

## CHINMAYA INTERNATIONAL RESIDENTIAL SCHOOL COIMBATORE – INDIA

### ASSESSMENT OBJECTIVES FOR ENGLISH FOR IB DIPLOMA

- I. COMPREHENSION, ANALYSIS, INFERENCE
- II. CREATIVE AND ANALYTICAL WRITING SKILLS
- III. ADEQUATE VOCABULARY

#### I. COMPREHENSION, ANALYSIS, INFERENCE

The candidate will be expected to comprehend a suitable passage given. The exercises will test the analytical and inferential ability of the candidate. That is the questions will not be purely comprehension questions.

#### II. CREATIVE AND ANALYTICAL WRITING SKILLS

The candidate appearing for the exam should be able to write a composition based on a given topic. It may be a creative or imaginative piece or an analytical piece based on a current topic.

#### III. ADEQUATE VOCABULARY

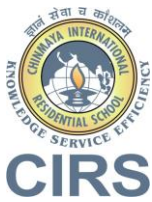
The candidate will also be tested on his/her vocabulary skills in the following areas.

- a) Analogies
- b) Words in context

***The entrance examination will test the student in the above areas. These areas are broadly delineated cannot be specified in a detailed or precise manner in the curriculum content.***

### SCHEME OF ASSESSMENT FOR ENGLISH FOR IB DIPLOMA

Assessment Objectives	Weightage (%)	Duration of Paper	Marks
Exercises based on Comprehension	40	1 Hour	50 Marks
Creative/ Critical Writing Skills	40		
Vocabulary Exercises	20		



## CHINMAYA INTERNATIONAL RESIDENTIAL SCHOOL COIMBATORE – INDIA

### ASSESSMENT OBJECTIVES FOR MATHEMATICS FOR IB DIPLOMA

- I. Mathematical knowledge with understanding of concepts
- II. Applications of concepts – Problem solving skill

#### I. MATHEMATICAL KNOWLEDGE WITH UNDERSTANDING OF CONCEPTS

The candidate taking the entrance exam should be able to present mathematical knowledge and understanding of concepts in relation to:

- a. Organise and present information accurately in written, tabular, graphical and diagrammatic forms.
- b. Perform calculations by suitable methods.
- c. Understand systems of measurement in everyday use and make use of them in the solution of problems.
- d. Estimate, approximate and work to degrees of accuracy appropriate to the context.

#### II. APPLICATIONS OF CONCEPTS – PROBLEM SOLVING SKILL

The candidate taking the entrance exam should be able to solve the numerical problems using appropriate formulae, symbols, units, graphs etc. The candidate will be tested on the following skills:

- a. Interpret, transform and make appropriate use of mathematical statements expressed in words or symbols.
- b. Recognise and use spatial relationships in two and three dimensions, particularly in solving problems.
- c. Recall, apply and interpret mathematical knowledge in the context of everyday situations.
- d. Make logical deductions from given mathematical data.
- e. Recognise patterns and structures in a variety of situations, and form generalizations.
- f. Respond to a problem relating to a relatively unstructured situation by translating it into an appropriately structured form.
- g. Analyse a problem, select a suitable strategy and apply an appropriate technique to obtain its solution.
- h. Apply combinations of mathematical skills and techniques in problem solving.
- i. Set out mathematical work, including the solution of problems, in a logical and clear form using appropriate symbols and terminology.

***The entrance examination will test the above objectives. These skills cannot be further specified in a detailed or precise manner in the curriculum content. However the questions are well within the syllabus of the entrance examination.***

## SCHEME OF ASSESSMENT FOR MATHEMATICS FOR IB DIPLOMA

Assessment Objectives	Weightage (%)	Duration of Paper	Marks
Mathematical Knowledge	10	45 Minutes	50 Marks
Understanding of Concepts	30		
Application Skills	30		
Problem solving skills	30		

## SYLLABUS OUTLINE OF MATHEMATICS FOR IB DIPLOMA

### Algebra

- The student will
  - a) simplify algebraic expressions using basic operations
  - b) simplify/factorize the algebraic expressions using standard identities  $(a + b)^2$ ,  $(a - b)^2$ ,  $a^2 - b^2$ ,  $(a + b + c)^2$ ,  $(a + b)^3$ ,  $(a - b)^3$ ,  $a^3 + b^3$  and  $a^3 - b^3$ .
  - c) find the quotient and the remainder when a polynomial is divided by another.
  - d) use remainder theorem to find the remainder and factor theorem to factorize a given polynomial of degree at most 3.
  - e) find LCM and HCF of given polynomials.
  - f) determine the roots of the given quadratic equation by factorization / formula.
  - g) frame and solve quadratic equations and linear equations in two variables

### Ratio and Proportion and commercial mathematics

- The student will
  - a) solve problems using ratio, proportions and their properties.
  - b) solve word problems using percentage, profit & loss, discount and compound interest.

### Measurement and Geometry

- The student will
  - a) find the surface area and volume of cylinder, cone, sphere, hemisphere and frustum of cone.

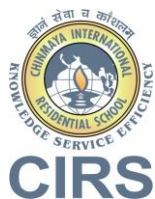
- b) solve problems involving area of parallelogram, trapezium, rhombus and quadrilateral.
- c) solve simple problems using the properties of quadrilaterals, circles and similarity of triangles.

### Statistics

- The student will
  - a) analyze, display, and interpret data in a variety of graphical methods, including line and bar and circle (**pie**) graphs and draw inferences from graphs.
  - b) compute mean, median and mode of discrete data.
  - c) compute mean from a frequency distribution table.

### Trigonometry

- The student will
  - a) determine the values of trigonometric ratios from a given right triangle.
  - b) compute the values of trigonometric ratios for special angles such as  $30^\circ$ ,  $45^\circ$ ,  $60^\circ$  &  $90^\circ$ .
  - c) solve problems using heights and distances with angle of elevation and depression (problems with one or two triangles only)



## CHINMAYA INTERNATIONAL RESIDENTIAL SCHOOL COIMBATORE - INDIA

The students shall attempt a single paper on Science with questions from Physics, Chemistry and Biology.

### SCHEME OF ASSESSMENT FOR SCIENCE FOR IB DIPLOMA

Paper	Assessment Objective	Weightage %	Duration of Paper	Marks
Entrance to class 11 - IB	Factual Knowledge	10	30 Minutes	25 Marks
	Understanding of Concepts	30		
	Application Skills	40		
	Drawing Skills	20		

### ASSESSMENT OBJECTIVES FOR PHYSICS FOR IB DIPLOMA

I. Factual knowledge with understanding of concepts

II. Application of concepts – Problem solving

#### I. FACTUAL KNOWLEDGE WITH UNDERSTANDING OF CONCEPTS AND SKILLS

The candidate taking the entrance exam should be able to present factual knowledge and understanding of concepts in relation to:

- Facts, Phenomena and Laws.
- Define terms with SI units and its symbols and equations.
- Identify concepts / examples of concepts from daily life or laboratory apparatuses (includes getting data and results out of graphs, identifying of apparatus or experimental setups to substantiate a concept).
- Identify applications of science in daily life.

## II. APPLICATION OF CONCEPTS – PROBLEM SOLVING

The candidate taking the entrance exam should be able to solve the numerical problems using appropriate formulas, symbols, units, graphs etc. The candidate will be tested on the following skills:

- a. Identify the information given in the problem accurately.
- b. Convert units from one form to another.
- c. Manipulate data and equations.
- d. Identify the correct solution (after applying appropriate steps).
- e. Select the result as desired by the problem with appropriate units.

## III. OTHER SKILLS

Identification of appropriate diagrams and their labels. Diagrams include experiments in physics, chemical apparatuses / setups and biological structures.

**The entrance examination will test the above objectives. These skills cannot be further specified in a detailed or precise manner in the curriculum content. However the questions are well within the syllabus of the entrance examination.**

# SYLLABUS OUTLINE OF PHYSICS FOR IB DIPLOMA

**TOPICS:** MECHANICS; LIGHT; ELECTRICITY AND MAGNETISM; WAVES AND SOUND

## MECHANICS

- Concept of distance, displacement, speed, velocity and acceleration.
- Graphical representation of the above quantities.
- Equations of motion
- Newton's laws of motion.
- Gravitation: Basic concepts.
- Energy – Mechanical Energy; Kinetic Energy; Potential Energy; Conservation of Energy.
- Problems based on the above.

## LIGHT

- Basic properties of light.
- Laws of Reflection and Refraction.
- Lenses and Mirrors – Image formation. (Ray Diagrams)
- Problems based on lens and mirror formulae

## ELECTRICITY AND MAGNETISM

- Concept of electric current, potential difference, resistance – their interrelationship.
- Ohm's Law.
- Resistance in series and parallel (formula for series and parallel combination, circuit diagrams and numerical problems).
- Heating effects of current (formula and problems).
- Conductors and Insulators (qualitative aspects only)

## WAVE MOTION AND SOUND

- Transverse and Longitudinal waves.
- Graphical representation of waves.
- Wavelength, amplitude, frequency, time period and speed of the waves.
- Reflection of sound: Applications including ultrasound and sonar.

Questions will also be asked to test the general awareness in science pertaining to the age group.

## ASSESSMENT OBJECTIVES FOR CHEMISTRY FOR IB DIPLOMA

The assessment objectives in Chemistry are:

### A. Knowledge with understanding

### B. Handling information and solving problems

A description of each assessment objective is as follows.

### A. KNOWLEDGE WITH UNDERSTANDING

Students should be able to demonstrate knowledge and understanding in relation to

1. scientific phenomena, facts, laws, definitions, concepts and theories;
2. scientific vocabulary, terminology and conventions (including symbols, quantities and units);
3. scientific instruments and apparatus, including techniques of operation and aspects of safety;
4. scientific quantities and their determination;
5. scientific and technological applications with their social, economic and environmental implications.

Questions testing the above will often begin with one of the following words: define, state, describe, explain or outline.

### B. HANDLING INFORMATION AND PROBLEM SOLVING

Students should be able, in words or using other written forms of presentation (i.e. symbolic, graphical and numerical), to

1. locate, select, organise and present information from a variety of sources,
2. translate information from one form to another,
3. manipulate numerical and other data,
4. use information to identify patterns, report trends and draw inferences,
5. present logical explanations for phenomena, patterns and relationships,
6. make predictions and hypotheses,
7. solve problems, including some of a quantitative nature.

Questions testing the above skills will often begin with one of the following words: predict, suggest, calculate or determine.

**These skills cannot be precisely specified in the Curriculum Content because questions testing such skills are often based on information which is unfamiliar to the candidate. In answering such questions, candidates are required to use principles and concepts that are within the syllabus and apply them in a logical, deductive manner to a novel situation.**

**Note: Emphasis will be given to application of concepts and not on facts.**

## SYLLABUS OUTLINE OF CHEMISTRY FOR IB DIPLOMA

**TOPICS:** MATTER- NATURE AND BEHAVIOUR; OUR ENVIRONMENT; NATURAL RESOURCES; SOME IMPORTANT CHEMICAL COMPOUNDS; PERIODICITY; CHEMICAL REACTIONS

### MATTER - NATURE AND BEHAVIOUR

**Nature of matter:** Classification of matter based on chemical constitution- elements, compounds and mixtures. Homogeneous and heterogeneous solutions. True solution, suspension and colloids.

**Structure of atom:** Constituents of an atom, atomic number, atomic mass number, valency, isotopes and electronic configuration (upto atomic number 20)

### OUR ENVIRONMENT

**Environment and environmental problems:** Causes, prevention and control of environmental problems (soil erosion, air pollution and accumulation of wastes). Biodegradable and Non-Biodegradable materials.

### NATURAL RESOURCES

**Metals:** Metals, minerals and ores; General principles of metallurgical processes- Activity series of metals; General properties and corrosion of metals.



**Coal and petroleum:** Coal and petroleum as natural resources of carbon and its compounds. Carbon- tetra valency catenation. Petroleum –fractional distillation. Hydrocarbon-homologous series, saturated and unsaturated hydrocarbons

### SOME IMPORTANT CHEMICAL COMPOUNDS

**Carbon compounds:** Some synthetic polymers, soaps and detergents.

**Acids, Bases and Salts:** General properties of acids, bases and salts, pH as a measure of hydrogen ion concentrations.

**Inorganic compounds:** Preparation, properties and uses of washing soda, baking soda, plaster of paris and bleaching powder (outline only).

### PERIODICITY

**Periodic classification of elements:** A brief historical perspective of periodic classification of elements, periodic law, modern periodic table of 18 columns, variation in properties across a period and along a group – metallic and non-metallic, atomic size.

**Chemical Bonding:** Formation of chemical bond, type of bonds – ionic and covalent bonds, electro negativity and polar covalent bond, properties of ionic and covalent compounds.

### CHEMICAL REACTIONS

**Chemical Reactions:** Formulae of simple compounds, equations of simple chemical reactions and their balancing. Types of chemical reactions – combination, decomposition, displacement (single and double displacement), oxidation and reduction (in terms of gain/ loss of electrons).

### ASSESSMENT OBJECTIVES FOR BIOLOGY FOR IB DIPLOMA

The assessment objectives in Biology are:

- A. Knowledge with understanding**
- B. Handling information and solving problems**

A description of each assessment objective is as follows:

#### **A. KNOWLEDGE WITH UNDERSTANDING**

Students should be able to demonstrate knowledge and understanding in relation to

1. scientific phenomena, facts, laws, definitions, concepts and theories;
2. scientific vocabulary, terminology and conventions (including symbols, quantities and units);

3. scientific instruments and apparatus, including techniques of operation and aspects of safety;
4. scientific quantities and their determination;
5. Scientific and technological applications with their social, economic and environmental implications.

Questions testing the above will often begin with one of the following words: define, state, describe, explain or outline.

## **B. HANDLING INFORMATION AND PROBLEM SOLVING**

Students should be able to :

1. locate, select, organise and present information from a variety of sources.
2. translate information from one form to another.
3. manipulate numerical and other data.
4. use information to identify patterns, report trends and draw inferences.
5. analyse and explain a given data.
6. present logical explanations for phenomena, patterns and relationships.
7. make predictions and hypothesise.
8. solve problems using scientific principles.
9. use proper scientific conventions in tables, drawings and graphs.
10. pay attention to environmental impact.

Questions testing the above skills will often begin with one of the following words: predict, suggest, analyse, calculate, draw or determine.

**These skills cannot be precisely specified in the Curriculum Content because questions testing such skills are often based on information which is unfamiliar to the candidate. In answering such questions, candidates are required to use principles and concepts that are within the syllabus and apply them in a logical, deductive manner to a novel situation.**

## **SYLLABUS OUTLINE OF BIOLOGY FOR IB DIPLOMA**

TOPICS: Organisation in the living world, Life processes in plants & animals, The Environment & Ecology.

### **ORGANIZATION IN THE LIVING WORLD**

- Cell and cell structure.
- Cell division.
- Tissues in plants and animals.
- Diversity in the living world( classification).
- Micro-organisms.
- Food, nutrition and health.
- Human diseases.

## **LIFE PROCESSES IN PLANTS & ANIMALS**

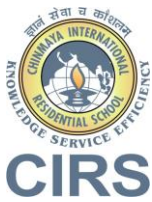
- Nutrition.
- Respiration.
- Transportation.
- Excretion.
- Control and Co-ordination.
- Reproduction.
- Heredity.
- Adaptation & Organic Evolution.

## **THE ENVIRONMENT**

- Environment and Environmental Problems.
- Conservation and protection of the environment / natural resources

## **ECOLOGY**

- Population.
- Communities.
- Ecosystem.
- Biosphere.



## CHINMAYA INTERNATIONAL RESIDENTIAL SCHOOL COIMBATORE - INDIA

### ASSESSMENT OBJECTIVES FOR GENERAL AWARENESS FOR IB DIPLOMA

The entrance tests is designed to objectively measure the aptitude of the candidate, and the general skills as expected of a would be manager / organizer.

The candidate is expected to:

- have general awareness of the current happenings in the Economy as well as in businesses.
- Be able to interpret basic charts, graphs or tables in relation to business activities and / or the Economy.
- Be able to comprehend information given in case studies and suggest logical solutions to it.
- Be able to do simple calculations on profit and loss.

### SCHEME OF ASSESSMENT FOR MANAGEMENT STUDIES FOR IB DIPLOMA

Assessment Objectives	Weightage (%)	Duration of Paper	Marks
<b>Factual knowledge</b>	<b>20</b>	<b>30 Minutes</b>	<b>25 Marks</b>
<b>Understanding of concepts</b>	<b>20</b>		
<b>Application skills</b>	<b>30</b>		
<b>Problem Solving skills</b>	<b>30</b>		

## SYLLABUS OUTLINE OF GENERAL AWARENESS FOR CLASS XI (IB)

The candidate is expected to have a **general awareness** of the following topics:

### Marketing

- How and why businesses advertise their products?

### Human Resources / Personnel Management

- Ways to promote positive work climate

### Profit and Loss

- Simple calculations
- Basic Data Interpretation of charts, graphs or tables

### Economy

- Basic features of Socialist, Capitalist and Mixed Economies
- Basic features of Developed, Developing and Underdeveloped economies

### Challenges faced by an economy and its effects

- Population
- Child labour
- Poverty
- Basic Data Interpretation of Charts, graphs or tables