# Rajkiya Kanya Mahavidyalaya (RKMV), SHIMLA-1

## Teaching Learning Activities of Department of Physics
## Academic Session 2023-24

## 1. MODES OF TEACHING/LEARNING

### 1.1 Blended Teaching

All the faculty members of the Department of Physics are proficient in integrating technology into their teaching methods, employing a blended learning approach that combines traditional lecture-based instruction with technology-enhanced teaching tools. This approach includes the use of multimedia resources, such as educational videos, PowerPoint presentations, and online platforms to make classroom sessions more engaging and interactive.

### 1.2 Learning through Gamification

In order to increase student motivation and engagement in learning and to promote collaboration, problem-solving, critical thinking, and other essential skills among the students, some game-like elements like points, leader boards, badges etc are integrated in and outside classroom teaching.

### 1.3 Project-Based Learning (PBL)

In order to let the students work on real-world problems or projects over an extended period of time are assigned the students. This method emphasizes hands-on learning and collaboration and promotes critical thinking, creativity, and collaboration.

### 1.4 Experiential Learning

Experiential Learning helps students apply theoretical knowledge to practical situations through direct experience, often outside of the classroom, such as internships, fieldwork, or community projects.

### 1.5 Socratic Method of Teaching and Learning

It is a discussion-based approach that encourages critical thinking through questioning, where teachers ask thought-provoking questions to lead students to conclusions on their own. Department of Physics employs this technique to develop analytical and reflective thinking skills among the students.

### 1.6 Flipped Classroom Model

One of the innovative teaching techniques implemented by the department is the flipped classroom model. In this model, students are encouraged to learn the core content independently before attending the class. They engage with materials like videos, readings, and other resources at their own pace outside the classroom. This independent learning allows students to absorb the fundamental concepts beforehand. The classroom time is then utilized for active learning

activities such as discussions, group work, problem-solving, and clarifying doubts. This strategy encourages deeper understanding and active participation from the students.

1.7 **Mapping Student Progress**

The department also uses a systematic approach to assess students' progress. After evaluating students through classroom tests and mid-term examinations, they are grouped into two categories based on their performance:

1. Slow learners
2. Fast learners

**1.4 Tutorial and Remedial Classes**

To address the varied needs of these groups, the department organizes tutorial classes for fast learners. In these sessions, advanced topics and complex concepts are covered to further challenge and stimulate their academic growth.

At the same time, remedial classes are provided for slow and mediocre learners, focusing on revisiting basic concepts and strengthening their understanding. A unique and effective strategy employed in these remedial sessions is that fast learners are invited to take on the role of peer teachers, guiding and helping their classmates. This method not only reinforces the fast learners' understanding but also fosters a collaborative learning environment where slow learners can benefit from their peers' insights. This blended teaching approach, supplemented with the flipped classroom technique and a tailored support system based on student performance, ensures that the learning process is inclusive, engaging, and caters to the diverse academic needs of students.

## 2. CURRICULUM PLANNING AND IMPLEMENTATION

Curriculum planning and implementation in respect of Department of Physics is explained as below:

**2.1. Departmental Teaching Schedule**

The Department of Physics follows a well-structured teaching schedule, ensuring that classes are conducted systematically and efficiently. Each course has a predetermined timetable that aligns with the academic calendar of the college (Time Table Attached). This schedule helps both faculty and students plan their activities and stay on track with the syllabus, ensuring smooth completion of all topics within the allotted time. Regular classes, practical sessions, and additional tutorials or remedial classes are organized as per this schedule, which contributes to maintaining a disciplined and organized teaching environment.

**2.2. Learning Outcomes Defined**

The department has clearly defined learning outcomes for each course. These outcomes are specific goals that describe what students are expected to achieve by the end of the course. They cover knowledge acquisition, skill development, and conceptual understanding. The faculty aligns their teaching methodologies, assessment methods, and curriculum with these predefined learning outcomes, ensuring that students are able to meet these goals. These outcomes are designed to reflect both academic and practical competencies relevant to the subject matter.

**2.3. Curriculum Enrichment Practices (e.g. Projects, Surveys, Educational Tours, Industry Visits):**

The Department of Physics emphasizes curriculum enrichment practices to offer students hands-on learning experiences. These include:

- Projects: Students engage in individual or group projects, allowing them to apply theoretical concepts to real-world scenarios. For instance, they may conduct consumer behavioral studies or projects relating to performance appraisal of various companies etc.


- Educational Tours: The department organizes educational tours to educational places where students can observe and analyze the practical aspects of the corporate practices, thereby enhancing their field-based learning.


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**2.4. Mechanism of Internal Assessment**

As per the guidelines of Affiliating University i.e. HPU, Department of Physics employs a comprehensive internal assessment mechanism to evaluate student performance, which includes:

- Quizzes: Short quizzes are regularly conducted to assess students' understanding of specific topics.
- Class Tests: Periodic class tests help in evaluating the ongoing progress of students.
- Presentations: Students are often asked to give presentations on various topics, which helps in developing their communication skills and deepens their understanding of the subject matter.
- Assessments: Other forms of continuous assessment like assignments or field reports are also used to gauge student learning.
- Mid-Term Tests (MTT): The department conducts mid-term tests to measure students' understanding of the subject up to a certain point in the course. These tests serve as a formal evaluation before the final exams.

- SEC Projects: Skill based courses are taught with small projects.


**2.5 Immediate Communication of Assessment/Results:** The department ensures timely communication of assessment results to students. This transparency is maintained through:

- College Website: Results are displayed online for easy access.
- Notice Board: Students can also check their performance on the departmental notice board.
- Class Groups: Many times, assessment results are shared in class WhatsApp groups or other digital platforms for immediate updates.
- Submitted to COE: Results and internal assessment marks are promptly submitted to the Controller of Examinations (COE) for record-keeping and final results processing.

This combination of rigorous assessment and transparent communication ensures that students are aware of their academic progress, allowing them to focus on areas that need improvement while staying motivated in their studies.

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