.		English Proficiency & Communication Skills Lab	100%	New lab modules include practice with digital communication platforms, professional email writing, presentation skills using software tools, and group discussions. Emphasis is placed on real-world workplace communication, aligning with industry expectations.
14.		Constitution of India	0%	Nil
15.		Foundation of Discrete Structures	30%	Expanded coverage on graph algorithms (DFS, BFS), chromatic numbers, and planarity. Abstract algebra is newly introduced with groups, rings, and fields. Content updated for alignment with current computing applications.
16.		Digital Electronics	0%	Nil
17.		Introduction to Python Programming	0%	Nil
18.		Introduction to DBMS	0%	Nil
19.		Fundamentals of Software Engineering	5%	New topics on agile methodologies, DevOps practices, and software project management tools were added to align with contemporary development trends
20.		Fundamentals of Data Structures	5%	Topics on Double linked list, , hash techniques, and application of graph has been removed.
21.		Computer Networks and Data Communications	0%	Nil
22.		Programming with Java	0%	Nil

23.		Entrepreneurship and Start-ups	0%	Nil
24.		Fundamentals of Design and Analysis of Algorithms	10%	Recurrence relation using Madder's theorem and tree method and OBST using Dynamic programming has been removed.
25.		Fundamentals of Web Technologies	0%	Nil
26.		Fundamentals of Operating Systems	0%	Nil
27.		Introduction to Artificial Intelligence	100%	New subject is added
28.		Essence of Indian Knowledge and Tradition	0%	Nil

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

APPENDIX IV

List of New Courses in the R25 Curriculum

S. No.	Course Code	Course Title	% of Change	Justification for the Changes
1.		Mathematical Foundation For Problem Solving	30%	New topics like real-valued functions, inverse functions, and deeper coverage of limits and continuity are added. Complex numbers are removed. Enhancements aim to strengthen conceptual calculus skills early.
2.		Programming for Problem Solving using C - II	100%	Structures,unions,pointers and Files topics are added
3.		English Proficiency & Communication Skills Lab	100%	New lab modules include practice with digital communication platforms, professional email writing, presentation skills using software tools, and group discussions. Emphasis is placed on real-world workplace communication, aligning with industry expectations.
4.		Foundation of Discrete Structures	30%	Expanded coverage on graph algorithms (DFS, BFS), chromatic numbers, and planarity. Abstract algebra is newly introduced with groups, rings, and fields. Content updated for alignment with current computing applications.
5.		Fundamentals of Algebra & Calculus	25%	Analytical geometry has been removed, while differential equations and vector algebra are expanded with real-world application focus. Content has been streamlined for engineering relevance.
6.		Artificial Intelligence	100&	Agents & Environments, States space problems,Differnet searching Strategies, Game playing, Propositional Logic,First Order Logic,Partial order planning

Member Secretary

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

APPENDIX VII

Action Taken Report (ATR) on the suggestions given in earlier BoS meetings

S.No.	Action Point	Response
1.	Programming in C course should be covered in the first two semester of First year.	Programming in C has been renamed as Programming for Problem Solving Using C which is splited in the first two semester of first year as PPSC - I and PPSC - II
2.	Extend the Practices session for the subject "English proficiency and Communication Skills".	Practices session for the subject "English proficiency and Communication Skills" has been extended into the I – II.
3.	Change the syllabus and accordingly rename the Mathematics I, Mathematics II, Mathematics III	The syllabus for Mathematics I, Mathematics II, Mathematics III has been revised and all these subjects has been renamed as Mathematics I – Mathematical Foundations for Problem Solving, Mathematics II - Fundamentals of Algebra & Calculus , Mathematics III – Foundations of Discrete Structures

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

Annexure – IV

DIRECTORATE OF POLYTECHNIC EDUCATION

CIRCULAR

Date: 17.03.2025

Directorate of Polytechnic Education is going to conduct Board of Studies (BoS) meeting for the Electronics and Communication Engineering programme on **29.03.2025** from 10.00 AM in blended mode. (Physical meeting Venue: VPTF-02, Third floor, Pharmacy Block, VFSTR and virtual meetinglink,https://us06web.zoom.us/j/88208291215?pwd=tgOnBttQwuJmZKEOtCekwfhOUSmvDh.1. All the members are requested to make it convenient to attend the meeting.

The members are

1	Dr.Susanta Kumar Satpathy	Chair person
2	Mr. A. Siva Prasad	External member (Academia)
3	Dr. B. Acharya	Invited member (Academia)
4	Dr. Tangudu Bharat Kumar	External member (Industry)
5	Dr. M. Sarada	Internal member
6	Dr. K. Annapurna	Internal member
7	Dr. Sudam Panda	Internal member
8	Dr. Venkata Kishore K	Internal member
09	Dr. Jawad Ahmad Dar	Internal member
10	Mr.M.Siva JagadishKumar	Internal member
11	Mr. A. Siva Rao	Internal member
12	Mr. A. Suresh Babu	Member Secretary

Agenda of the BoS Meeting:

1. To Discuss and finalize the curriculum structure and credits distribution of Polytechnic, Electronics & Communication Engineering, Programme for the regulation 2025 (R25)
2. To Discuss and finalize the elective courses list (Department / Open) of Polytechnic,ECE Programme for the regulation R25.
3. To approve the R25 curriculum, syllabus and assessment schemes of Polytechnic, ECE Programme.

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S
FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH

Directorate of Polytechnic Education

Date: 29.03.2025

Minutes of Board of Studies Meeting

Board of Studies (BoS) meeting of Directorate of Polytechnic Education ECE - programme was conducted on 29.03.2024 in blended mode from 10.00AM to 1.00PM., At VPTF-02, Pharmacy Block Third Floor VFSTR and virtual meeting link given below.

https://us06web.zoom.us/j/88208291215?pwd=tgOnBttQwuJmZKEOtCekwfhOUSmvDh.1

Agenda of the BoS Meeting:

1. To Discuss and finalize the curriculum structure and detailed syllabus of Diploma ECE Programme for the regulation 2025.
2. To approve the R25 curriculum and syllabus of Diploma., ECE programme
3. Any other points with the permission of Chairperson.

The following members were present either thorough offline or online.

S. No.	Name and designation of the Member	Position	Signature
1	Dr.Susanta Kumar Satpathy	Chair person	
2	Mr. A. Siva Prasad	External member (Academia)	29/3/25
3	Dr. B. Acharya	Invited member (Academia)	29.03.2025
4	Dr. Tangudu Bharat Kumar	External member (Industry)	ONLINE
5	Dr. M. Sarada	Internal member	
6	Dr. K. Annapurna	Internal member	
7	Dr. Sudam Panda	Internal member	
8	Dr. Venkata Kishore K	Internal member	
9	Dr. Jawad Ahmad Dar	Internal member	
10	Mr.M.Siva JagadishKumar	Internal member	
11	Mr. A. Siva Rao	Internal member	
12	Mr. A. Suresh Babu	Member Secretary	

Chairperson Dr.Susanta Kumar Satpathy Officiating Professor, Director – Diploma, VFSTR initiated the meeting by welcoming and introducing the external members and invitees to the internal members. Chairperson presented about the *R25* which emphasis on creating *learning centric* (continuous learning and continuous assessment model), offering Polytechnic, ECE in Diploma, and honorable exit.

The following points were discussed in the BoS meeting:

1. Regulation R25.
2. Curriculum structure with credits, credits distribution
3. Department Elective courses.
4. Open Elective courses.
5. Honorable exit.

The following are the observations:

1. Major restructuring has taken place in the curriculum which is oriented towards continuous learning and assessment based on structure.
2. R25 curriculum structure including list of professional core, department elective, open elective, Polytechnic, ECE programme.
3. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development.
4. The significant changes are made in the content of all courses and hence the courses are considered as new course.
5. Feedback from various stakeholders are incorporated appropriately in the R25 curriculum.

The following improvements are suggested: (Action Points)

1. Guest Lecture should be conducted for the awareness regarding latest Technology
2. Students will be awarded with ITI certificate if he / she discontinue the course after second year and he / she must and should have 85 credits

The following recommendations and approvals are made after the discussion:

1. BoS Members approved the revised regulations, curriculum structure, syllabus, assessment schemes of Polytechnic, ECE programme.
2. The details of elective courses (Department/ Open) of Polytechnic, ECE Programme for the regulation R25 are approved.
3. The Subject Mathematics-I has been changed to Mathematical Foundation for Problem Solving with the change in the content as per the Intermediate and SBTET syllabus.
4. The English Proficiency & Communication Skills credits has been Distributed into two semesters i.e. I-I – 3 credits & I-II – 1 Credit.
5. The subject Programming in C has been distributed across two semesters each with 4 and 3 credits respectively. Subject Name Programming in C renamed to Programming for Problem Solving using C – I & C-II.
6. Basics of Computer Engineering subject name changed to Basics of Computer & Internet
7. Basics of Computer & Internet has been introduced in I-I with 3 credits.
8. Basics of Computer Engineering name is changed to Basics of Computer &Internet.
9. Engineering Chemistry & Environmental Studies has been shifted I-I to I-II Semester.
10. The Subject Mathematics-II has been changed to Fundamentals of Algebra & Calculus.
11. As per discussion and suggestions by the BoS members there is a change of 10 % of syllabus in Fundamentals of Electrical and Electronics Engineering Subject.
12. The Subject Mathematics-III has been changed to Foundation of Discrete Structures

13. English Proficiency & Communication Skills 4 credit has been splitted across I-I and I-II. 3 Credits in I-I and 1 Credit in I-II.
14. Python programming subject name is changed to Introduction to Python Programming.
15. Electric Circuit & Network subject moved from II-I to Department Elective.
16. Digital Electronics subject name changed to Modern Digital Electronics
17. Computer Organization & Architecture subject name changed to Fundamentals of Computer Organization & Architecture
18. VLSI Design subject name is changed to Basics of VLSI Design.
19. IoT subject name is changed to Introduction to IoT.
20. Department Elective Subject Embedded Systems changed to Embedded Systems & Design.
21. Department Elective Subject Digital Image Processing changed to Fundamentals of Digital Image Processing.

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

APPENDIX I

ECE Program: Three Year Curriculum Structure

I Year I Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Mathematical Foundation For Problem Solving	3	2	-	4	Basic Sciences	Mathematics
2		Applied Physics –I	2	-	2	3	Basic Sciences	Physics
3		English Proficiency & Communication Skills	2	-	2	3	Humanities	English
4		Basics of Computer & Internet	2	-	2	3	Basic Engineering	CSE
5		Programming for Problem Solving using C - I	3	-	2	4	Basic Engineering	CSE
6		Engineering Graphics	-	-	4	2	Basic Engineering	MECH
7		Engineering Workshop Practice	-	-	4	2	Basic Engineering	MECH
8		Physical Fitness, Sports & Games – I	-	-	2	1	Humanities	Physical Education
		Total	12	2	18	**22**		
		Contact Hours	**32 Hours**			**22**		

L=Lecture; T= Tutorial; P= Practical; C=Credits

I Year II Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Fundamentals of Algebra & Calculus	3	2	-	4	Basic Sciences	Mathematics
2		Applied Physics –II	2	-	2	3	Basic Science	Physics
3		Programming for Problem Solving using C - II	2	-	2	3	Basic Engineering	CSE
4		Fundamentals of Electrical & Electronics Engineering	2	-	2	3	Basic Engineering	EEE
5		Engineering Chemistry and Environmental Studies	2	-	2	3	Basic Sciences	Chemistry
6		English Proficiency & Communication Skills Lab		-	2	1	Humanities	English
7		Physical Fitness, Sports & Games – II	-	-	2	1	Humanities	Physical Education
8		Constitution of India	1	-	-	1	Binary grade	SSH
9		Life Skills	-	-	2	1	Binary Grade Floating credits	SAC
		Total	12	2	14	20		
		Contact Hours	**28 Hours**			**20**		

II Year I Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Foundation of Discrete Structures	2	2	-	3	Basic Sciences	Mathematics
2		Modern Digital Electronics	3	-	2	4	Professional Core	ECE
3		Introduction to Python Programming	3	-	2	4	Professional Core	ECE
4		Electronic Devices	2	-	2	3	Professional Core	ECE
5		Electric Circuits and Networks	3	-	-	3	Professional Core	ECE
6		Department Elective-1	2	-	2	3	Department Elective	ECE
7		NCC/ NSS/ E-cell/ Social activities	-	-	-	1	Binary Grade Floating credits	SAC
		Total	**15**	**2**	**8**	**21**		
		Contact Hours	**25 Hours**			**21**		

II Year II Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Antennas and Wave Propagation	3	-	2	4	Professional Core	ECE
2		Computer Networks and Data Communications	3	-	2	4	Professional Core	CSE
3		Electronic Measurements and Instrumentation	3	-	2	4	Professional Core	ECE
4		Entrepreneurship and Start-ups	2	2	-	3	Humanities	Mgmt. Studies
5		Department Elective-2	2	-	2	3	Department Elective	ECE
6		Open Elective – 1	2	2	-	3	Open Elective	
7		Minor Project-I	-	-	2	1	Project	ECE
		Total	**15**	**4**	**10**	**22**		
		Contact Hours	**29 Hours**			**22**		

III Year I Semester Structure

Sl. No.	Course Code	Course Title	L	T	P	C	Remarks	Course Offered By
1		Basics of VLSI Design	3	-	2	4	Professional Core	ECE
2		Microwave and Radar	3	-	2	4	Professional Core	ECE
3		Introduction to Internet of Things	2	-	2	3	Professional Core	ECE
4		Satellite Communication	2	-	2	3	Professional Core	ECE
5		Summer Project/ Internship-I (4 weeks) after II year II Semester	-	-	4	2	Project / Internship	ECE
6		Department Elective-3	2	-	2	3	Department Elective	ECE
7		Open Elective – 2	2	2	-	3	Department Elective	
8		Minor Project -2	-	-	2	1	Project	ECE
9		Essence of Indian Knowledge and Tradition	1	-	-	1	Binary Grade	Training & Placements
		Total	**15**	**2**	**16**	**24**		
		Contact Hours	**33 Hours**			**24**		

III Year II Semester Structure

Sl. No.	Course Title	L	T	P	C	Remarks	Course Offered By
1	Industrial Training (Project) / Internship	-	-	30	15	Internship / Project	
	Total	0	0	30	15		
	Contact Hours	30 Hours			15		

Credit Distribution:

S. No	Semester	Credits
1	I-I	22
2	I-II	20
3	II-I	21
4	II-II	22
5	III-I	24
6	III-II	15
Total Credits		124

I. List of Department Elective Courses

S. No	Course Code	Course Title	L	T	P	C
1.		*Consumer Electronics*	2	-	2	3
2.		Medical Electronics	2	-	2	3
3.		Sensors and Transducers	2	-	2	3
4.		Embedded Systems & Design	2	-	2	3
5.		Industrial Power Electronics	2	-	2	3
6.		Optical Communication	2	-	2	3
7.		Fundamentals of Digital Image Processing	2	-	2	3
8.		Analog & Digital Communication	2	-	2	3
9.		Fundamentals of computer Organization and Architecture	2	-	2	3

II. List of Open Elective Courses

S. No.	Course Code	Course Title	L	T	P	C
1.		Management Science	2	2	-	3
2.		Organizational Behavior	2	2	-	3

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science, Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

APPENDIX II

List of Courses that Enables Employability or Entrepreneurship or Skill Development

S. No.	Course Code	Course Title	Year of Introduction	Employability / Entrepreneurship / Skill development
1		Mathematical Foundation For Problem Solving	2025	**Skill Development**: Enhances analytical thinking and foundational mathematical skills essential for problem-solving in programming, physics, and engineering contexts.
2		Applied Physics –I	2022	**Skill Development:** Builds conceptual knowledge in mechanics, waves, and thermodynamics, which form the basis for engineering applications and research.
3		English Proficiency & Communication Skills	2022	**Employability:** Improves verbal, written, and professional communication, enabling students to succeed in interviews, teamwork, and workplace interactions.
4		Basics of Computer & Internet	2022	**Skill Development:** Introduces computer fundamentals, architecture, and operating principles, providing a foundation for further technical learning.
5		Programming for Problem Solving using C - I	2025	**Skill Development:** Develops logical reasoning and structured programming skills, helping students write efficient code to solve real-world problems.
6		Engineering Graphics	2022	**Skill Development:** Trains students in visualization, drafting, and technical drawing, essential for design-based engineering roles.
7		Engineering Workshop Practice	2022	**Skill Development:** Provides hands-on experience with tools, manufacturing techniques, and basic mechanical/electrical practices, fostering practical skills.
8		Fundamentals of Algebra & Calculus	2025	**Employability**: Equips students with tools such as matrices, differential equations, and integrals used in engineering applications, modeling, and quantitative problem-solving.
9		Applied Physics –II	2022	**Skill Development:** Focuses on electricity, magnetism, and optics, building a foundation for electronics, communication, and engineering technology.

10		Programming for Problem Solving using C - II	2025	**Skill Development:** Enhances advanced problem-solving, modular programming, and algorithmic implementation for real-time applications.
11		Fundamentals of Electrical & Electronics Engineering	2022	**Employability:** Provides knowledge of circuits, power systems, and electronics, preparing students for roles in electrical/electronic industries.
12		Engineering Chemistry and Environmental Studies	2022	**Skill Development:** Develops understanding of materials, chemical processes, and environmental awareness, useful for sustainable engineering practices.
13		English Proficiency & Communication Skills Lab	2025	**Employability:** Strengthens spoken English, presentations, and group discussions, making students job-ready in professional settings.
14		Constitution of India	2022	**Skill Development:** Promotes awareness of civic responsibilities, ethics, and legal frameworks, shaping students into responsible professionals.
15		Foundation of Discrete Structures	2025	**Skill Development**: Develops logic, graph theory, combinatorics, and probability skills crucial for algorithm design and computer science problem-solving.
16		Modern Digital Electronics	2022	**Employability:** Improves technical knowledge required for core ECE jobs and makes students industry-ready for hardware and embedded roles.
17		Electronic Devices	2022	**Employability:** Strengthens semiconductor and device-level understanding useful for electronics, hardware testing, and chip-related careers.
18		Analog and Digital Communication	2022	**Employability:** Builds strong fundamentals in communication systems, supporting roles in telecom, networking, and signal processing industries.
19		Introduction to Python Programming	2022	**Skill Development:** Helps students develop programming logic and coding ability, useful for learning software development in future.
20		Fundamentals of Computer Organization & Architecture	2025	**Employability:** Enhances understanding of computer hardware and system design, essential for embedded systems and IT-based roles.
21		Antennas and Wave Propagation	2022	**Employability:** Useful for wireless communication and RF engineering careers, improving understanding of antennas and wave behavior.

22		Electronic Measurements and Instrumentation	2022	**Employability:** Builds measurement, testing, and troubleshooting skills needed in labs, manufacturing, and industrial electronics jobs.
23		Entrepreneurship and Start-ups	2022	**Entrepreneurship:** Encourages innovation, business planning, and start-up creation, preparing students for self-employment and leadership roles.
24		Basics of VLSI Design	2022	**Employability:** Provides basics of VLSI, IC layout, and CMOS design, supporting careers in semiconductor and chip-design industries.
25		Microwave and Radar	2022	**Employability:** Strengthens advanced electronics knowledge for high-frequency, defense, aerospace, and communication technology careers.
26		Introduction to Internet of Things	2022	**Employability:** Covers IoT sensors, connectivity, and applications, enabling job readiness in smart devices, automation, and embedded systems.
27		Satellite Communication	2022	**Employability:** Helps understand global satellite systems and communication networks, useful for telecom, broadcasting, and navigation sectors.
28		Essence of Indian Knowledge and Tradition	2022	**Skill Development:** Promotes cultural awareness, ethical values, and interdisciplinary thinking, shaping holistic personal and professional growth.

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

(ECE)

APPENDIX III

Comparison of Course Contents between R21 and R25 Curriculums

S. No.	Course Code	Course Title	% of Changes	Justification for the changes
1.		Mathematical Foundation for Problem Solving	30%	New topics like real-valued functions, inverse functions, and deeper coverage of limits and continuity are added. Complex numbers are removed. Enhancements aim to strengthen conceptual calculus skills early.
2.		Applied Physics –I	20%	New topics on modern physics applications and material properties were added to strengthen engineering relevance
3.		English Proficiency & Communication Skills	0%	Nil
4.		Basics of Computer Engineering	5%	Internet tools are added
5.		Programming for Problem Solving using C - I	100%	Splitted into II Semesters
6.		Engineering Graphics	0%	Nil
7.		Engineering Workshop Practice	0%	Nil
8.		Fundamentals of Algebra & Calculus	25%	Analytical geometry has been removed, while differential equations and vector algebra are expanded with real-world application focus. Content has been streamlined for engineering relevance.
9.		Applied Physics –II	10%	Additional topics on semiconductor physics and wave optics were included to support advanced engineering applications
10.		Programming for Problem Solving using C - II	100%	Structures, unions, pointers and Files topics are added
11.		Fundamentals of Electrical & Electronics Engineering	10%	Redundant introductory topics were deleted to avoid overlap with advanced electrical and electronics courses in higher semesters.
12.		Engineering Chemistry and Environmental Studies	10%	Additional topics on green chemistry, environmental sustainability, and modern analytical techniques were included to enhance relevance to current industrial and ecological needs

13.		English Proficiency & Communication Skills Lab	100%	New lab modules include practice with digital communication platforms, professional email writing, presentation skills using software tools, and group discussions. Emphasis is placed on real-world workplace communication, aligning with industry expectations.
14.		Constitution of India	0%	Nil
15.		Foundation of Discrete Structures	30%	Expanded coverage on graph algorithms (DFS, BFS), chromatic numbers, and planarity. Abstract algebra is newly introduced with groups, rings, and fields. Content updated for alignment with current computing applications.
16.		Modern Digital Electronics	0%	Nil
17.		Electronic Devices	0%	Nil
18.		Analog and Digital Communication	0%	Nil
19.		Fundamentals of Computer Organization & Architecture	0%	Nil
20.		Antennas and Wave Propagation	0%	Nil
21.		Electronic Measurements and Instrumentation	0%	Nil
22.		Entrepreneurship and Start-ups	0%	Nil
23.		Basics of VLSI Design	0%	Nil
24.		Microwave and Radar	0%	Nil
25.		Introduction to Internet of Things	0%	Nil
26.		Satellite Communication	0%	Nil
27.		Essence of Indian Knowledge and Tradition	0%	Nil

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

APPENDIX IV

List of New Courses in the R25 Curriculum

S. No.	Course Code	Course Title	% of Change	Justification for the Changes
1.		Mathematical Foundation For Problem Solving	30%	New topics like real-valued functions, inverse functions, and deeper coverage of limits and continuity are added. Complex numbers are removed. Enhancements aim to strengthen conceptual calculus skills early.
2.		Programming for Problem Solving using C - II	100%	Structures,unions,pointers and Files topics are added
3.		English Proficiency & Communication Skills Lab	100%	New lab modules include practice with digital communication platforms, professional email writing, presentation skills using software tools, and group discussions. Emphasis is placed on real-world workplace communication, aligning with industry expectations.
4.		Foundation of Discrete Structures	30%	Expanded coverage on graph algorithms (DFS, BFS), chromatic numbers, and planarity. Abstract algebra is newly introduced with groups, rings, and fields. Content updated for alignment with current computing applications.
5.		Fundamentals of Algebra & Calculus	25%	Analytical geometry has been removed, while differential equations and vector algebra are expanded with real-world application focus. Content has been streamlined for engineering relevance.

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.

VIGNAN'S

DIRECTORATE OF POLYTECHNIC EDUCATION

APPENDIX VII

Action Taken Report (ATR) on the suggestions given in earlier BoS meetings

S.No.	Action Point	Response
1.	Programming in C course should be covered in the first two semester of First year.	Programming in C has been renamed as Programming for Problem Solving Using C which is splited in the first two semester of first year as PPSC - I and PPSC - II
2.	Extend the Practices session for the subject "English proficiency and Communication Skills".	Practices session for the subject "English proficiency and Communication Skills" has been extended into the I – II.
3.	Change the syllabus and accordingly rename the Mathematics I, Mathematics II, Mathematics III	The syllabus for Mathematics I, Mathematics II, Mathematics III has been revised and all these subjects has been renamed as Mathematics I – Mathematical Foundations for Problem Solving, Mathematics II - Fundamentals of Algebra & Calculus , Mathematics III – Foundations of Discrete Structures

Member Secretary

Chairperson

Director
Directorate of Polytechnic Education
Vignan's Foundation for Science,
Technology & Research
Vadlamudi, Guntur (Dist)- 522 213.