NSS BIOLOGY

Curriculum Aims

• develop and maintain an interest in biology, a sense of wonder and curiosity about the living world, and a respect for all living things and the environment;
• construct and apply knowledge of biology, understand the nature of science in biology-related contexts, and appreciate the relationships between biological science and other disciplines;
• develop the ability to make scientific inquiries; think scientifically, critically and creatively; and solve biology-related problems individually and collaboratively;
• understand the language of science and communicate ideas and views on biology-related issues;
• be aware of the social, ethical, economic, environmental and technological implications of biology, and be able to make informed decisions and judgments on biology-related issues; and
• develop an attitude of responsible citizenship, and a commitment to promote personal and community health.

Curriculum Framework

A. Compulsory Part (200 hours)
   I. Cells and Molecules of Life
   II. Genetics and Evolution
   III. Organisms and Environment
   IV. Health and Diseases

B. Scientific Investigations (20 hours)

C. Elective Part (50 hours)
   V. Human Physiology: Regulation and Control
   VI. Applied Ecology

Assessment Design

<table>
<thead>
<tr>
<th>Component</th>
<th>Outline</th>
<th>Weighting</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Public examination</td>
<td>Paper 1 Compulsory Part</td>
<td>60%</td>
<td>2 ½ hours</td>
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<tr>
<td></td>
<td>Paper 2 Elective Part</td>
<td>20%</td>
<td>1 hour</td>
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<tr>
<td>School-based assessment</td>
<td>Practical related tasks and non-practical related tasks</td>
<td>20%</td>
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Curriculum Planning

Sections and Topics

F.3  II. Genetics and Evolution
   c. Biodiversity and evolution

IV. Health and Diseases
   a. Personal health
   b. Diseases
   c. Body defence mechanisms

F.4  I. Cells and Molecules of Life
     (SS1)  a. Molecules of life
            b. Cellular organisation
            c. Movement of substances across membrane
            d. Cell cycle and division
            e. Cellular energetics

III. Organisms and Environment
     a. Essential life processes in plants
     b. Essential life processes in animals

F.5  III. Organisms and Environment
     (SS2)  c. Reproduction, growth and development
            d. Coordination and response
            e. Homeostasis

V. Human Physiology: Regulation and Control
   a. Regulation of water content (osmoregulation)
   b. Regulation of body temperature
   c. Regulation of gas content in blood
   d. Hormonal control of reproductive cycle
II. Genetics and Evolution
- a. Basic genetics
- b. Molecular genetics

III. Organisms and Environment
- f. Ecosystems

VI. Applied Ecology
- a. Human impact on the environment
- b. Pollution control
- c. Conservation
- d. Sustainable development