

COURSE OBJECTIVES

- develop interest and maintain a sense of wonder and curiosity about science, and a respect for all living things and the environment;
- construct and apply knowledge of science, and appreciate the relationships between science and other disciplines
- appreciate and understand the nature of science;
- develop skills for making scientific inquiries;
- develop the ability to think scientifically, critically and creatively, and solve problems individually and collaboratively in science-related contexts;
- understand the language of science and communicate ideas and views on science-related issues;
- develop open-mindedness, objectivity and pro-activeness;
- be aware of the social, ethical, economic, environmental and technological implications of science, and be able to make informed decisions and judgments on science-related issues;
- develop an attitude of responsible citizenship, and a commitment to promote personal and community health
- Develop the appreciation of the wonders of the living world and to promote respect for all living things.
- A prerequisite for the study of many life-science, environmental science and medically-related disciplines in post-secondary, institutes and universities.

REQUIREMENTS FOR STUDYING COMBINED SCIENCE

- curious and interest in science
- make decisions based on evidence and arguments
- use symbols, formulae, equations and conventions appropriately
- organise and present ideas and arguments in a clear and logical form
- liaise, negotiate and compromise with others in group work
- willing to learn and self-learn
- enjoy to carry out experiments in laboratory
- interest in all the living things around us
- critical mind and an enquiring attitude to biological evidence
- scientific mind in data analysis, interpretation and deductions

SYLLABUS**Chemistry Part**

| | |
|-----|--|
| I | Planet Earth |
| II | Microscopic world |
| III | Metals |
| IV | Acids and Bases |
| V | Fossil Fuels and Carbon compounds |
| VI | Redox reactions, Chemical cells and Electrolysis |
| VII | Chemical reactions and Energy |

Biology Part

| | | |
|-----|-----------------------------|---|
| I | Cells and Molecules of Life | <ul style="list-style-type: none"> a. Molecules of life b. Cellular organization c. Movement of substances across membrane d. Cell cycle and division e. Cellular energetics |
| II | Genetics and Evolution | <ul style="list-style-type: none"> a. Basic genetics b. Molecular genetics c. Biodiversity and evolution |
| III | Organisms and Environment | <ul style="list-style-type: none"> a. Essential life processes in plants b. Essential life processes in animals c. Reproduction, growth and development d. Coordination and response e. Homeostasis f. Ecosystems |
| IV | Health and Diseases | <ul style="list-style-type: none"> a. personal health b. Diseases |

ASSESSMENT AND EXAMINATION**Public Examination****I. Chemistry Part**

The public assessment of Chemistry Part will consist of a public examination component and a school-based assessment component as outlined in the following table:

| Papers | Question | Sections |
|-----------------|--|--------------------|
| I (100 mins) | 24 M.C. | Section A (12%) |
| | Structured questions (47 marks) Essay (9 marks) | Section B (28%) |
| SBA* | | 10% |

**SBA (School-based assessment)*

Students are required to perform a stipulated number of pieces of practical work, which may include designing experiments, and reporting and interpreting the results. The work should be integrated closely with the curriculum content and form a part of the normal learning and teaching process.

| | Volumetric Analysis | Experiment |
|----------|---------------------|------------|
| Weighing | 40% | 60% |

II. Biology Part

| Component | | Weighting | Duration |
|--------------------------------|--|-----------|-------------------|
| Public Examination | Paper I: Questions set on the biology part of the curriculum | 40% | 1 hour 40 minutes |
| School-based Assessment (SBA*) | | 10% | |