GOVERNMENT COLLEGE (A) RAJAHMUDNRY
DEPARTMENT OF COMPUTER SCIENCE

BOARD OF STUDIES

M. Sc Computer Science

2025-26

Preface

The Board of Studies (BoS) meeting of the Department of Computer Science is convened on **15 September 2025** to deliberate on the curriculum revamping of **Postgraduate (PG) programs**. This initiative follows the comprehensive reforms introduced in the Four-Year Undergraduate Programs (2020–21) and the subsequent PG curriculum revision in 2024–25, in alignment with the **National Education Policy (NEP)-2020**. The framework provides multiple entry and exit options, ensuring seamless academic progression and flexibility for students.

Under the revised structure:

- ☐ Students who **exit after three years of UG study** are eligible to pursue a **two-year PG program**.
- ☐ Students who **complete a four-year UG program** are admitted through **lateral entry directly into the second year of the PG program**.

In preparation for this revision, the Department of Computer Science has undertaken a thorough review of the existing PG curriculum. Valuable feedback was obtained from students, alumni, faculty members, and industry experts, highlighting the need to:

- ☐ Strengthen Core Courses to prepare students for **NET/SET and research pathways**
- ☐ Introduce **Skill Enhancement Elective Courses (SEECs)** for industry readiness
- ☐ Incorporate **Open Online Transdisciplinary Courses** to encourage *out-of-the-box thinking* and innovative solutions
- ☐ Adopt **Online Skill Enhancement Courses** for **blended learning**, and
- ☐ Ensure **hands-on project/dissertation work** in the final semester for **experiential learning**.

Based on these inputs, the Department has **redesigned and restructured the PG programs** to strike a balance between **academic depth, research orientation, and professional relevance**. The curriculum is designed to provide students with strong theoretical and research foundation, interdisciplinary exposure through online and open courses, industry-focused skills through electives and blended learning, and experiential knowledge through project-based learning.

This meeting is intended to present, deliberate, and seek approval for the revised PG curriculum framework, ensuring that it meets academic standards, supports research excellence, enhances employability, and prepares students for careers in academia, industry, and innovation-driven fields.

Suneel Kumar Duvvuri

Chairman-Board of Studies

Department of Computer Science

Proceedings of the Principal, Government College (Autonomous), Rajahmundry
Present: Dr. Ramachandra R.K, M.Sc., Ph.D.
Rc. No. 44/GCRJY /PG-BoS/ 2025-26 dt. 04-09-2025

Sub: Government College (A), Rajamahendravaram- PG Boards of Studies (BoS)-
     Nomination of Members – Orders issued.
Ref: 1. UGC Guidelines of for Autonomous Colleges-2023.
     2. Proc. No: ANUR/DAA/2025, dated 30.08.2025 of the Vice Chancellor
                              ****

Order

    The Principal, Government College (Autonomous) Rajahmundry is pleased to nominate the following members to PG Board of Studies to frame the syllabus of **Computers Science Subject** in all the semesters duly following the norms of the UGC regulations for the Autonomous colleges 2023.

SN	Name of the Nominee	Designation
1	Dr. D. Suneel Kumar, Lecturer In-charge, Dept. of Computer Science and Applications, Government College (A), Rajahmundry	Chairman
2	All faculty members of the department	Members
3	Sri G. Vijayadeep, Lecturer in Computer Science, SRR & CVR Govt. College (A), Vijayawada	Subject Expert
4	Sri Kavuri Sridhar, Asst. Proefessor & TPO, Dept. of Computer Science, PB Siddhartha College of Arts & Science, Vijayawada	Subject Expert
5	Dr.D.Latha, Dept of Computer Science & Eng, Adikavi Nannaya University.	University Nominee
6	Sri Maddikonda Satya Sai Srinivasa Kishore, Cloud Analyst , WIPRO	Representative from industry
7	Sri P. Bharat Kumar, Java Developer, Wipro	Alumnus

    The above members are requested to attend the BoS meeting in September-2025 and share their valuable views, and suggestions on the following functionaries.

a) Prepare syllabi for the subject keeping in view the objectives of the college, interest of the stake holders and National requirement for consideration and approval of the IQAC and Academic Council
b) Suggest methodologies for innovative teaching and evaluation techniques
c) Suggest the panel of names to the Academic Council for appointment of Examiners
d) Coordinate research, teaching, extension and other activities in the department of the College. The above said members are requested to bestow their services for the successful organization of the event.

PRINCIPAL
GOVERNMENT COLLEGE (AUTONOMOUS)
RAJAHMUNDRY

Government College Autonomous, Rajahmundry
Department of Computer Science
Board of Studies for the Postgraduate Programs
Academic Year 2025-2026
Composition of Board of Studies

Chairman	Dr. Suneel Kumar Duvvuri, In-charge of the Department, Department of Computer Science Government College (A), Rajahmundry.
University Nominee	Dr. D. Latha Associate Professor Department of Computer Science and Engineering University College of Engineering, Adikavi Nannaya University, Rajahmundry
Subject Expert	Sri G. Vijayadeep, Lecturer in Computer Science, SRR & CVR Govt. College (A), Vijayawada
Subject Expert	Sri Kavuri Sridhar, Asst. Professor & TPO, Dept. of Computer Science, PB Siddhartha College of Arts & Science, Vijayawada
Expert from Industry	Sri Maddikonda Satya Sai Srinivasa Kishore, Cloud Analyst , WIPRO Pvt Ltd.,
Alumnus	Sri P Bharat Kumar (Undergraduate Student of 2019-22) Java Developer, WIPRO Pvt Ltd.,
Members	
Smt U Sandhya Rani	Faculty Member
Mr Devaraju Hanumanthu	Faculty Member
Sri P. Narasinga Rao	Faculty Member
Sri. D. Seetha Ramulu	Faculty Member
Kum S.Jaya Lakshmi	Faculty Member
Smt Ch.Sujt	Faculty Member
Smt B.BalaParameswari	Faculty Member

Government College Autonomous, Rajahmundry
Department of Computer Science
Board of Studies for the Postgraduate Programs
Academic Year 2025-2026

In pursuance of the Government of Andhra Pradesh's directions to strengthen postgraduate education in line with the National Education Policy (NEP-2020), and in continuation of the curriculum framework approved in 2024-25, the Department of Computer Science presents the revised PG curriculum and syllabus for approval.

The PG curriculum has been restructured to seamlessly integrate with the Four-Year Undergraduate Programs introduced in 2020-21. Accordingly:

- Students completing **three years of UG** (exit option) will undergo a **two-year PG program**.

- Students completing a **four-year UG program** (Honors with Research/Professional Track) will be eligible for **lateral entry into the second year of PG**.

The present revision for the Academic Year 2025-26 incorporates **major and minor changes** based on feedback from students, alumni, faculty, research mentors, and industry experts, with a focus on:

- Strengthening **Core Courses** for academic upliftment and preparation towards **NET/SET and Research**.

- Introducing **Skill Enhancement Elective Courses (SEECs)** for industry readiness.

- Offering **Online Transdisciplinary Open Courses (OOTCs)** to promote out-of-the-box thinking and innovative problem-solving.

- Incorporating **Online Skill Enhancement Courses (OSECs)** to support blended learning.

- Ensuring **Hands-on Project Work/Dissertation** in the final semester for experiential and research-oriented learning.

Agenda Items

1. Curriculum Structure for PG Programs in Computer Science and related interdisciplinary areas (effective from 2025-26).
2. Approval of Revised PG Curriculum and Syllabus for the Academic Year 2025-26 (with major and minor revisions).
3. Formulation and Approval of Course Objectives and Course Learning Outcomes (CLOs).

4. Approval of Semester-wise Curriculum (I–II Semesters) for PG Programs effective from 2025–26.

5. Approval of Semester-wise Curriculum (III Semester) for PG Programs effective from 2024–25.

6. Integration of Lateral Entry Framework for students from Four-Year UG programs into the Second Year of PG.

7. Introduction of Skill Enhancement Elective Courses (SEECs), Online Transdisciplinary Open Courses (OTOCs), and Online Skill Enhancement Courses (OSECs).

8. Approval of Research/Project/Dissertation Component in the final semester for experiential and research-based learning.

9. Pedagogical Approaches and Skill Orientation with emphasis on blended learning, project-based learning, research-based learning, and ICT-enabled teaching.

10. Model Question Papers and Identification of Paper Setters.

11. Academic and Research Activities of the Department planned for the Academic Year 2025-26.

12. Any Other Items with the Permission of the Chair.

Suneel Kumar Duvvuri
Chairman-Board of Studies
Department of Computer Science

Government College Autonomous, Rajahmundry
Department of Computer Science
Board of Studies for the Postgraduate Programs
Academic Year 2025-2026
Minutes and Resolutions of the Meeting

Chairperson: Dr. Suneel Kumar Duvvuri, Head of the Department of Computer Science

Members Present:

1. Dr. D. Latha – Associate Professor, Department of Computer Science and Engineering, Adikavi Nannaya University, Rajahmahendravaram – ***University Nominee***

2. Sri G. Vijayadeep – Lecturer, Department of Computer Science, SRR & CVR Govt. College (A), Vijayawada – ***Subject Expert***

3. Sri Kavuri Sridhar – Assistant Professor, Department of Computer Computer Science, PB Siddhardha College of Arts & Science, Vijayawada – ***Subject Expert***

4. Sri Maddikonda Satya Sai Srinivasa Kishore – Cloud Analyst, WIPRO Pvt. Ltd – ***Industrial Expert***

5. Smt U. Sandhya Rani – Lecturer, Department of Computer Science– ***Faculty Member***

6. Sri Devaraju Hanumanthu – Lecturer, Department of Computer Science– ***Faculty Member***

7. Sri P. Narasinga Rao – Lecturer, Department of Computer Science– ***Faculty Member***

8. Sri D. Seetha Ramulu – Lecturer, Department of Computer Science– ***Faculty Member***

9. Ms. S. Jaya Lakshmi – Lecturer, Department of Computer Science– ***Faculty Member***

10. Smt Ch. Sujatha – Lecturer, Department of Computer Science– ***Faculty Member***

11. Smt B. Bala Parameswari – Lecturer, Department of Computer Science– ***Faculty Member***

12. Sri P. Bharat Kumar – Java Developer, WIPRO Pvt Ltd. – ***Alumnus***

The members of the Board of Studies of Post Graduate Program convened on 15 September 2025 at the Department of Computer Science & Applications under the Chairmanship of Suneel Kumar Duvvuri, Lecturer In-charge. The meeting commenced promptly at 02:00 PM, with the primary purpose of addressing the various items listed on the agenda for discussion.

1. Curriculum Structure for PG Programs in Computer Science and related interdisciplinary areas (effective from 2025-26).

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6. Integration of Lateral Entry Framework for students from Four-Year UG programs into the Second Year of PG.

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8. Approval of Research/Project/Dissertation Component in the final semester for experiential and research-based learning.

9. Pedagogical Approaches and Skill Orientation with emphasis on blended learning, project-based learning, research-based learning, and ICT-enabled teaching.

10. Model Question Papers and Identification of Paper Setters.

11. Academic and Research Activities of the Department planned for the Academic Year 2025-26.

12. Any Other Items with the Permission of the Chair.

At the beginning of the meeting, **Dr. Suneel Kumar Duvvuri, Chairman of the Board**, extended a warm welcome to all members and expressed his gratitude for their presence. He took a moment to introduce each member, creating a friendly and collaborative atmosphere for the discussions ahead.

In his opening remarks, Dr. Suneel Kuamr Duvvuri spoke about the Postgraduate programs in Computer Science offered by the Department and underlined the importance of the current round of curriculum revisions. He emphasized that these changes are being made in line with the National Education Policy (NEP-2020) and the reform measures put forward by the Government of Andhra Pradesh, Andhra Pradesh State Council of Higher Education (APSCHE).

He reminded the members that the PG framework, approved in 2024-25 and adopted by Adikavi Nannaya University, Rajahmahendravaram, is built to give students multiple entry points into higher studies. In this system:

- Students who complete three years of the UG program (under the exit option) can pursue a two-year PG program, while

- Students who complete the four-year UG program introduced in 2020–21 are allowed lateral entry into the second year of PG, providing them with an accelerated and integrated path forward.

With this context, Dr. Suneel Kumar placed before the Board the **Draft PG Board of Studies (BoS) document for 2025-26**, and invited members to share their insights and suggestions on the proposed syllabus and agenda items.

The following Members Attended the Meeting on **15 September 2025**

S.No.	Name	Designation	Signature
1	Dr. D. Latha	University Nominee	
2	Sri G. Vijayadeep	Subject Expert	
3	Sri Kavuri Sridhar	Subject Expert	
4	Sri Maddikonda Satya Sai Srinivasa Kishore	Industrial Expert	
5	Smt U Sandhya Rani	Faculty Member	
6	Sri. Devaraju Hanumanthu	Faculty Member	
7	Sri. P. Narasinga Rao	Faculty Member	
8	Sri. D. Seetha Ramulu	Faculty Member	
9	Ms. S.Jaya Lakshmi	Faculty Member	
10	Smt Ch.Sujatha	Faculty Member	
11	Smt B.BalaParameswari	Faculty Member	
12	Sri P. Bharat Kumar	Alumnus	

Suneel Kumar Duvvuri

Chairman-Board of Studies

Department of Computer Science

M.Sc. Computer Science

Program Specific Outcomes (PSOs)

After completion of the program, the student is able to

PSO1: *Advanced Knowledge:* Apply core and advanced concepts of computer science to design efficient and scalable solutions.

PSO2: *Research Skills:* Conduct research and innovation in emerging areas of computing and technology.

PSO3: *Problem-Solving:* Integrate theory with practice to solve real-world challenges in domains like AI, Data Science, and Cybersecurity.

PSO4: *Professional & Ethical Practice* – Demonstrate ethics, lifelong learning, and social responsibility in professional computing.

Master of Science (M.Sc.) -Computer Science (w.e.f 2025-26 Admitted Batch)
Course Structure

SEM	Courses Type		Title of the Course	CIA	SEE	L	T	P	C
							Hours/week		
I	Core Course 1		**MSCS-C-101:** Mathematical Foundations of Computer Science	40	60	5			4
	Core Course 2		**MSCS-C-102:** Advanced Data Structures and Algorithm Analysis	40	60	5			4
	Core Course 3		**MSCS-C-103:** Computer Organization and Architecture	40	60	5			4
	Skill Oriented Course 1 (Elective)	A	**MSCS-SEA-104:**Python Programming	40	60	3	1		3
			MSCS-SEA-104P: Python Programming Lab	50	50			2	1
		B	**MSCS-SEB-104:**MERN Stack Development	40	60	3	1		3
			MSCS-SEB-104P:MERN Stack Development Lab	50	50			2	1
	Skill Oriented Course 2 (Elective)	A	**MSCS-SEA-105:**Advanced Java	40	60	3	1		3
			MSCS-SEA-105P: Advanced Java Lab	50	50			2	1
		B	**MSCS-SEB-105:**Advanced Database Management Systems	40	60	3	1		3
			MSCS-SEB-105P: Advanced Database Management Systems Lab	50	50			2	1
	Open Online Transdisciplinary Course 1		At least 8-Weeks Course on MOOCs Platform						2
	Indian Knowledge Systems 1			AUDIT COURSE					
End of Sem 1									
	Core Course 4		**MSCS-C-201:** Theory of Computation	40	60	5			4
	Core Course 5		**MSCS-C-202:** Data Communications & Computer Networks	40	60	5			4

II	Core Course 6		**MSCS-C-203:** Artificial Intelligence	40	60	5			4
	Skill Oriented Course 3 (Elective)	A	**MSCS-SEA-204:**Machine Learning	40	60	3	1		3
			MSCS-SEA-204P: Machine Learning Lab	50	50			2	1
		B	**MSCS-SEB-204:**Mobile Application Development	40	60	3	1		3
			MSCS-SEB-204P: Mobile Application Development Lab	50	50			2	1
	Skill Oriented Course 4 (Elective)	A	**MSCS-SEA-205:**Internet of Things	40	60	3	1		3
			MSCS-SEA-205P: Internet of Things Lab	50	50			2	1
		B	**MSCS-SEB-105:**Data Mining	40	60	3	1		3
			MSCS-SEB-105P: Data Mining Lab	50	50			2	1
	Open Online Transdisciplinary Course 2		At least 8-Weeks Course on MOOCs Platform						2
	Indian Knowledge Systems 2			**AUDIT COURSE**					

End of Sem 2

III	Core Course 7		**MSCS-C-301:** Compiler Design	40	60	5			4
	Core Course 8		**MSCS-C-302:** Information Security & Cryptography	40	60	5			4
	Core Course 9		**MSCS-C-303:** Computer Graphics	40	60	5			4
	Skill Oriented Course 5 (Elective)	A	**MSCS-SEA-304:**Deep Learning	40	60	3	1		3
			MSCS-SEA-304P: Deep Learning Lab	50	50			2	1
		B	**MSCS-SEB-304:**Computer Vision	40	60	3	1		3
			MSCS-SEB-304P: Computer Vision Lab	50	50			2	1
	Skill Oriented Course 6 (Elective)	A	**MSCS-SEA-305:**Natural Language Processing	40	60	3	1		3
			MSCS-SEA-305P: Natural Language	50	50			2	1

			Processing Lab						
		B	**MSCS-SEB-305:**Digital Forensics	40	60	3	1		3
			MSCS-SEB-305P: Digital Forensics Lab	50	50			2	1
End of Sem 3									
IV	Open Online Skill Development Course/s (2 Courses of 16 Weeks/ 8 Credits)				-					8
	Project Work				100*	100				12
End of Sem 4									
Total Marks/Hours/Credits										**84**

Courses - Credit Distribution

Component	Distribution	Credits
Core Courses	9 Courses × 4 Credits	36
Skill Oriented Elective Courses	6 Courses × 4 Credits	24
Open Online Transdisciplinary Courses (MOOCs at least with 8 Weeks)	2 Courses × 2 Credits	4
Open Online Skill Development Courses (MOOCs with Minimum 16 Weeks)	2 Courses × 4 Credits	8
Indian Knowledge Systems	2 Courses (Audit Only)	-
Project Work	–	12
Total	–	**84**

Government College Autonomous, Rajahmundry

Department of Computer Science

Board of Studies for the Postgraduate Programs

Academic Year 2025-2026

Evaluation Scheme for M.Sc (Computer Science)

1. Continuous Internal Assessment (CIA) – 40 Marks

Component	Details	Marks
Internal Exams	Two mid-semester exams (20 marks each). The average of the two will be considered.	20
Assignment	Written Assignment per paper to assess individual effort. (Minimum 5 Assignments inline with Course Learning Outcomes)	5
Seminar / Quiz / Group Discussion / Problem-Solving	Any one or a mix of these interactive activities (faculty choice). Suggested: technical seminars, coding/problem-solving sessions, case studies, or quizzes.	10
Viva Voce	Individual oral test to assess depth of subject knowledge and communication skills.	5
Total (CIA)		40

2. Semester End Examination (SEE) – 60 Marks

Component	Details	Marks
Theory Examination	Autonomous final written exam as per Blueprint	60
Total (SEE)		60

3. Passing Criteria

- A student must secure a minimum 40% separately in both CIA and SEE.
- Aggregate score is calculated as CIA (40) + SEE (60) = 100 marks.
- A student failing in either component (CIA or SEE) will not be declared passed, even if the total is above 40%.

Government College Autonomous, Rajahmundry
Department of Computer Science
Board of Studies for the Postgraduate Programs
Academic Year 2025-2026
Evaluation Scheme for Skill Oriented Practical Courses

Component	Internal Evaluation (50 Marks) *(By Concerned Faculty)*	External Evaluation (50 Marks) *(By External Examiner)*
Record	–	10
Lab Exam / Execution of Programs / Experiments	30	20
Viva Voce	10	10
Continuous Performance / Attendance / In-Lab Work	10	–
Total	50	50

Passing Criteria

- A Student must secure minimum 50% marks separately in Internal (≥25/50) and External (≥25/50).
- Only those who qualify in both components will be declared passed.

*Award of Marks for Record Maintenance

S. No.	Number of Practicals Recorded	Marks Awarded
1	10 Practicals and Above	10
2	8 Practicals	8
3	6 Practicals	6
4	5 Practicals	5
5	Less than 5	0

Government College Autonomous, Rajahmundry
Department of Computer Science
Board of Studies for the Postgraduate Programs
Academic Year 2025-2026

Curriculum Changes in M.Sc. Computer Science (2024–25 to 2025–26)

Sem	2024–25 (Last Year)	2025–26 (Proposed)	Remarks / Key Changes
I	**Core:** ☐ Mathematical Foundations of Computer Science ☐ Advanced Data Structures & Algorithm Analysis ☐ Computer Organization & Architecture **SOE:** ☐ SOE-1: Advanced Java / Mobile App Development (theory + lab) ☐ SOE-2: Advanced DBMS (theory + lab) MOOCs (2 Cr), IKS-1 (Audit)	**Core:** ☐ Mathematical Foundations of Computer Science ☐ Advanced Data Structures & Algorithm Analysis ☐ Computer Organization & Architecture **SOE:** ☐ SOE-1: Python / MERN (theory + lab) ☐ SOE-2: Advanced Java / Advanced DBMS (theory + lab) MOOCs (2 Cr), IKS-1 (Audit)	☐ Python Shifted from II Semster & MERN introduced as new SOEs. ☐ Mobile App Dev shifted to Sem-II. ☐ Overall strengthening of industry-demand skills in Sem-I.
II	**Core:** ☐ Theory of Computation ☐ Data Communication & Computer Networks ☐ Computer Graphics **SOE:** ☐ SOE-3: Data Science using R / Python (theory + lab) ☐ SOE-4: MERN / IoT Dev (theory + lab) MOOCs (2 Cr), IKS-2 (Audit)	**Core:** ☐ Theory of Computation ☐ Data Communication & Computer Networks ☐ **Artificial Intelligence** **SOE:** ☐ SOE-3: Machine Learning / Mobile App Dev (theory + lab) ☐ SOE-4: IoT / Data Mining (theory + lab) MOOCs (2 Cr), IKS-2 (Audit)	☐ Computer Graphics shifted to Sem-III. ☐ **Artificial Intelligence newly introduced in Sem-II.** ☐ Data Science (R) removed, replaced with **Machine Learning.** ☐ Data Mining added as a new SOE.

III	**Core:** ☐ Compiler Design ☐ Info Security & Cryptography ☐ Foundations of Machine Learning **SOE:** ☐ SOE-5: Computer Vision / Cloud / DevOps (theory + lab) ☐ SOE-6: Digital Forensics / Big Data / Deep Learning (theory + lab)	**Core:** ☐ Compiler Design ☐ Info Security & Cryptography ☐ **Computer Graphics** **SOE:** ☐ SOE-5: Deep Learning / Computer Vision/Cloud (theory + lab) ☐ SOE-6: NLP / Digital Forensics/DevOps (theory + lab)	☐ Foundations of ML removed (AI & ML covered earlier). ☐ Computer Graphics shifted here. ☐ **NLP introduced**. ☐ AI-focused electives strengthened.
IV	MOOCs (2 × 16 weeks = 8 Cr) Project Work (12 Cr)	Same: MOOCs (8 Cr) Project Work (12 Cr)	No change. Continues with **skill + research emphasis.**
Total Credits	84	84	Credit load unchanged, but **course alignment revised.**

Government College Autonomous, Rajahmundry
Department of Computer Science
Board of Studies for the Postgraduate Programs
Academic Year 2025-2026

Additions and Deletions in the Curriculum

Course Name	Additions	Deletions	Remarks
Mathematical Foundations of Computer Science (Core 1)	☐ Linear Algebra: matrices, vector spaces, eigenvalues/eigenvectors, linear transformations, Gram–Schmidt process ☐ Probability & Statistics: conditional probability, Bayes' theorem, random variables & distributions (Bernoulli, Binomial, Poisson, Uniform, Normal), expectation, variance, covariance, correlation, law of large numbers, central limit theorem	☐ Some basic combinatorics topics now covered in "Advanced Combinatorics" section ☐ Recurrence relations previously separate (Unit III) now integrated with combinatorics and algebraic structures	Enhances depth and breadth of mathematical foundations; integrates discrete math, linear algebra, probability, and statistics to align with modern CS applications like AI, ML and PG-level rigor
Advanced Data Structures and Algorithm Analysis (Core 2)	☐ Dijkstra, Prim, Kruskal algorithms explicitly added for shortest path and MST ☐ Floyd–Warshall for all pairs shortest paths ☐ Edit distance added under dynamic programming ☐ Graph representations clarified as adjacency list/matrix	☐ Some older examples like "Noncrossing Subset of Nets" simplified ☐ 0/1 Knapsack repeated under multiple techniques retained but streamlined ☐ Job sequencing and topological sorting reorganized under Greedy method	Updates provide clarity, modernize examples, and explicitly include important classical algorithms; aligns with contemporary syllabus standards
Computer Organization and Architecture (Core 3)	☐ Von Neumann architecture introduction ☐ Performance metrics: CPI, MIPS, Speedup, Amdahl's law ☐ Hardwired vs. Microprogrammed Control ☐ Flynn's Taxonomy (SISD, SIMD, MISD, MIMD) ☐ Cache mapping techniques and replacement policies	☐ Some older detailed examples of pipeline types simplified ☐ Serial descriptions of micro-operations and CPU design condensed under modern terminology	Modernizes syllabus, adds performance evaluation metrics, architectural comparisons, and multicore/multiprocessor concepts suitable for PG students

	Additions	Deletions	Remarks
Advanced Java (shifted from SOC1 to SOC2)	☐ Updated case studies for mini desktop and web applications; Emphasis on modern JDBC features (RowSets, Batch updates, Metadata), expanded event handling examples, session management in Servlets/JSP	☐ No major deletions; mostly reorganized and modernized content	Syllabus updated to provide hands-on, project-oriented learning, modernized examples, and practical exposure to web-based Java applications.
Advanced DBMS	☐ Expanded NoSQL coverage including MongoDB operations, data modeling, indexing, aggregation framework, replication & high availability. ☐ Emphasis on CAP theorem, BASE properties, and RDBMS vs NoSQL differences.	☐ Minor reorganization of SQL and transaction topics; no major deletions.	Syllabus updated to include modern database technologies and practical MongoDB skills, providing students exposure to both relational and NoSQL paradigms.
Python Programming (Shifted from SOC3 to SOC1)	☐ Added Sets & Frozensets, comprehensive handling of modules, functional programming tools (map, filter, reduce), file handling with CSV, OS/pathlib basics, detailed NumPy & Pandas operations, Mini Project integration, structured OOP coverage with ABC module, and modernized visualization techniques with Matplotlib.	☐ Minor deletions: simplified some Tkinter widgets and legacy plotting details; reduced focus on some GUI dialogs.	Updated syllabus emphasizes modern Python programming for data handling, visualization, and scientific computing, making it more aligned with practical applications and real-world projects.
MERN stack Development (Shifted from SOC4 to SOC1)	☐ Added full-stack overview, Node.js fundamentals (Streams, Buffers), React forms with validation, API communication (Axios/Fetch), basic state management (Context API, Redux basics), Mongoose relationships, Aggregation pipelines, JWT-based authentication, role-based access control, full-stack integration, and deployment strategies (Render/Heroku/Netlify/Vercel).	☐ Some older details on introductory React Hooks, class-based components, and legacy Node.js error handling simplified/removed.	Syllabus modernized to emphasize full-stack development, best practices, and deployment, preparing students for real-world MERN applications.
Theory of Computation (Core 4)	☐ No significant additions;	☐ No significant deletions;	Core topics remain the same ensuring foundational theory coverage.

	Additions	Deletions	Remarks
Data Communications & Computer Networks (Core 5)	☐ No significant additions;	☐ No significant deletions;	Core topics and sequence retained, ensuring continuity in foundational network concepts.
Artificial Intelligence (Core 6)	☐ Moved Computer Graphics to Semester III and Entire New course added in Semester II.	☐ Not applicable (new course).	New addition to Semester II to introduce AI concepts alongside Machine Learning, Data Mining electives.
Machine Learning	☐ Entire course introduced as Skill Oriented Course (SOC) in Semester III.	☐ Not applicable (new course).	New addition to Semester III to complement Deep Learning and Data Science courses in next semester; focuses on foundational ML concepts and applications.
Mobile Application Development	☐ Flutter framework, Dart programming, Cross-platform app development, Widgets, State management, Firebase integration, API communication.	☐ Old Android-specific content, obsolete Java/Kotlin Android development.	Complete modernization of the course using Flutter for cross-platform development; removed outdated Android-only content.
Internet of Things	☐ Emphasis on IoT applications, LAMP web-server integration, Node-RED, GUI-based Raspberry Pi programming, PWM signal generation, Home Automation, MQTT protocol implementation.	☐ Minor restructuring of content; no major deletions, mostly rewording and organization of Raspberry Pi and Arduino topics.	Title updated from "IoT Development" to "Internet of Things"; syllabus modernized with more practical application focus and structured programming content.
Data Mining	☐ Entire course is new	☐ Not applicable (new course).	Introduced as a new SOC to provide students with foundational knowledge and practical exposure to data analysis and knowledge discovery techniques.

Government College Autonomous, Rajahmundry

Department of Computer Science

Board of Studies for the Postgraduate Programs

Academic Year 2025-2026

M.Sc (Computer Science)

List of Examiners & Paper Setters

S. No.	Name of the Lecturer / Reader / Professor	Papers	College	City
1	Prof. P. Suresh Varma	ALL	Dept. of CSE, AKNU	Rajahmundry
2	Dr. V. Persis	ALL	Dept. of CSE, AKNU	Rajahmundry
3	Dr. M. Kamala Kumari	ALL	Dept. of CSE, AKNU	Rajahmundry
4	Dr. P. Venkateswara Rao	ALL	Dept. of CSE, AKNU	Rajahmundry
5	Dr. D. Latha	ALL	Dept. of CSE, AKNU	Rajahmundry
6	Dr. B. Kezia Rani	ALL	Dept. of CSE, AKNU	Rajahmundry
7	Sri Vijayadeep Gummadi	ALL	SRR & CVR Govt. College (Autonomous)	Vijayawada
8	Ms. Lakshmi Sarvani Videla	ALL	SRR & CVR Govt. College (Autonomous)	Vijayawada
9	Sri M. Ratnakar	ALL	Sir C. R. Reddy College (Autonomous)	Eluru
10	N. V. R. M. K. Acharyulu	ALL	DLR College of PG Courses	G. Mamidada
11	N. S. P. S. R. Prasad	ALL	VSM College (Autonomous)	Ramachandrapuram
12	Md. Karishma	ALL	Sir C. R. Reddy College (Autonomous)	Eluru
13	Dr. G. Ravi Kumar	ALL	DLR College of PG Courses	G. Mamidada
14	D. Bharathi Vara Lakshmi	ALL	DLR College of PG Courses	G. Mamidada
15	Dr. K. B. S. Sastry	ALL	Andhra Loyola College	Vijayawada
16	Sri Kavuri Sridhar	ALL	PB Siddhartha College of Arts & Science (Autonomous)	Vijayawada
17	Dr. T. S. Ravi Kiran	ALL	PB Siddhartha College	Vijayawada
18	Mrs. Kala Devi	ALL	KBN College	Vijayawada