



BANGLADESH SCHOOL MUSCAT

ACADEMIC YEAR 2024-25

CLASS :XI SCIENCE

SUBJECTS
PHYSICS -UNIT 1
PHYSICS -UNIT 2
PHYSICS -UNIT 3
CHEMISTRY-UNIT 1
CHEMISTRY-UNIT 2
CHEMISTRY-UNIT 3
BIOLOGY-UNIT 1
BIOLOGY-UNIT 2
BIOLOGY-UNIT 3
MATH-P1
MATH-P2
MATH-S1
ICT-UNIT 1
ICT-UNIT 2

Name of the book	Term 1	Term 2	Term 3
<p>PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS STUDENT BOOK 1 BY-MILES HUDSON</p>	<p>TOPIC-1: MECHANICS</p> <p>A. BASIC</p> <p>i. Standard Units in Physics</p> <p>ii. Estimation</p> <p>B. MOTION</p> <p>i. Velocity and Acceleration</p> <p>ii. Kinematics Equations</p> <p>iii. Motion Graphs</p> <p>iv. Vector addition and Resolution</p> <p>v. Projectiles</p> <p>vi. Newton's Laws of Motion</p> <p>vii. Moments</p> <p>C. ENERGY</p> <p>i. Work and Power</p> <p>ii. Gravitational Potential and Kinetic Energies</p> <p>D. MOMENTUM</p> <p>i. Concept of Momentum</p> <p>1. Conservation of Linear Momentum</p> <p>CORE PRACTICAL 1: Determine the acceleration of a freely-falling object</p>	<p>TOPIC: 2 MATERIALS</p> <p>A. FLUIDS</p> <p>i. Density and Upthrust</p> <p>ii. Terminal Velocity</p> <p>iii. Viscosity</p> <p>iv. Stoke's Law: $F = 6\pi\eta rv$</p> <p>B. PROPERTIES OF SOLID</p> <p>i. Hooke's Law</p> <p>ii. Stress, Strain and Young Modulus</p> <p>iii. Stress versus Strain graphs</p> <p>iv. The elastic strain energy.</p> <p>CORE PRACTICAL 2: Use a falling-ball method to determine the viscosity of a liquid</p> <p>CORE PRACTICAL 3: Determine the Young modulus of a material</p> <p>Revision</p>	<p>Revision</p> <p>Solving Past Papers</p>

CLASS: XI - SCIENCE

SUBJECT: PHYSICS UNIT 1

Types of Questions and Distribution of Marks	Mock Test 1 Marks: 40 (converted to 80) IAL Pattern	Qualifying Exam Marks: 80 IAL Pattern	Revision Test (Mock 2) Marks: 80 IAL Pattern
---	--	--	---

- Syllabus subject to change under unavoidable circumstances**

Name of the book	Term 1	Term 2	Term 3
<p>PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS STUDENT BOOK 1 BY-MILES HUDSON & PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS LAB BOOK</p>	<p>Topic 1: Waves Types of waves Definition of key words Behaviour of waves reflection, refraction, Diffraction, Interference, Standing waves , pulse echo technique, Polarization Practical work</p> <p>Topic 2: Nature of Light Photoelectric Effect & applications Types of Spectra: Emission and Absorption and applications Wave particle duality Practical work</p>	<p>Topic 3: Electric Circuits Simple circuits – Current, Voltage and resistance and Ohm’s Law Combined resistance of Series and Parallel Circuits Energy and Power equations Resistance and resistivity Potential Divider E.m.f and Internal Resistance Types of resistors and their I-V graphs Sensing and Control Circuits Drift velocity Practical work</p>	<p>REVISION Waves Solving Question Papers</p> <p>REVISION Nature of Light Solving Question Papers</p> <p>REVISION DC Electricity Solving Question Papers</p>
<p>Types of Questions Distribution of Marks</p>	<p><u>Mock Exam 1</u> Marks Unit 2: 40 (converted to 80) Unit 3: 25 (converted to 50) IAL Pattern</p>	<p><u>Qualifying Exam</u> Marks Unit 2: 80 Unit 3: 50 IAL Pattern</p>	<p><u>Revision Test (Mock 2)</u> Marks Unit 2: 80 Unit 3: 50 IAL Pattern</p>

□ **Syllabus subject to change under unavoidable circumstances**

CLASS: XI SCIENCE

SUBJECT: CHEMISTRY UNIT 1

Name of the book	Term 1	Term 2	Term 3
<p>PEARSON EDEXCEL INTERNATIONAL A LEVEL CHEMISTRY STUDENT BOOK 1 BY CLIFF CURTIS, JASON MURGATROYD AND DAVID SCOTT.</p>	<p>Topic 1 :Atomic Structure and Periodic Table.</p> <p>Topic 2 :Bonding and Structure- Ionic Bonding Covalent Bonding, Shapes of Molecules, Metallic Bonding Solid Lattices</p>	<p>Topic 3 :Formulae, Equations and Amount of Substances Equations and reaction types Energy Empirical and molecular formulae Calculations with solutions and gases</p> <p>Topic4 :Introductory Organic Chemistry and Alkanes Introduction to organic chemistry Alkanes</p> <p>Topic 5 : Alkenes Alkenes Addition Polymers</p>	<p>Revision</p> <p>Solving Papers from the Question Bank</p>
<p>Types of Questions Distribution of Marks</p>	<p><u>Mock 1 Exam</u> Unit 1 : 40 marks (converted to 80) IAL Pattern</p>	<p><u>Qualifying Exam</u> Unit 1: 80 marks IAL Pattern</p>	<p><u>Revision Exam (Mock 2)</u> Unit 1: 80 marks IAL Pattern</p>

➤ **Syllabus subject to change under unavoidable circumstances**

Name of the book	Term 1	Term 2	Term 3
PEARSON EDEXCEL INTERNATIONAL A LEVEL CHEMISTRY STUDENT BOOK 1 BY CLIFF CURTIS, JASON MURGATROYD AND DAVID SCOTT.	Topic 1: Intermolecular Forces Topic 2: Introduction to Kinetics and Equilibria Topic 3: Redox Chemistry and Group 1, 2 and 7 Redox Chemistry The elements of Group 1 and 2 Inorganic chemistry of group 7 Quantitative chemistry	Topic 4 : Energetics Introducing enthalpy and enthalpy change Standard enthalpy change of combustion Standard enthalpy change of neutralisation Hess's Law Mean bond enthalpy Topic 5: Organic Chemistry: Halogenoalkanes, Alcohols Mass and IR Spectra	Mass and IR Spectra Revision (Discussions of past Question papers)
Types of Questions Distribution of Marks	<u>Mock 1 Exam</u> Unit 2 : 40 marks (converted to 80) IAL Pattern	<u>Qualifying Exam</u> Unit 2: 80 marks IAL Pattern	<u>Revision Exam (Mock 2)</u> Unit 2: 80 marks IAL Pattern

➤ Syllabus subject to change under unavoidable circumstances

Name of the book	Term 1	Term 2	Term 3
<p>PEARSON EDEXCEL INTERNATIONAL A LEVEL CHEMISTRY STUDENT BOOK 1 BY CLIFF CURTIS, JASON MURGATROYD AND DAVID SCOTT.</p>	<p>Practicals:</p> <ol style="list-style-type: none"> 1. Reaction of solid potassium halides with concentrated sulphuric acid. 2. Precipitation reaction for halides and other anions. 3. Experiments to demonstrate the factors that influence the rate of reactions. 4. Finding the concentration of a solution of hydrochloric acid. 5. Preparation of a standard solution from a solid acid and use it to find the concentration of a solution of sodium hydroxide. 	<p>Practicals:</p> <ol style="list-style-type: none"> 1. Oxidation of alcohols 2. Enthalpy change of the reaction between zinc and copper (ii) sulphate solution 3. Enthalpy of hydration of anhydrous copper(ii) sulphate 4. Determination of the enthalpy change of a reaction using Hess's Law. 4. Chlorination of 2-methylpropan-2-ol with concentrated hydrochloric acid. 5. The oxidation of propan-1-ol to produce propanal and propanoic acid. 6. Analysis of some inorganic and organic unknowns. 	<p>Revision (Discussions of past Question papers)</p>
<p>Types of Questions Distribution of Marks</p>	<p><u>Mock 1 Exam</u> Unit 3 : 25 marks (converted to 50) IAL Pattern</p>	<p><u>Qualifying Exam</u> Unit 3: 50 marks IAL Pattern</p>	<p><u>Revision Exam (Mock 2)</u> Unit 3: 50 marks IAL Pattern</p>

Syllabus subject to change under unavoidable circumstances

Name of the book	Term 1	Term 2	Term 3
<p>1. EDEXCEL BIOLOGY AS STUDENT BOOK</p> <p>2. LAB BOOK</p> <p>3. IAL BIOLOGY REVISION GUIDE</p> <p>4. IAS BIOLOGY QUESTION BANK</p>	<p>Topic-1: Chemistry for biologists</p> <ul style="list-style-type: none"> ● The importance of water as a solvent in transport, including its dipole nature ● Monosaccharides, disaccharides and polysaccharides (structure, types, examples, synthesis, importance, risk factors) ● Lipids ● Proteins <p>Topic-2: Mammalian transport systems</p> <ul style="list-style-type: none"> ● The principles of circulation ● Mass transport to overcome the limitations of diffusion ● The structures of blood vessels (capillaries, arteries and veins) relate to their functions ● The cardiac cycle (atrial systole, ventricular systole and cardiac diastole) ● The role of haemoglobin in the transport of oxygen and carbon dioxide 	<p>Topic-4: Membranes and Transport</p> <ul style="list-style-type: none"> ● Cell membranes ● Cell transport and diffusion ● Osmosis: A special case of diffusion ● Active transport ● The need for gas exchange surfaces ● The mammalian gas exchange system <p>Topic -5: Proteins and DNA</p> <ul style="list-style-type: none"> ● Enzymes, ● How enzymes work ● The structure of DNA and RNA ● How DNA works ● The Genetic code ● DNA and protein synthesis <p>Topic -6: Gene expression and genetics</p> <ul style="list-style-type: none"> ● Gene mutation ● Patterns of inheritance ● Sex linkage ● Cystic fibrosis: A genetic disease ● Genetic screening <p>Full specification of unit 1(IAL)</p>	<p>Topic-1: Chemistry for biologists</p> <p>Topic-2: Mammalian transport systems</p> <p>Topic-3: Cardiovascular health and risk</p> <p>Topic-4: Membranes and Transport</p> <p>Topic -5: Proteins and DNA</p> <p>Topic -6: Gene expression and genetics</p> <p>Topic-wise revision according to the specification.</p> <p>IAL Question Papers</p>

	<ul style="list-style-type: none"> • The oxygen dissociation curve of haemoglobin, the Bohr effect • Events that leads to atherosclerosis • The blood clotting process (thromboplastin release, conversion of prothrombin to thrombin and fibrinogen to fibrin) and its role in cardiovascular disease (CVD) <p>Topic-3: Cardiovascular health and risk</p> <ul style="list-style-type: none"> • Risk, correlation and cause • Investigating the cause of CVDs • Risk factors for cardiovascular disease • Diet and cardiovascular health • Dietary antioxidants and cardiovascular disease • Using the evidence • The Benefits and risks of treatment <p>Topic wise revision IAL Question Papers</p>	<p>Topic wise revision IAL Question Papers</p>	
Types of Questions	<u>Mock Exam 1</u>	<u>Qualifying Exam</u>	<u>Revision Test (Mock Test II)</u>
Distribution of Marks	Marks Unit 1: 40 (converted to 80) IAL Pattern	Marks Unit 1: 80 IAL Pattern	Marks Unit 1: 80 IAL Pattern

Syllabus subject to change under unavoidable circumstances

Name of the book	Term 1	Term 2	Term 3
<p>1. EDEXCEL BIOLOGY AS STUDENT BOOK</p> <p>2. SALTERS NUFFIELD AS BIOLOGY STUDENT BOOK</p> <p>3. LAB BOOK</p> <p>4. IAL BIOLOGY REVISION GUIDE</p> <p>5. IAL BIOLOGY QUESTION BANK</p>	<p>Topic-1: Cell structure</p> <ul style="list-style-type: none"> ● Observing cells ● Eukaryotic cells: Common cellular structures ● Eukaryotic cells: Protein transport ● Prokaryotic cells ● The organisation of cells <p>Topic-2: Mitosis, meiosis and reproduction</p> <ul style="list-style-type: none"> ● The cell cycle ● Mitosis ● Sexual reproduction and meiosis ● Gametes: Structure and function ● Fertilisation in mammals and plants <p>Topic-3: Development of organisms</p> <ul style="list-style-type: none"> ● Cell differentiation ● The interactions between genes and the environment ● Controlling gene expression ● Stem cells ● Using stem cells <p>Topic wise revision IAL Question Papers</p>	<p>Topic-4: Plant structure and function</p> <ul style="list-style-type: none"> ● The cell wall ● Plant organelles ● Plant stems ● The importance of water and minerals in plants ● Using plant starch and fibres ● Plant-based medicines ● Developing new drugs <p>Topic -5: Classification</p> <ul style="list-style-type: none"> ● Principals of classification ● Species ● Domain and kingdom <p>Topic -6: Biodiversity and conservation</p> <ul style="list-style-type: none"> ● Biodiversity and endemism ● Measuring Biodiversity ● Adaptation to a niche ● Gene pool and genetic diversity ● Reproduction, isolation and speciation ● Conservation 	<p>Topic-1: Cell structure</p> <p>Topic-2: Mitosis, meiosis and reproduction</p> <p>Topic-3: Development of organisms</p> <p>Topic-4: Plant structure and function</p> <p>Topic -5: Classification</p> <p>Topic -6: Biodiversity and conservation</p> <p>Topic wise revision IAL Question Papers</p>

		Full specification of unit 2 Topic wise revision IAL Question Papers	
Distribution of marks	<u>Mock Exam 1</u> Marks Unit 2: 40 (converted to 80) IAL Pattern	<u>Qualifying Exam</u> Marks Unit 2: 80 IAL Pattern	<u>Revision test (Mock Test II)</u> Marks Unit 2: 80 IAL Pattern

- Syllabus subject to change under unavoidable circumstances**