

TEACHING OF LIFE SCIENCE
PAPER-VI & VII
Group C (Option-I)

NOTE FOR PAPER SETTERS:

- i) Paper setters will set 9 questions in all, out of which students will be required to attempt 5 questions.
- ii) Q. No. 1 will be compulsory and carries 12 marks. It will be comprised of 4 short-answer type notes of 3 marks each to be selected from the entire syllabus.
- iii) Two long-answer type questions will be set from each of the four units, out of which the students will be required to attempt one question from each unit. Long-answer type questions will carry 12 marks each.
- iv) All questions will carry equal marks.

Objectives

- (i).To develop awareness about development in the area of teaching and learning of Life Science at the national and international level.
- (ii).To develop competencies in the prospective teachers related to Life Science at the lower secondary level with specific reference to Indian School Conditions.
- (iii).To orient prospective teachers in specific educational aspects of Science and Technology Education e.g. general concept of Life Science, aims and objectives of Life Science, pedagogical analysis of contents in Life Science at the lower secondary level, transaction of contents, methods of teaching, evaluation etc.
- (iv).To enable prospective teachers to be effective teachers in order to perform the required role as a Life Science teacher under Indian School conditions.

THEORY

M. Marks: 60

Time: 3 Hrs.

UNIT-I

Importance, Aims and Objectives:

1. Importance of Life Science in School Curriculum.
2. General aims and objectives of teaching Life Science.
3. Bloom's taxonomy of educational objectives.
4. Formulation of specific objectives of Life Science in behavioral terms.

Contents and Pedagogical Analysis

1. Contents:
 1. Photosynthesis
 2. Human digestive system-Respiratory, Excretory, Circulatory systems.
 3. Cell structure.
 4. Micro-organism.
 5. Food Chain
 6. Ecological balance.

2. Pedagogical analysis

1. Identification of concepts.
2. Listing behavioral outcomes
3. Listing activities and experiments.
4. Listing evaluation techniques.

Teacher will demonstrate pedagogical analysis of any one of the topics mentioned under contents above-II (i) the examiner therefore can ask of pedagogical analysis of any of the given topics.

UNIT-II

Development of Instructional Material

1. Transaction of contents
 1. Unit Planning
 2. Lesson Planning
 3. Preparation of teaching aids.
 4. Development of aquarium, vivarium etc.
2. Development of self-instructional material (Linear programme)

UNIT-III

Methods of Teaching and Skills (Practical and Micro-teaching)

1. Methods of teaching
 1. Lecture-demonstration method
 2. Project method
 3. Problem-solving method
2. Practical skills
 1. Preparation of temporary and permanent mounts
 2. Collection and preservation of specimen
3. Micro-teaching skills
 1. Skill of introducing the lesson (set induction)
 2. Skill of Questioning
 3. Skill of illustration
 4. Skill of explaining
 5. Skill of stimulus variation

UNIT-IV

Evaluation

1. Concept of measurement and evaluation
2. Formative evaluation
3. Summative evaluation
4. Different types of grading
5. Attributes of a good achievement test
6. Preparation of an objective type achievement test

Padagogical Analysis

Marks: 40

- 1) Preparation of Improvised apparatus
- 2) Collection and preservation of specimen
- 3) Five Practical's of school level
- 4) Development of self-learning material (Linear Programme

Suggested Readings

- Bremmer, Jean, (1967) : Teaching Biology, Macmillan, London.
- Dastgir, Ghulam (1980) : Science kil tadress, Transiation of Sharma & Sharma Teaching Se. Tarakki Urdu Board, New Delhi.
- H & eller. R (1967) : New Trends in Biology Teaching, UNESCO, Paris.
- NCERT (1969) : Improving Instructions in Biology, New Delhi.
- Novak J.D. (1970) : The Improvement of Biology Teaching.
- Sharma, R.C. (1975) : Modern Science Teaching Dhanpat Rai & Sons, New Delhi.
- Waston, N.S. (1967) : Teaching Science Creativity in Secondary School U.B. Saunders Company, London.
- Green, T.C. (1967) : The Teaching and learning Biology, Allman & Sons, London.
- Miller, David, F. (1963) : Methods and Materials for Teaching the Biological Science, Mc Graw Hill, New York.
- Nunn, Gordon (1951) : Handbook for Science Teachers in Secondary Modern Schools, John Murry, London.
- Thurber, Walter (1964) : Teaching of Science in Todays Secondary Schools, Prentice Hall, New Delhi.
- Vaidya, N. (1971) : The Impact of Science Teaching Oxford and IB+I Publication Co., New Delhi-I
- Voss. Burton F.A. & Bren, S.B. Biology as Inquiry : A Book of Teaching Methods.
- Gupta, VKJ (1995) : Readings in Science and Mathematics Education, Associated Publishers, Ambala Cantt.
- Gupta, V.K. (1994) : Life Science Education Today. Arun Publishing House Pvt. Ltd. SCO 49-51, Sector, 17-C Chandigarh.
- Gupta, V.K. (1996) Science and Technology Education : New Thrusts and Recent Trends, Arun Publishing House, Chandigarh.
- Gupta V.K. (1995) : Teaching and Learning of Science and Technology, Vikash Publising House, New Delhi.
- Gupta V.K. (1995) : Readings in Science and Mathematics Education, Association Publishers, Ambala Cantt.