

GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY
(Accredited by NAAC with “A+” Grade)
DEPARTMENT OF COMPUTER SCIENCE

Composition of Board of Studies

Chairman	Dr. D. Suneel Kumar In-charge, Department of Computer Science & Applications, Government College (A), Rajahmundry.
University Nominee	Dr P.Suresh Varma Professor in Computer Science & Engineering, Adikavi Nannaya University, Rajamahendravaram.
Subject Expert	Dr. N. Sridhar Lecturer, Department of Computer Science, Government Degree College (Men), Srikakulam Affiliated to Ambedkar University, Srikakulam
Subject Expert	Sri. G.Vijayadeep Lecturer in Computer Science SRR & CVR Government Degree College Affiliated to Krishna University, Vijayawada
Industry Expert	Sri. K. VasanthaKumar Lead SAS Programmer B&P Team, Bangalore
Members	
Smt. U.Sandhya Rani	Faculty Member
Sri. H.Devaraju	Faculty Member
Sri. P. NarsingaRao	Faculty Member
Sri. D. SeethaRamulu	Faculty Member
Ms. S.JayaLakshmi	Faculty Member
Smt. Ch. Sujatha	Faculty Member
Mr. E.V.S Krishna	Student member

GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY
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DEPARTMENT OF COMPUTER SCIENCE

The Meeting of the Board of Studies (BoS) for M.Sc (Computer Science) of the Department of Computer Science, Govt. College (A), Rajahmundry, was convened online via Google Meet on 20th November 2024 at 11:00 AM, with the following agenda.

Agenda:

- Approval of New Curriculum Framework as per NEP 2020
- Curriculum Design for I and II Semesters of M.Sc. (Computer Science)
- Designing of Course Outcomes and Course Objectives
- Identifying/ Inclusion of Components of Skill Development, Employability, and Entrepreneurship in the Curriculum
- Transdisciplinary and Open Online Courses
- Designing Model Question Papers and Identifying Potential Paper Setters
- Any Other Proposal with the Permission of the Chair

Dr. Suneel Kumar Duvvuri
Chairman-BoS

GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY
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DEPARTMENT OF COMPUTER SCIENCE

The following Members attended the Meeting

1	Dr P.Suresh Varma	University Nominee
2	Dr. N. Sridhar	Subject Expert
3	Sri. G. Vijayadeep	Subject Expert
4	Sri. K. VasanthaKumar	Industrial Nominee
5	Smt. U.SandhyaRani	Faculty Member
6	Sri. H.Devaraju	Faculty Member
7	Sri. P. NarsingaRao	Faculty Member
8	Sri. D. SeethaRamulu	Faculty Member
9	Ms. S.JayaLakshmi	Faculty Member
10	Smt. Ch. Sujatha	Faculty Member
15	Mr. E.V.S Krishna	Student member
16	Dr. Suneel Kumar Duvvuri	Chairman-BoS

Minutes of the Meeting

The **Meeting of the Board of Studies (BoS)** for M.Sc (Computer Science) of the **Department of Computer Science**, Government College (A), Rajahmundry, was convened on **20th November 2024 at 11:00 AM** in a blended mode (both offline and online via Google Meet). The meeting was attended by various members, the **University Nominee, Prof. P. Suresh Varma**, and **Dr. N. Sridhar**, one of the Subject Experts, as well as the **Industrial Nominee, Sri Vasanth Kumar**, all of whom participated online. Other members attended the meeting in person. The meeting was chaired by **Dr. Suneel Kumar Duvvuri**, who began the session by warmly welcoming all members. He presented the agenda for the meeting and requested the members to review the points for discussion.

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Before commencing the meeting, Dr. Suneel Kumar Duvvuri, the Chairman of the Board of Studies, extended a warm welcome to all the attendees. He took a moment to introduce each member of the Board to the meeting and provide an overview of the Undergraduate (UG) and Postgraduate (PG) programs currently offered by the Department of Computer Science. Dr. Suneel Kumar Duvvuri highlighted the significant change introduced in the **academic year 2020-21**, where the **UG programs** were extended from a three-year duration to a four-year format. He emphasized the need to revamp the **PG curricula** to align with the **New Education Policy (NEP) 2020** and the reforms recommended by the Andhra Pradesh State Council for Higher Education (APSCHE).

He further stressed the importance of adapting the programs to accommodate **multiple entry and exit options**, as well as **lateral entry** into the **Postgraduate (PG)** courses after the successful completion of the fourth year of **UG Honours**. In light of these developments, he underscored the necessity of revising the **PG-M.Sc (Computer Science)** curriculum to ensure it aligns with the new structure and meets the evolving needs of students.

Dr. Duvvuri then provided an overview of the **Standard Operating Procedures (SoP)** issued by the college, outlining the guidelines and structure to be adopted for curriculum design in the **PG programs**. This set the stage for the constructive discussions to follow.

To begin the deliberations on the meeting's agenda, Dr. Suneel Kumar Duvvuri presented the Draft Board of Studies (BoS) document for the PG-M.Sc (Computer Science) program, marking the formal start of the discussions.

Agenda No 1: Approval of New Curriculum Framework as per NEP 2020

Discussion:

The Chairman, Dr. Suneel Kumar Duvvuri, presented a proposal to introduce a two-year Postgraduate (PG) program in M.Sc. Computer Science that aligns with the guidelines of the **National Education Policy (NEP-2020)** and the **Standard Operating Procedures (SoP)** issued by the college. He explained that the department has worked on a complete redesign of the curriculum for the M.Sc. Computer Science program. The new curriculum includes a student-centered approach, offering Core, Skill Enhancement, and Open Online Transdisciplinary Courses. This design incorporates a flexible choice-based credit system, a multidisciplinary approach, and multiple entry and exit options for students.

After introducing the framework, Dr. Duvvuri presented the detailed curriculum structure for the proposed PG program to the Board.

During the discussion, Dr. N. Sridhar, the Subject Expert, asked for clarification regarding the proposed credit system and the multiple entry and exit options in the program. He wanted to understand how students could exit the program at different stages and what qualifications they would receive.

In response, Dr. Duvvuri explained that students will have the option to exit the program after completing the first or second year. If students exit after the first year, they will receive a PG

Diploma in Computer Science. If they exit after the second year, they will earn a Postgraduate Degree in Computer Science.

The Chairman also clarified the total credits required for each qualification:

- PG Diploma in Computer Science: 44 credits
- PG Degree in Computer Science: 84 credits

Continuing the discussion on Agenda Point 1, Chairman Dr. Suneel Kumar Duvvuri provided a detailed explanation of the structure of the proposed M.Sc. Computer Science program. He outlined the courses that students would take in each semester and the corresponding credits allocated to each course. He emphasized that the curriculum is designed to include Core Courses, Skill Courses, Open Online Transdisciplinary Courses, and two Audit Courses on Indian Knowledge Systems, all of which are mandatory for students.

Dr. Duvvuri explained that the **Core Courses** are designed to help students prepare for competitive exams like **UGC-NET, APSET, GATE**, and others. These courses focus on foundational knowledge that will support students' academic and professional growth. On the other hand, the **Skill Courses** are aimed at equipping students with practical, hands-on skills to make them industry-ready.

One of the External Subject Experts, Mr. G. Vijaydeep, raised a query about the number of Open Online Courses included in the program. In response, Dr. Duvvuri provided a clear explanation by showing a slide from the curriculum framework. He clarified that the program includes one Open Online Transdisciplinary Course worth 2 credits in Semester 1 and Semester 2, and a Skill Enhancement Course worth 8 credits in Semester 4. These courses will be available through platforms like SWAYAM, NPTEL, Coursera, and other MOOCs (Massive Open Online Courses). If the timing of a course on these platforms doesn't align with the academic schedule, students will have the flexibility to complete these courses at any point during their program.

Another Subject Expert, Dr. N. Sridhar, brought up the topic of blended learning, asking for clarification on how it would be integrated into the program. In response, Dr. Duvvuri confirmed that the curriculum already includes two mandatory Open Online Transdisciplinary Courses,

scheduled for the first and second semesters, ensuring that students will be engaged in both online and in-person learning experiences.

During the discussion, the University Nominee raised a query about the Transdisciplinary Courses. Dr. Duvvuri explained that the department offers students the option to complete these Transdisciplinary Courses not only through online platforms but also by taking courses offered by other departments within the college, providing greater flexibility in their learning paths.

Resolution:

It is resolved to approve the Program Structure of M.Sc (Computer Science)

It is resolved to approve the Credit framework proposed for the PG- M.Sc (Computer Science)

Agenda No 2: Curriculum Design for I and II Semesters of M.Sc. (Computer Science)

Discussion

The Chairman, Dr. Suneel Kumar Duvvuri, initiated the discussion on the curriculum design for the 1st and 2nd semesters of the M.Sc. Computer Science program by presenting a detailed outline of the courses planned for these semesters. He explained that the curriculum for the initial two semesters has been structured to build a strong foundation in core computer science subjects, while also incorporating skill development courses and transdisciplinary learning opportunities.

The Chairman added, The Skill Enhancement Courses in the first two semesters offer an elective option for students, allowing them to choose learning paths that best suit their interests and career goals. These courses will focus on programming and problem-solving techniques, helping students develop practical skills that are essential for industry readiness. In addition, an Audit Course on Indian Knowledge Systems is included as part of the curriculum in the first semester. This course is designed to encourage students to explore cultural and philosophical aspects of Indian knowledge systems, offering a holistic view of education that goes beyond technical subjects. During the discussion, Dr. N. Sridhar (Subject Expert) raised a question regarding the balance between core theoretical subjects and practical, hands-on courses. He expressed concern

about ensuring that students not only gain theoretical knowledge but also develop the practical skills necessary for industry applications.

In response, Dr. Duvvuri reassured the board that the curriculum is designed to offer a balanced approach, combining strong theoretical foundations with practical learning. The inclusion of Skill Enhancement Courses, along with the elective options and industry-relevant projects, will ensure that students are well-prepared for real-world challenges.

During the deliberations, the Board decided to offer two Audit Courses as part of the M.Sc. Computer Science program. The following courses were approved:

- Introduction to Indian Knowledge Systems – to be offered as an Audit Course in Semester I.
- Indian Intellectual Heritage – to be offered as an Audit Course in Semester II.

Resolution:

It is resolved to approve the Courses designed in Semester I & II

Agenda No 3: Designing of Course Outcomes and Course Objectives

Discussion

The discussion on the Program Specific Outcomes (PSOs) for the M.Sc. Computer Science program began with a focus on ensuring that the outcomes are industry-aligned, clear, and adaptable. Prof. P. Suresh Varma, the University Nominee, emphasized the need to integrate ethical and societal considerations into the PSOs, ensuring students are not only technically skilled but also aware of the broader impact of technology. He also recommended using diverse assessment methods, such as practical exams, projects, and peer evaluations, to measure a range of skills.

Prof. Suresh Varma further suggested establishing a culture of continuous improvement, with regular reviews and feedback mechanisms to keep the program responsive to changes in industry and society. The members collaborated actively on designing the PSOs, focusing on graduate

attributes such as critical thinking, problem-solving, and ethical reasoning. These PSOs were crafted to ensure that graduates are prepared for both professional roles and lifelong learning.

Resolution:

It is resolved to approve the PSOs and COs of the Courses

Agenda No 4: Transdisciplinary and Open Online Courses***Discussion***

The discussion on Transdisciplinary and Open Online Courses focused on the flexibility and alignment of these courses within the M.Sc. Computer Science program. It was decided that the course coordinator would be responsible for selecting the specific Transdisciplinary and Open Online Courses each semester, based on their availability and alignment with the semester schedule. The courses will be carefully chosen to ensure they complement the core curriculum and meet the academic objectives of the program.

The Chairman emphasized that the coordinator would ensure these courses provide interdisciplinary learning opportunities while maintaining flexibility for students to complete them through platforms like SWAYAM, NPTEL, Coursera, or other MOOCs. The final list of courses will be decided before the semester begins, allowing students to plan their studies effectively.

Resolution:

It is resolved to offer the Transdisciplinary Courses (either Online or Offline) and Skill Courses based on the need and availability

Agenda No 5: Designing Model Question Papers and Identifying Potential Paper Setters***Discussion***

All members actively contributed to identifying subject experts and compiling a list of examiners and paper setters for the Semester End Examinations (SEE). The Board then engaged in an in-depth discussion on the blueprint for both the question papers and practical examinations.

Valuable suggestions from all members were thoroughly reviewed and incorporated into the final blueprint, ensuring a comprehensive, balanced, and well-structured examination format that aligns with the objectives of the program.

Resolution:

1. It is resolved to approve the list of examiners and paper setters for the Academic Year 2024-25

2. It is resolved the blue print of the Question papers of SEE and Practical Examinations

The meeting concluded with a heartfelt Vote of Thanks delivered by the Chairman, Mr. Suneel Kumar Duvvuri. He expressed sincere appreciation to all the department members for their dedicated efforts and unwavering support in shaping the curriculum into its final form. The Chairman also extended his gratitude to the University Nominee, Prof Suresh Varma, the External Subject Experts, Dr. N. Sridhar and Mr. G. Vijaydeep, and the Industrial Expert, Mr. Vasanth Kumar, for their invaluable suggestions, thoughtful deliberations, and constructive contributions throughout the meeting.

(Suneel Kumar Duvvuri)

CHAIRMAN

BOARD OF STUDIES

GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY
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DEPARTMENT OF COMPUTER SCIENCE

The following Members attended the Meeting

S.No.	Name	Designation	Signature
1	Dr P.Suresh Varma	University Nominee	
2	Dr. N. Sridhar	Subject Expert	
3	Sri. G. Vijayadeep	Subject Expert	
4	Sri. K. VasanthaKumar	Industrial Nominee	
5	Smt. U.SandhyaRani	Faculty Member	
6	Sri. H.Devaraju	Faculty Member	
7	Sri. P. NarsingaRao	Faculty Member	
8	Sri. D. SeethaRamulu	Faculty Member	
9	Ms. S.JayaLakshmi	Faculty Member	
10	Smt. Ch. Sujatha	Faculty Member	
15	Mr. E.V.S Krishna	Student member	

Dr. Suneel Kumar Duvvuri
Chairman-BoS

GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY**(Accredited by NAAC with “A+” Grade)****DEPARTMENT OF COMPUTER SCIENCE****COURSE STRUCTURE**

2-Year Master of Science (M.Sc.) with coursework in first 3 semesters and project work in 4th semester of II year								
Semester	Courses		Title	Level of Course	Theory		Practical	
					H	Cr	H	Cr
Sem 1	Core Course 1		Mathematical Foundations of Computer Science	500 – 599	5	4	-	-
	Core Course 2		Advanced Data Structures and Algorithm Analysis	500 – 599	5	4	-	-
	Core Course 3		Computer Organization	500 – 599	5	4	-	-
	Skill Oriented Course 1 (Electives)	A	Advanced Java	400 – 499	3	3	2	1
			Advanced Java Lab					
		B	Mobile Application Development					
			Mobile Application Development Lab					
	Skill Oriented Course 2		Advanced DBMS	400 – 499	3	3	2	1
			Advanced DBMS Lab					
Open Online Transdisciplinary Course 1			300 – 399		2			
Indian Knowledge Systems 1			200 – 299	2	0	AUDIT COURSE		
<i>End of Sem 1</i>				23	20	4	2	
Sem 2	Core Course 4		Theory of Computation	500 – 599	5	4	-	-
	Core Course 5		Data Communication and Computer Networks	500 - 599	5	4	-	-
	Core Course 6		Computer Graphics	500 - 599	5	4	-	-
	Skill Oriented Course 3 (Elective)	A	Data Science using R	500 - 599	3	3	2	1
			Data Science using R Lab					
B		Python Programming						
		Python Programming Lab						

	Skill Oriented Course 4	A	MERN stack development	500 - 599	3	3	2	1
			MERN stack development Lab					
		B	IoT development					
			IoT development Lab					
	Open Online Transdisciplinary Course 2		300 - 399		2			
Indian Knowledge Systems 2		200 - 299	2	0	AUDIT COURSE			
<i>End of Sem 2</i>				23	20	14	2	
Sem 3	Core Course 7		Compiler Design	500 - 599	5	4	-	-
	Core Course 8		Information Security and Cryptography	500 - 599	5	4	-	-
	Core Course 9		Foundations of Machine Learning	500 - 599	5	4	-	-
	Skill Oriented Course 5 (Elective)	A	Computer Vision with OpenCV	500 - 599	3	3	2	1
			Computer Vision with OpenCV Lab					
		B	Cloud Computing					
			Cloud Computing Lab					
		C	DevOps Development					
			DevOps Development Lab					
	Skill Oriented Course 6 (Elective)	A	Digital Forensics	500 - 599	3	3	2	1
			Digital Forensics Lab					
		B	Big Data Analytics					
			Big Data Analytics Lab					
C		Deep Learning						
		Deep Learning Lab						
<i>End of Sem 3</i>				21	18	4	2	
Sem 4	Open Online Skill Development Course/s		300 - 399	-	8	-	-	
	Project Work		400 - 499				12	
<i>End of Sem 4</i>				-	8	-	12	
Total Hours/Credits				67	66	16	18	

Total Credits required for 1 Year PG- Diploma (End of Semester –II) : 44

Total Credits required for 2 Year PG: 84

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Continuous Internal Assessment

(As Approved in the BOS meeting held on 20-11-2024 for 2024-2025)

S.No.	Description	Marks
1	CIE – I (Descriptive)	20
2	CIE – II (Objective) 20 MCQs with 1/8 Negative Marking	10
3	Assignment	5
4	Participation in International /National Seminar/Conference	5
Total		40
	End Semester Exam	60
GRAND TOTAL		100

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SCHEME OF VALUATION FOR PRACTICAL EXAMINATIONS

(As Approved in the BOS meeting held on 20-11-2024 for 2024-2025)

S.No.	Description	Marks
1	Procedure Explanation with Coding (including Algorithm & Flowchart if any)	20
2	Execution of Program	10
3	VIVA VOCE	10
4	RECORD **	10
5	EXTERNAL PRACTICAL EXAM	50
6	INTERNAL PRACTICAL EXAM	50
	GRAND TOTAL	100

** Award of marks for number of practicals recorded in the Record.

10 Practical's and Above	10
8 Practical's	8
6 Practical's	6
5 Practical's	5
Less than 5	0

GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY**(Accredited by NAAC with “A+” Grade)****DEPARTMENT OF COMPUTER SCIENCE****List of Paper Setters and Examiners**

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	R V Satyanarayana	ALL	GDC (P R) KAKINADA	Kakinada
6	G Balavenkata Padmanadh	ALL	GDC Mummidivaram	Mummidivaram
7	Dr N Sridhar	ALL	GDC TUNI	Tuni
8	E Jyothikiranmayi	ALL	SCIM GDC Tanuku	Tanuku
9	Rebba Ashok Kumar	ALL	SCIM GDC Tanuku	Tanuku
10	Smt M Rajini	ALL	GDC Ravulapalem	Ravulapalem
11	Dr K Satya Rajesh	ALL	GDC Bantumalli	Bantumalli
12	Vijayadeep gummadi	ALL	GDC (SRR & CVR) VIJAYAWADA	Vijayawaada
13	T Jayakrishna	ALL	GDC (SRR & CVR) VIJAYAWADA	Vijayawada
14	M. Arun Kumar	ALL	GDC Kovvur	Kovvur
15	Smt N Swarnajyothi	ALL	GDC Kaikaluru	Kaikaluru
16	U Sarala	ALL	GDC AVANIGADDA	Avanigadda
17	Dr A Sivaprasad	ALL	GDC TEKKALI	Tekkali
18	I Srilakshmi	ALL	GDC (W) SRIKAKULAM	Srikakulam
19	Sri B Raghuram	ALL	GDC SEETHAMPETA	Seethampeta
20	Sri B Srinivas	ALL	GDC (M) SRIKAKULAM	Srikakulam
21	Dr K V Sobha Rani	ALL	GDC Ramachandrapuram	GDC Ramachandrapuram
22	R Venakata phani Kumar	ALL	GDC Perumallapuram	Perumallapuram
23	G Satya Suneetha	ALL	GDC Kovvuru	Kovvuru
24	Rashmi Ranjan K	ALL	GDC Tuni	Tuni

Dr. Suneel Kumar Duvvuri

Chairman-BoS