



## **Class-9 Biology**

There will be one paper of **two hours** duration of 80 marks and Internal Assessment of Practical Work carrying 20 marks.

The paper will be divided into **two** sections, Section I (40 marks) and Section II (40 marks).

**Section I (compulsory)** will contain short answer questions on the entire syllabus.

**Section II** will contain **six** questions. Candidates will be required to answer any **four** of these **six** questions.

### **Chapter-1 Basic Biology:**

- The cell, a unit of life • Tissues: Types of plant and animal tissues

### **Chapter-2 Flowering Plants:**

- Flower: Structure of a bisexual flower, functions of various parts
- Pollination: self and cross-pollination. • Fertilization

### **Chapter-3 Plant Physiology:**

- Structure of dicot and monocot seeds,... • Respiration in plants: outline of the process, gaseous exchange.

### **Chapter-4 Diversity in living organisms:**

- A brief outline of the five Kingdom classification • Economic importance of Bacteria • Economic importance of Fungi.

### **Chapter-5 Human Anatomy and Physiology:**



- Nutrition • Skeleton - Movement and Locomotion. • Structure and functions of skin. • Respiratory System: Organs;

### **Chapter-6 Health and Hygiene:**

- A brief introduction to maintaining good health. • A brief introduction to communicable, non-communicable, • Bacterial, Viral, Protozoan, • Aids to Health: Active and passive immunity
- Health Organizations: Red Cross,

### **Chapter-7 Waste generation and management:**

- Sources of waste - domestic, industrial, agricultural • Methods of safe disposal of waste

## **INTERNAL ASSESSMENT OF PRACTICAL WORK**

The practical work is designed to test the ability of the candidates to make accurate observations from specimens of plants and animals.

### **PLANT LIFE**

- (i) The examination of an onion peel under the microscope to study various parts of the cell.
- (ii) A cross-pollinated flower to be examined and identified and the parts to be studied and labelled e.g. Hibiscus.
- (iii) Specimens of germinating seeds with plumule and radicle (the bean seed and maize grain) for examination, identification, drawing and labelling the parts.



## ANIMAL LIFE

- (i) The examination of a human cheek cell under the microscope to study various parts of the cell.
- (ii) Identification of sugar, starch, protein and fat. through conduct of relevant tests.
- (iii) Examination and identification of specimens belonging to the following groups of animals: Non Chordata - Porifera, Coelenterata , Platyhelminthes, Nemathelminthes Annelida, Arthropoda. Mollusca and Echinodermata. Chordata- Pisces, Amphibia, Reptilia , Aves, Mammalia. Identification of the structure of the following organs through specimens/models and charts: Lung and skin.
- (iv) Experiments to show the mechanism of breathing. Bell jar experiment should be discussed. Comparison should be made with the human lungs and respiratory tract to show the mechanism of breathing.
- (v) Visit a few establishments in the locality such as motor repair workshops, kilns, pottery making units, fish and vegetable markets, restaurants, dyeing units. Find out the types of wastes and methods prevalent for their disposal. On the basis of the information collected prepare a report, suggest measures to improve the environmental conditions.
- (vi) Visit a water treatment plant, sewage treatment plant or garbage dumping or vermicomposting sites in the locality and study their working