



GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY
Estd: 1853; An Autonomous Institution & Accredited by NAAC at Grade 'A+'
East Godavari District -533 105, Andhra Pradesh, India
(Affiliated to Adikavi Nannayya University, Rajamahendravaram, A.P -533296)

www.gcrjy.ac.in



Dr. Ramachandra R K, M.Sc., Ph.D.
PRINCIPAL

e-mail: gcrjy1853@gcrjy.ac.in

Cir No: Spl/01/GCRJY/Board of Studies Meeting 2025-2026 in Single Major System, Dt.11.09.2025

To
All Heads of the Departments
Government College (Autonomous) Rajahmundry

In view of the recent reforms introduced by the Department of Higher Education, Government of Andhra Pradesh, the Single Major System, which was implemented in the academic year 2025–2026, has been revised, and a new curricular framework has been introduced for the academic year 2025–2026. Accordingly, Government College (Autonomous), Rajahmundry has introduced 36 Single Major Programmes from the academic year 2025–2026. The college has always been at the forefront of academic innovation, consistently striving to provide quality education and to secure a bright future for its students.

In this context, we have decided to conduct Board of Studies (BoS) meetings in order to review and revamp the curriculum for our various academic programs (UG) offered by the college. This BoS meeting will serve as an opportunity for all Heads of the Departments to collaborate and exchange ideas with experts in the subject concerned from university, other academic institutions and industry, resulting in the development of a more comprehensive and effective curriculum.

To ensure uniformity and consistency across all departments, it is imperative that we adopt a standardized approach to curriculum design. Therefore, I instruct all Heads of the Departments to utilize Bloom's Taxonomy as a framework for designing the curriculum which provides a structured method for developing educational objectives and aligning them with appropriate teaching strategies and assessment methods.

Further, I request each department to prepare a model question paper that aligns with the revised curriculum and follows the principles of Bloom's Taxonomy. This will help our students develop higher-order thinking skills and encourage critical analysis and application of knowledge. You are also requested to identify the potential paper setters and examiners for your respective departments. These individuals should possess the necessary expertise and experience in the subject matter to ensure fair and unbiased evaluation mechanism.

The scheduled date for the BoS meeting is 15th September, 2025 from 10:00 AM onwards in the departments concerned. I kindly request all Heads of the Departments to make



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the necessary arrangements to conduct this meeting. Further, you are requested to contact the list of experts mentioned in the proceedings issued by the principal well in advance and make sure the meeting is conducted with all the members.

You are requested to conduct the meeting preferably in offline mode. However, if any of the members find it difficult to attend the meeting offline, they may be permitted to attend in online mode, subject to valid reasons and with the prior permission of the Principal.

Please follow the guidelines given by Academic Cell in conducting the BoS meeting.

Your active involvement and valuable contributions to this meeting will undoubtedly play a crucial role in the continuous improvement of our academic programs. Kindly note that, together we can create an environment that fosters excellence and prepares our students for future challenges.

Thanking you,


Principal



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Guidelines for preparing BoS Document

1. Please go through the guidelines given by Government of Andhra Pradesh and UGC.
2. **For B.Sc Curriculum Framework:**
https://drive.google.com/file/d/1hSLSuSWg7fe2kIImMuEmO_m6Bc4tB7i_/view?usp=sharing
3. **For B.Com/BBA/BA Curriculum Framework:**
<https://drive.google.com/file/d/1t1LFYCP7LyrQtIpP743ykPCu-qnN4Esj/view?usp=sharing>
4. BoS to be conducted for the admitted batch 2025-2026 (including all the semesters)
5. The Programme Codes and Course Codes shall be obtained from the CoE.
6. *Fundamentals of Artificial Intelligence* – Skill Enhancement Course for Semester – I consisting of 4 theory and 2 practice sessions with four credits shall be included in the BoS of all the departments.
7. *Application of Artificial Intelligence* in Semester –II - Skill Enhancement Course for Semester-II consisting of 4 theory and 2 practice sessions with four credits shall be included in the BoS of all departments.
8. The Minutes of the BoS Meeting should be recorded in the following format
 - A. Agenda Item
 - B. Proposal
 - C. Discussion
 - D. Resolution



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Order of Arrangement of BoS Document

1. Preface / Introduction
2. Proceedings of the Principal
3. Composition of BoS
4. Agenda of the Meeting
5. Resolutions adopted in the meeting
6. Table showing members present with signatures
7. Curricular Framework for the Programme
 - o Programme Learning Outcomes (PLOs)
 - o Programme Specific Learning Outcomes (PSLOs)
 - o Credit Framework for admitted batch 2025–2026
8. Comparative Table of Courses (with Rationale for Change)
 - o Courses revised (2023–2024, 2024–2025 framework)
 - o Newly introduced courses (2025–2026 framework)
 - o Credit distribution (theory, practical, tutorials)
 - o Additions & Deletions Table (□ insert here)
| Sl. No. | Course Title | Status (Added / Deleted / Revised) | Remarks |
9. Course Structure
 - o 9.1 List of Courses with Course Outcomes
 - o 9.2 Cross-Cutting Issues
 - o 9.3 Employability / Entrepreneurship / Skill Development
 - o 9.4 Minor Courses Offered by the Department
 - o 9.5 Any other minor courses specially offered by the Department
10. Detailed Syllabus
 - Course Objectives
 - Course Learning Outcomes (CLO)
 - Detailed Syllabus (Unit-wise)
 - Co-curricular Activities
 - Reference Books
11. Evaluation Pattern
 - Continuous Internal Assessment (CIA)
 - o Mid Semester Internal Exam – 20 Marks
 - o Online Exam – 10 Marks
 - o Assignment – 5 Marks
 - o Seminar/Quiz etc. (Any Pedagogical tools) – 5 Marks
 - o Attendance – 5 Marks



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- Clean & Green – 5 Marks
- Semester-End Assessment (External – 50 Marks)

(Rubrics to be specified)

12. List of Experiments (for science subjects)
13. Model Question Paper & Blueprint (Bloom's Taxonomy)
14. Examiners & Paper Setters (with brief profiles)
15. Departmental Activities (Approval Required)
 - Certificate courses proposed for the year 2025-2026.
 - Seminars / Workshops
 - Field Visits / Study Tours
 - Special Days related to the subject
16. Tentative Budget Proposal (for academic activities)
17. MOOCs Integration (SWAYAM / NPTEL / others)
18. Submission of Documents
 - 2 hard copies + 2 soft copies of BoS document
 - Original bills (to Academic Cell within 2 weeks after BoS)
 - Approval in Academic Council Meeting

ACADEMIC CELL, GOVERNMENT COLLEGE
(AUTONOMOUS) RAJAHMUNDRY

Proceedings of the Principal, Government College (Autonomous), Rajahmundry

Present: Dr. Ramachandra R.K, M.Sc., Ph.D.

Rc. No. 34/GCRJY/UG-BoS/ 2025-26 dt. 04.09.2025

Sub: Government College (A), Rajamahendravaram- UG 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, ANUR

Order

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

S. No	Name	Designation
1	Dr. Ch. Komala lakshmi	Chairman
2	All Faculty members in the department	Member
3	Sri G Venkata Gangadhar, Lecturer in Physics, SRR & CVR Govt. College, Vijayawada, Krishna University	Subject Expert
4	Dr. B Nageswara Rao, Dr. V S Krishna College , Visakhapatnam (Andhra University)	Subject Expert
5	Dr. N Udaya Sri, Lecturer in Physics, DNR College, Bhimavaram	University Nominee
6	Sri AV Rama Suresh, ADO Transco, Bommuru, Rajahmundry	Expert from Industry/Corporate Sector
7	Mr.K.Venkanna	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.
- e) Suggest CLO, PLO, PI and subject experts to develop question bank in compliance with Bloom's Taxonomy.

The above said members are requested to bestow their services for the successful organization of the event.



PRINCIPAL

GOVERNMENT COLLEGE (AUTONOMOUS)
RAJAHMUNDRY



Title of the Program:

B.Sc. (Honours with Research) Physics

Program Specific Outcomes (PSOs)

Upon successful completion of the B.Sc. (Hons.) Physics programme, graduates will be able to:

PSO-1: Core Knowledge in Physics

Acquire a strong foundation in classical mechanics, thermodynamics, electrodynamics, atomic & nuclear physics, solid state physics, quantum mechanics, and modern physics.

PSO-2: Experimental Competence

Perform, analyze, and interpret physics experiments with accuracy, using traditional and modern laboratory instruments, error analysis, and safety practices.

PSO-3: Mathematical and Computational Skills

Apply mathematical methods, numerical analysis, and computational programming (Python, MATLAB, simulations) to model, solve, and visualize physical systems.

PSO-4: Electronics and Instrumentation

Understand the principles of analog & digital electronics, electronic communication, and instrumentation, and apply them to practical circuits, devices, and technologies.

PSO-5: Optics and Photonics Applications

Demonstrate knowledge of wave optics, applied optics, laser systems, optical fibers, and holography, with applications in imaging, communication, and modern instrumentation.

PSO-6: Industrial and Applied Physics

Apply principles of physics to industrial domains including low-temperature physics, refrigeration, vacuum technology, nanomaterials, and renewable energy systems.

PSO-7: Research, Problem-Solving and Innovation

Develop logical reasoning, problem-solving, and independent research skills to design experiments, analyze data, and propose innovative solutions in physics and interdisciplinary fields.

PSO-8: Professional, Ethical, and Social Responsibility

Communicate scientific concepts effectively, work collaboratively in teams, uphold academic integrity, and apply physics knowledge responsibly for sustainable societal development.

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DEPARTMENT OF PHYSICS

BOARD OF STUDIES MEETING: 15 /09/ 2025

The Board of studies meeting of DEPARTMENT OF PHYSICS was convened at 10.00AM on 15/09/2025 under the Chairmanship of **Dr. Ch. Komala Lakshmi**, In-charge of the Department. The members present have discussed various aspects such as changes to be made in the Syllabi of New Single Major System of Physics, Electronics, Material Science and Renewable Energy. This includes Scheme of Evaluation and Blue print both for theory and practical papers, Departmental activities for 2025-26, Estimated Budget proposals-2025-26 for implementing them effectively during ALL semesters for the academic year 2025-26.

List of Board of Studies Members Present

S.No	Name	Designation	Signature
1	Dr. Ch. Komala Lakshmi Lecturer In-Charge/HOD, Department of Physics, Government College(A), Rajahmundry	Chairman	
2	All Faculty Members of the Department	Members	
3	Sri. G. Venkata Gangadhar, Lecturer in Physics, SRR & CVR Government Degree College (A), Vijayawada	Subject Expert	
4	Dr. B. Nageswara Rao , Lecturer in Physics, Dr. VS Krishna Govt. Degree College (A), Visakhapatnam	Subject Expert	
5	Dr.N.Udaya Sri , Lecturer in Physics, D.N.R College, Bhimavaram	University Nominee	
6	Sri. A.V. Rama Suresh, DDE, APTRANSCO, Rajahmundry	Industry Nominee	
7	Mr. K. Venkanna	Alumnus	

Signatures of the Faculty:

SL.NO	Name of the Faculty	Signature of the Faculty
1	Dr..Ch.Komala Lakshmi	
2	Dr.Lt.Esub Basha shaik	
3	B.Durga Lakshmi	
4	G.Srinivasa Rao	
5	K.Venkateswara Rao	
6	Dr.D.Sanjeev kumar	
7	Y.Ramu	
8	Dr.B.Gowrinaidu	
9	Dr.B.Harinadh Reddy	
10	Dr.H.Sudhakara Rao	
11	Dr. M. Ramakrishna Nanchara Rao	
12	Dr.K. Bhargavi	
13	Dr.K.Suresh	
14	J.Niranjana Rao	
15	P.Padmavathi	
16	Dr.B.lakshmana Rao	
17	Dr.Ch.Ch.Srinivasu	
18	Dr.P.V.S.S.S.N. Reddy	
19	B.Rajasekhar	
20	N.Venkanna Babu	
21	B.P.V.V.B.Narasimha Rao	
22	G. Padma	

AGENDA

1. Syllabi regarding all semesters of B.Sc. program
2. Following is the scheme of evaluation for CIA (50MARKS) & SEE (50 MARKS) for all semesters of B.Sc. programs.
3. Continuing Institutionalized Internal Examinations for all semesters.
4. Allocation of Credit frame work for all semesters of B.Sc. Program as per previous academic year/Present academic years.
5. Offering a 80 hour “Community Service Project” as a credit course at the end of II semester in I year with one credit.
6. Offering two months short term internship/on job training as a credit course at the end of II semester with 4 credits
7. Offering Semester Internship (minimum of 180 hours with 8 Credits) at the end of V/ VI semester in III year
8. Research Methodology in 7th/ 8th semesters in 4th year Physics(H) program those who continues for 4 year program.
9. Introducing IKS(Indian Knowledge System) as a non credit course for all UG program in semester II
- 10.offering multi-disciplinary course “Principles of Physical Sciences” in major systems for other disciplines in semester II.
- 11.Departmental activities for 2025-26 academic year
- 12.Certificate courses offered by the Department of Physics
- 13.Budget proposal for the academic year 2025-26
- 14.List of Examiners
- 15.BOS Certificate

GOVERNMENT COLLEGE (AUTONOMOUS): RAJAHMUNDRY

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DEPARTMENT OF PHYSICS

BOARD OF STUDIES MEETING HELD ON 12/07/2024

RESOLUTIONS

- ❖ **Agenda1:** Syllabi regarding all semesters of B.Sc. program.
- ❖ **Proposal:** It is presented before the BOS members to ratify and approve the syllabi.
- ❖ **Discussion 1 :**
- ❖ The members of BOS discussed about inclusion and deletion of the syllabi
- ❖ The 4 major systems introduced in Physics, Material Science, Renewable Energy and Electronics.
- ❖ Physics as the Major offering 4 year course as honours with research.
- ❖ Material Science, Renewable Energy and Electronics are offered as Majors with 3 Year Degree Course.
- ❖ Fundamentals of Artificial Intelligence is to be introduced in the 1st year in the 1st semester and applications of Artificial intelligence in the I & II semester as skill enhancement course for all programs.
- ❖ Subject expert proposed to continue these 4 programs in the future also as restructure programs REM and Material science will have great demand and also conduct activities related to hands on experience for every given module.
- ❖ For this Academic year 2025-26 the all semesters I, II, III, IV, V .VI, VII and VIII follows major system.
- ❖ Chairman of BOS proposed to continue the same as the student has given the choice to do any 6 of the proposed experiments, It would be comfortable related experiments to theory should be given priority and also consider the experiments as per the equipment available as said in last BOS
- ❖ University nominee proposed to introduce research oriented community based project for the students to encourage the young generation towards research as well as social responsibility for I year students as proposed earlier and also suggested project oriented internships in V/VI semesters.
- ❖ University nominee proposed to increase the budget to accommodate the physics labs as per the requirements for all progrms.
- ❖ **Resolution1:**
- ❖ It is resolved to follow the syllabi for single major& minor systems for all semesters of this academic year 2025-26 as per discussion and proposal 1

Agenda 2:

Following the scheme of evaluation for CIA (50 MARKS) & SEE (50 MARKS) for all the semesters of B.Sc. program and the Scheme of Examination and Blue print of Semester End Examination (SEE) for all Semesters of B.Sc., for the academic year 2025-26 in continuation with the academic years 2024-25 & 2023-24

Proposal:

It is presented before the BOS members to ratify and approve CIA: SEE = 50:50 for all semesters. The pattern is furnished below

INTERNAL (50) EXAMINATION

Examination	No. of Marks	Remarks
Internal Examination	50	Model of Examination pattern Furnished below.

Rubrics for attendance 5M

Above 95%	5M
Between 90-94%	4M
Between 85-89%	3M
Between 80-84%	2M
Between 75-79%	1M
Below 75%	0M

Rubrics for Assignment 5M

Content	2M
Organization & Presentation	1M
Technical tools	1M
Timely submission	1M

Rubrics for seminar 5M

Subject	2M
Communication	1M
Use of aids	1M
Organization	1M

Clean and Green 5M

Personal Hygiene	2M
Participation in atleast 3 times In a semester	3M

**SCHEME FOR SEMESTER END THEORY EXAMINATION (SEE) – (Major1 /Major-2)
EXTERNAL (50)**

TYPE OF QUESTION	MARKS	SCHEME
PART-A Essay Question	Each question carries 7 Marks	Answer all the questions 5x7 = 35 M <ul style="list-style-type: none"> Theoretical Questions, (Maximum 2 questions from Each unit with internal choice)
PART-B Short Answer Questions	Each question carries 3 Marks	Answer any 5 out of 8 questions 3x5= 15 M <ul style="list-style-type: none"> Minimum 1 question from Each unit subjected to maximum of 2 questions from each unit.

PRACTICAL EXAMINATION

SCHEME FOR INTERNAL (ODD SEM) & EXTERNAL (EVEN SEM) PRACTICAL EXAMINATION:

S.No	Description	Marks
1	Formula	05
2	Tabular Form & Readings	10
3	Calculations & Result (Including Graph)	15
4	Precautions & Units	05
5	Viva-Voce	05
6	Record**	10
TOTAL		50

INTERNAL SEE (ODD SEM): 50M EXTERNAL SEE (EVEN SEM): 50 M

Award of marks for number of practicals recorded in the Record

6 Practical	10
05 Practical	08
04 Practical	06
03 Practical	04
Less than 03	- 0

❖ **Resolution 2:** It is resolved and approved to evaluate the student's performance under Continuous Internal Assessment (CIA) and Semester End Examination (SEE) components at 50:50 ratio for all the semesters of B.Sc., Program for the academic year 2025–26. The duration of the Examination is 2:30 hrs. It is also resolved to follow the Scheme of Examination and Blue print of Semester End Examination (SEE) for all the semesters of B.Sc for the academic year 2025-26 in continuation with the previous academic year as per discussion and approval 2.

❖ **Agenda 3:** Introducing Institutionalized Internal Examinations

Proposal 3: It is presented before the BOS members to consider and approve the above agenda 3

Discussion 3: Discussed the pros and cons of continuing institutionalized Internal Examinations and follow the same as per the instructions given by principal.

Resolution 3: It is resolved to continue institutionalized internal examinations as per discussion and proposal 3.

Agenda 4: Following the Allocation of Credits for all semesters of B.Sc. Program as per previous academic year/for first year based on the major system in to consideration.

Proposal: It is presented before the BOS members to consider and approve the above agenda 4

Discussion 4: As per proposal, discussed the credits for all courses in all semesters to follow as per APSCHE guidelines. The details are furnished in the credit frame work page.

Resolution 4: It is resolved to approve as per the proposal and approval of 4.

CREDIT FRAME WORK

**For the Papers offered during I, II, III, IV, V, VI, VII & VIII Semesters
(As Approved in the BOS meeting held on 15th Sep 2025 for batch 2025-26) COURSE**

CURRICULAR FRAMEWORK B.Sc HONOURS FROM THE A.Y. 2025-26 (Major + Minor with CSP & VI Semester Internship)									
1st Year - Semester I									
Sl.No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits	
			Theory	Practical		Theory	Practical		
1	Major - Core	I	3	2	5	3	1	4	
2	Major - Core	II	3	2	5	3	1	4	
4	Minor	0	0	0	0	0	0	0	
5	AECC - English	I	4	0	4	3	0	3	
6	AECC - MIL (Telugu/Hindi/Sanskrit)	I	4	0	4	3	0	3	
7	Multidisciplinary Course	0	0	0	0	0	0	0	
8	Skill Enhancement Course (SEC) Intro' to Artificial Intelligence	I	4	2 (Practice)	6	4	0	4	
End of Semester I of 1st Year		5	18	6	24	16	2	18	
1st Year - Semester II									
Sl.No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits	
			Theory	Practical		Theory	Practical		
1	Major - Core	III	3	2	5	3	1	4	
2	Major - Core	IV	3	2	5	3	1	4	
4	Minor	0	0	0	0	0	0	0	
5	English	II	4	0	4	3	0	3	
6	MIL (Telugu/Hindi/Sanskrit)	II	4	0	4	3	0	3	
	Multidisciplinary Course	I	2	0	2	2	0	2	
7	Skill Enhancement Course (SEC) Application of Artificial Intelligence (Discipline Specific)	II	4	2 (Practice)	6	4	0	4	
8	Indian Knowledge System	I	2	0	2	0	0	0	
9	Community Service Project (minimum of 80 hours with 1 Credit)								1
End of Semester II of 1st Year		7	22	6	28	18	3	21	

**CURRICULAR FRAMEWORK B.Sc HONOURS FROM THE A.Y. 2025-26
(Major + Minor with CSP & VI Semester Internship)**

2nd Year - Semester III

Sl. No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits
			Theory	Practical		Theory	Practical	
1	Major - Core	VI	3	2	5	3	1	4
2	Major - Core	VII	3	2	5	3	1	4
3	Major - Core	VIII	3	2	5	3	1	4
4	Minor	I	3	2	5	3	1	4
5	AECC (Creative Writing/Business Writing in English)	III	4	0	4	3	0	3
6	AECC (Creative Writing/Journalistic Writing in MIL - Telugu/Hindi/Sanskrit)	III	4	0	4	3	0	3
	Multidisciplinary Course	II	2	0	2	2	0	2
7	Skill Enhancement Course (SEC) Design Thinking/Problem Solving / Others	III	2	0	2	2	0	2
End of Semester III of 2nd Year		8	24	8	32	22	4	26

2nd Year - Semester IV

Sl. No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits
			Theory	Practical		Theory	Practical	
1	Major - Core	IX	3	2	5	3	1	4
2	Major - Core	X	3	2	5	3	1	4
3	Major - Core	XI	3	2	5	3	1	4
4	Minor	II	3	2	5	3	1	4
	Multidisciplinary Course	IV	2	0	2	2	0	2
7	Skill Enhancement Course (SEC) Design Thinking/Problem Solving / Others	IV	2	0	2	2	0	2
End of Semester IV of 2nd Year		6	16	8	24	16	4	20

**CURRICULAR FRAMEWORK B.Sc HONOURS FROM THE A.Y. 2025-26
(Major + Minor with CSP & VI Semester Internship)**

3rd Year - Semester V

Sl.No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits
			Theory	Practical		Theory	Practical	
1	Major - Core	V	3	2	5	3	1	4
2	Major - Elective	XII	3	2	5	3	1	4
3	Major - Elective	XIII	3	2	5	3	1	4
4	Minor	III	3	2	5	3	1	4
5	Minor	IV	3	2	5	3	1	4
6	Environmental Education	I	2	0	2	2	0	2
End of Semester V of 3rd Year		6	17	10	27	17	5	22

3rd Year - Semester VI

Sl.No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits	
			Theory	Practical		Theory	Practical		
1	Major - Elective	XIV	3	2	5	3	1	4	
2	Major - Elective	XV	3	2	5	3	1	4	
3	Minor	VII	3	2	5	3	1	4	
4	Minor	VIII	3	2	5	3	1	4	
5	Semester Internship (minimum of 180 hours with 3 Credits)								3
End of Semester VI of 3rd Year		4	12	8	20	12	7	19	

Credit Framework for 3-year UG Program

Credits for Major - $11 \times 4 = 44 + 4 \times 4 = 16$. Total 60 Credits

Credits for Minor - $6 \times 4 = 24$ Credits

Credits for AECC (Languages) - $3 \times 3 = 9$ for Eng + $3 \times 3 = 9$ for MIL. Total = 18

Credits for Multidisciplinary Courses - $3 \times 2 = 6$ Credits

Credits for Skill Enhancement Courses - $2 \times 4 = 8$ for AI + 2×2 for others. Total 12 Credits

Credits for Value Added Courses - Env.Edn 2 Credits

Credits for Internships - 4 Credits

TOTAL CREDITS FOR 3-YEAR UG PROGRAMME - 126 Credits.

For Mathematics and Statistics, the number of instructional hours shall be five (5) for courses involving problem-solving, and four (4) for courses comprising only theory.

**CURRICULAR FRAMEWORK B.Sc HONOURS FROM THE A.Y. 2025-26
(Major + Minor with CSP & VI Semester Internship)**

4th - Year - Semester VII

Sl.No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits
			Theory	Practical		Theory	Practical	
	Major - Core	XII	3	2	5	3	1	4
	Major - Core	XIII	3	2	5	3	1	4
1	Major - Core	XIV	3	2	5	3	1	4
2	Major - Elective	V	3	2	5	3	1	4
	Major - Elective	VI	3	2	5	3	1	4
4	OOTC	I	2		2	2		2
	IKS	I	2		2			Audit Course
End of Semester VII of 4th Year		7	19	10	29	17	5	22

4th - Year - Semester VIII

Sl.No	Category	Course No	No. of Hours		Total No. of Hours	No. of Credits		Total No. of Credits
			Theory	Practical		Theory	Practical	
	Major - Core	XII	3	2	5	3	1	4
	Major - Core	XIII	3	2	5	3	1	4
1	Major - Core	XIV	3	2	5	3	1	4
2	Major - Elective	V	3	2	5	3	1	4
	Major - Elective	VI	3	2	5	3	1	4
4	OOTC	I	2		2	2		2
	IKS	I	2		2			Audit Course
End of Semester VIII of 4th Year		7	19	10	29	17	5	22

Curriculum Framework for B.Sc (Honours) from A.Y. 2025-26
Major+Minor with CSP & 6th sem Internship

Semester	Major (4 Cr)			Minor (4 Cr)			AECC (3 Cr)			Multi Disney' (2 Cr)			Skill Enhancement Courses (4Cr/2Cr)			OOTC			(VAC) IKS# Env. Edn* (2 Cr)			Total					
	C	H (T+P)	Cr	C	H (T+P)	Cr	C	H (T+P)	Cr	C	H (T+P)	Cr	C	H (T+P)	Cr	C	H (T+P)	Cr	C	H (T+P)	Cr	C	H (T+P)	Cr			
Sem 1	2	6+4	8				2	8	6				1	4+2	4							5	24	18			
Sem 2	2	6+4	8				2	8	6	1	2	2	1	4+2	4			1#	2	0		7	28	20			
Community Service Project of a minimum of 80 hours with 1 Credits. Student is eligible for Exit Option-1 with the award of Certificate in respective discipline																							1				
Sem 3	3	9+6	12	1	3+2	4	2	8	6	1	2	2	1	2	2							8	32	26			
Sem 4	3	9+6	12	1	3+2	4				1	2	2	1	2	2							6	24	20			
Sem 5	1+2	3+2 6+4	12	2	6+4	8												1*	2	2		6	27	22			
Sem 6	2	6+4	8	2	6+4	8																4	20	16			
Internship/Apprenticeship/OJT a minimum of 180 hours (8 weeks) with 3 Credits. Student is eligible for Exit Option-2 with the award of Degree in respective discipline																							3				
	15		60	6		24	6		18	3		6	4		12			1+1		2	36		126				
Sem 7	3	9+6	12										2	6+4	8	1	2	2	1#	2	0	7	29	22			
Sem 8	3	9+6	12										2	6+4	8	1	2	2	1#	2	0	7	29	22			
4-YR	21		84	6		24	6		18	3		6	8		28	2		4	4		2	50		170			
C	Courses			H	Hours			Cr	Credits			OOTC	Open Online Transdisciplinary														
#	Indian Knowledge Systems - Audit Course											*	Environ Edn														

For Mathematics and Statistics, the number of instructional hours shall be five (5) for courses involving problem-solving, and four (4) for courses comprising only theory.

Program: B.Sc. Physics (Major)
w.e.f. AY 2025-26
COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
Physics Core Papers -11 Papers (Mandatory papers)					
I	I	1	Introduction to Mathematical Physics	3	3
			Introduction to Mathematical Physics Practical Course	2	1
		2	Mechanics and Properties of Matter	3	3
			Mechanics and Properties of Matter Practical Course	2	1
		3	Introduction to Artificial Intelligence	6	
		Introduction to Artificial Intelligence			
	II	3	Waves and Optics	3	3
			Waves and Optics Practical Course	2	1
		4	Heat and Thermodynamics	3	3
			Heat and Thermodynamics Practical Course	2	1
			Applications of Artificial Intelligence	6	
			Indian Knowledge Systems	2	0
			Indian History	2	2
	II	III	5	Atomic, Molecular & Nuclear physics	3
Atomic, Molecular & Nuclear Physics Practical Course				2	1
6			Basic Electronics	3	3
			Basic Electronics Practical Course	2	1
7			Applied Optics	3	3
			Applied Optics Practical Course	2	1
Minor			Group theory	5	3
SEC			ICT	2	2
MDC			Principles of Management	2	2
IV			8	Electricity, Magnetism Theory	3
		Electricity, Magnetism Practical Course		2	1
		9	MODERN PHYSICS	3	3
			MODERN PHYSICS Practical	2	1
10		Introduction to Nuclear & Particle	3	3	

			physics			
			Introduction to Nuclear & Particle physics practical course lab	2	1	
		SEC	Cyber Security	2	2	
		MDC	Fundamentals of Economics	2	2	
III	V	11	Introduction to Solid State Physics	3	3	
			Introduction to Solid State Physics Practical Course	2	1	
Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits	
Physics Elective - 4 Papers in each stream and student has to select Any one stream						
Electronics – Stream A						
III	V/VI	12A	Electronic Instrumentation	3	3	
			Electronic Instrumentation Practical Course	2	1	
		13A	Electronic Devices and Circuits	3	3	
			Electronic Devices and Circuits Practical Course	2	1	
	V/VI	14 A	Analog and Digital Electronics	3	3	
			Analog and Digital Electronics Practical Course	2	1	
	15 A	Electronic Communication Systems	3	3		
		Electronic Communication Systems Practical Course	2	1		
	Physics for Industrial Applications – Stream B					
	V/VI	12 B	Solar Energy and Applications	3	3	
			Solar Energy and Applications Practical Course	2	1	
	13 B	Low Temperature Physics and Refrigeration	3	3		
		Low Temperature Physics and Refrigeration Practical Course	2	1		
	V/VI	14 B	Vacuum Technology	3	3	
Vacuum Technology Practical Course			2	1		
15 B	Materials for Industrial Applications	3	3			
	Materials for Industrial Applications Practical Course	2	1			
Nanotechnology – Stream C						
V/VI	12 C	Fundamentals of Nano Science	3	3		
		Fundamentals of Nano Science Practical Course	2	1		
	13 C	Synthesis of Nano Materials	3	3		
		Synthesis of Nano Materials Practical	2	1		

		Course		
V/VI	14 C	Characterization of Nano Materials	3	3
		Characterization of Nano Materials Practical Course	2	1
	15 C	Applications of Nanomaterials	3	3
		Applications of Nanomaterials Practical Course	2	1
V/VI	Renewable Energy – Stream D			
	12 D	Solar, Thermal and Photovoltaic Conversion	3	3
		Solar, Thermal and Photovoltaic Conversion Practical Course	2	1
	13 D	Wind, Hydro, Ocean & Geo-thermal Energy	3	3
		Wind, Hydro, Ocean & Geo-thermal Energy Practical Course	2	1
	V/VI	14 D	Energy Storage and Conversion Systems	3
Energy Storage and Conversion Systems Practical Course			2	1
15 D		Biomass and Hydrogen Energy	3	3
		Biomass and Hydrogen Energy Practical Course	2	1
V/VI	Computations in Physics with Python			
	12 E	Fundamentals of Python and Numerical Methods	3	3
		Fundamentals of Python and Numerical Methods Course	2	1
	13 E	Computations in Mechanics, Waves and Oscillations	3	3
		Computations in Mechanics, Waves and Oscillations Practical Course	2	1
	V/VI	14 E	Computations in Optics, Heat and Thermodynamics	3
Computations in Optics, Heat and Thermodynamics Practical Course			2	1
15 E		Computations in Electricity, Magnetism, Electromagnetic Theory and Modern Physics	3	3
		Computations in Electricity, Magnetism, Electromagnetic Theory and Modern Physics Practical Course	2	1

**For the Papers offered during III, IV, V, VI, VII & VIII Semesters
(As Approved in the BOS meeting held on 15th Sep 2025for batch 2024-25)**

COURSE STRUCTURE

II	III	5	Optics	3	3
			Optics Practical Course	2	1
		6	Heat and Thermodynamics	3	3
			Heat and Thermodynamics Practical Course	2	1
		7	Electronic Devices and Circuits	3	3
			Electronic Devices and Circuits Practical Course	2	1
		8	Analog and Digital Electronics	3	3
			Analog and Digital Electronics Practical course	2	1
	IV	9	Electricity and Magnetism	3	3
			Electricity and Magnetism Practical Course	2	1
		10	Modern Physics	3	3
			Modern Physics Practical Course	2	1
		11	Introduction to Nuclear and Particle Physics	3	3
			Introduction to Nuclear and Particle Physics Practical Course	2	1
			On Job Training (OJT)	24	4

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits		
III	V/VI	12	Applications of Electricity & Electronics	3	3		
			Applications of Electricity & Electronics Practical Course	2	1		
		13	Electronic Instrumentation	3	3		
			Electronic Instrumentation Practical Course	2	1		
		14 A	Optical Instruments and Optometry	3	3		
			Optical Instruments and Optometry Practical Course	2	1		
		OR					
		14 B	Optical Imaging and Photography	3	3		
			Optical Imaging and Photography Practical Course	2	1		
		15 A	Low Temperature Physics & Refrigeration	3	3		
			Low Temperature Physics & Refrigeration Practical Course	2	1		
		OR					
		15 B	Solar Energy and Applications	3	3		
			Solar Energy and Applications Practical Course	2	1		
			V/VI	Internship			
IV	VII		Courses will be available in due course of time				
	VIII		Courses will be available in due course of time				

Agenda 5 . Offering a 80 hour “Community Service Project” as a credit course at the end of II semester in I year with one credit.

Proposal 5: It is proposed before the BOS members to consider and approve the agenda 5 in all major system courses offered by the Department of Physics & Electronics first year programs

Discussion 5: Discussed about APSCHE guidelines and implement as per guidelines.

Resolution 5: It is resolved to approve as per the proposal and approval of 5

Agenda 6: Offering two months’ short term internship/on job training as a credit course at the end of II semester with 4 credits.

Proposal 6: It is proposed before the BOS members to consider and approve the agenda 6 in all major system Programs offered by the Department of Physics & Electronics first year programs

Discussion 6: Discussed about APSCHE guidelines and implement as per guidelines of academic year 2024-25

Resolution 6: It is resolved to approve as per the proposal and discussion of 6 for short term inernship/on job training.

Agenda 7: Offering Semester Internship (minimum of 180 hours with 8 Credits) at the end of V/ VI semester in III year.

Proposal 7: It is proposed before the BOS members to consider and approve the agenda 7 in all major system Programs offered by the Department of Physics & Electronics third year programs

Discussion 7: Discussed about APSCHE guidelines and implement as per guidelines of academic year 2023-24.

Resolution 7: It is resolved to approve as per the proposal and discussion of 7 for long term internship.

Agenda 8: Research Methodology in 7th/ 8th semesters in 4th year Physics(Hons) program those who continues for 4-year program.;

Proposal 8: It is presented before the BOS members to consider and approve the above agenda 8 for IV year

Discussion 8: Discussed about IV year courses of APSCHE guidelines and implement research methodology course in VII/VIII semester for enabling students to join PG second year directly after completing IV year program in UG as per guidelines NEP 2020.

Resolution 8: It is resolved to approve as per the proposal and discussion of 8 for Research methodology course.

Agenda 9: Introducing IKS (Indian Knowledge System) as a non credit course for all UG program in semester II

Proposal 9: It is proposed before the BOS members to consider and approve the agenda 9 in all major system Programs offered by the Department of Physics & Electronics in first year programs IKS as non credit course from this academic year.

Discussion 9: Discussed about introducing the IKS course and design syllabus of 3 units which are relevant to our programs

Resolution 9: It is resolved to approve as per the proposal and discussion of 8 for IKS course.

Agenda 10. offering multi-disciplinary course “Principles of Physical Sciences” in major systems for other disciplines in semester II.

Proposal10: It is presented before the BOS members to approve the above agenda 10, multidisciplinary course offered by the department of Physics for semester II of other disciplines. .

Discussion 10: Discussed about the multidisciplinary course offered by the department of physics to Arts and Commerce departments

Resolution 10: It is resolved to approve as per the proposal and discussion of 10 for Multidisciplinary course

Agenda 11: Departmental activities for 2025-26 academic years

Proposal 11 : It is presented before the BOS members to consider and approve the above agenda 11 of departmental activities 2025-2026.

Discussion 11: Discussed about departmental activities for the academic activities 2025-26, which includes mainly workshops, Seminars, field trips , best practices and celebration of important days.

Resolution 11: It is resolved to approve as per the proposal and discussion of 11 for departmental activities 2025-26.

Agenda 12: Certificate courses offered by the Department of Physics.

Proposal 12: It is presented before the BOS members to consider and approve the above agenda 12.

Discussion 12: Discussed about continuation of certificate courses -**House hold electrical wiring** and **Basics of Photography**, which provides additional inputs to our programs.

Resolution 12: It is resolved to approve as per the proposal and discussion of 12 for certificate courses.

Agenda 13: Budget proposal for the academic year 2025-26

Proposal 13: It is presented before the BOS members to consider and approve the above agenda 13.

Discussion 13: Discussed about Budget for the academic year 2025-26, to include financial aspects more for procuring equipment for Material Science program practical.

Resolution 13: It is resolved to approve as per the proposal and discussion of 13 for Budget 2025-26.

Agenda 14: List of examiners

Proposal 14: It is presented before the BOS members to consider and approve the above agenda 14.

Discussion 14: Discussed about inclusion and removal of examiners for this academic year 2025-26.

Resolution 14: It is resolved to approved the revised list of examiners and paper setters for the academic year 2025-26. List annexed.

Date: 15 September, 2025

Chairman
Board of Studies Department of PHYSICS