

SEMESTER - II

CPS 2b – Part II - PEDAGOGY OF PHYSICAL SCIENCE

Credits: 4

Internal: 40 marks

Hours/Week: Theory-4hrs Practical- 4hrs

External: 60 marks

Total: 100 marks

Objectives

At the end of the course, the student teachers will be able to:

- classify the co-scholastic activities in Physical Science;
- explain the process of evaluation in Physical Science;
- recognize the significance of planning and teaching Physical Science;
- explain the importance of classroom climate and acquire the skill of managing the classroom effectively;
- integrate the picture of an ideal Physical Science teacher;
- recall the organization of the school plant.

Unit I: Co-scholastic Activities

Definition, Need and Importance of co-scholastic activities- Criteria for the selection of co-scholastic activities in Physical Science- Science Club- Science Exhibition- Science Fairs- Field Trips and Excursions- Organization of co-scholastic activities related to Physical Science

Unit II: Evaluation in Physical Science

Concept of Evaluation- Purpose of Evaluation- Continuous and Comprehensive Evaluation- Formative and Summative Evaluation- Achievement tests- Steps in construction- Preparation of Blue print- Preparation of an Achievement Tests in Physical Science-Item Analysis- Administering the test- Various types of Test items- Essay type, Short answer type, Objective type: Completion type, Matching type, Multiple Choice- Merits and limitations of Essay, Short answer and Objective type- Diagnostic Tests- Steps in constructing a Diagnostic test- Teacher made and Standardized tests

Unit III: Planning and Teaching

Significance of planning for effective teaching- Year Plan: importance and mode of planning- Unit Plan: definition, characteristics, steps in unit planning, importance of unit planning- Lesson Plan: definition, criteria of a good lesson plan, steps involved in lesson planning (Herbartian Steps), advantages of lesson planning.

Unit IV: Teacher Professionalization and Teacher Commitment

Committed teachers, passionate teachers: Dimensions of passion associated with teacher commitment and engagement: Teacher commitment as a passion-teacher – Teacher commitment as a unit of time outside the contact hours with students - Teacher commitment as focus on the individual needs of students. Teacher commitment as responsibility to impart knowledge, attitudes, values and beliefs- teacher commitment as maintaining ‘ Professional knowledge’ - Teacher commitment as engagement with school and community- Importance of teacher commitment for quality enhancement – Ways and means of enhancing teacher commitment for teaching professionalization. Academic and Professional Qualifications for a Science teacher- Qualities of a good Science Teacher- Need for Pre-service and In-service training- Professional development of Science Teachers.

Unit V: Classroom Climate and Classroom Management

Significance of conducive classroom climate- Types of classroom climate: Teacher-dominated, Laissez-faire and Democratic pattern- Classroom Management: meaning, significance of effective classroom management, management of human and material resources

Unit VI: School Plant

Norms in setting up a school - Maintenance of the school plant - Scholastic and Co-scholastic requirements- School shapes - Ideal shape of a school.

Suggested references:

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- ❖ செந்தில் குமார், சு. (2010). பொருளறிவியல் தாள்- I: நாமக்கல் : சமயுக்தா பதிப்பகம்.
