



BANGLADESH SCHOOL MUSCAT
ACADEMIC YEAR 2026-2027
GRADE: XI- SCIENCE

SUBJECTS

BIOLOGY

CHEMISTRY

INFORMATION TECHNOLOGY (IT)

MATHEMATICS

PHYSICS

Name of the book	Term 1	Term 2	Term 3
1. Edexcel Biology AS Student Book-1 2. Lab Book 3. IAL Biology Revision Guide 4. IAS Biology Question Bank	Topic-1: Chemistry for biologists - 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 Topic 2: Mammalian transport systems - 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)	Topic 4: Membranes and Transport - 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 Topic -5: Proteins and DNA - Enzymes - How enzymes work - The structure of DNA and RNA - How DNA works - The Genetic code - DNA and protein synthesis Topic -6: Gene expression and genetics - Gene mutation - Patterns of inheritance - Sex linkage - Cystic fibrosis: A genetic disease - Genetic screening	Topic-1: Chemistry for biologists Topic 2: Mammalian transport systems Topic-3: Cardiovascular health and risk Topic 4: Membranes and Transport Topic -5: Proteins and DNA Topic -6: Gene expression and genetics Topic-wise revision according to the specification. IAL Question Papers

	• The role of haemoglobin in the transport of oxygen and carbon dioxide • The oxygen dissociation curve of haemoglobin, the Bohr effect • Events that lead to atherosclerosis • The blood clotting process (thromboplastin release, conversion of prothrombin to thrombin and fibrinogen to fibrin) and its role in cardiovascular disease (CVD) Topic-3: Cardiovascular health and risk • 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 Topic-wise revision IAL Question Papers	• Full specification of unit 1(IAL) Topic-wise revision IAL Question Papers	
Distribution of marks	Mock Test I: As per IAL Scheme Unit 1 : 40	Qualifying Exam: As per IAL Scheme Unit 1 : 80	Mock Test II: As per IAL Scheme Unit 1 : 80

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Name of the book	Term 1	Term 2	Term 3
Edexcel Biology AS Student Book Salter's Nuffield AS Biology Student Book Lab Book IAL Biology Revision Guide IAL Biology Question Bank	Topic-1: Cell structure - Observing cells - Eukaryotic cells: Common cellular structures - Eukaryotic cells: Protein transport - Prokaryotic cells - The organisation of cells Topic-2: Mitosis, meiosis and reproduction - The cell cycle - Mitosis - Sexual reproduction and meiosis - Gametes: Structure and function - Fertilisation in mammals and plants Topic-3: Development of organisms - Cell differentiation - The interactions between genes and the environment - Controlling gene expression - Stem cells - Using stem cells	Topic-4: Plant structure and function - 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 Topic -5: Classification - Principals of classification - Species - Domain and kingdom Topic -6: Biodiversity and conservation - Biodiversity and endemism - Measuring Biodiversity - Adaptation to a niche - Gene pool and genetic diversity - Reproduction isolation and speciation	Topic-1: Cell structure Topic-2: Mitosis, meiosis and reproduction Topic-3: Development of organisms Topic-4: Plant structure and function Topic -5: Classification Topic -6: Biodiversity and conservation

	Topic wise revision IAL Question Papers	• Conservation • Full specification of unit 2 Topic wise revision IAL Question Papers	Topic wise revision IAL Question Papers
Distribution of marks	Mock Test I :As per IAL Scheme Unit 2 : 40	Qualifying Exam :As per IAL Scheme Unit 2 : 80	Mock Test II : As per IAL Scheme Unit 2 : 80

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Name of the book	Term 1	Term 2	Term 3
1. Edexcel Biology AS Student Book 2. Lab Book 3. IAL Biology Revision Guide 4. IAL Biology Question Bank	Core practical-1: - Use a semi-quantitative method with Benedict's reagent to estimate the concentrations of reducing sugars and with iodine solution to estimate the concentrations of starch, using colour standards Core practical-2: - Investigate the vitamin C content of food and drink Core practical-5: (i) Use a light microscope to make observations and labelled drawings of suitable animal cells; (ii) Use a graticule with a microscope to make measurements and understand the concept of scale use a graticule with a microscope to make measurements and understand the concept of scale	Core practical-3: - Investigate membrane properties, including the effect of alcohol and temperature on membrane permeability. Core practical-4: - Investigate the effect of temperature, pH, enzyme concentration and substrate concentration on the initial rate of enzyme-catalysed reactions. Core practical-6: Prepare and stain a root tip squash to observe the stages of mitosis Core practical-7: - Use a light microscope to: (i) make observations, draw and label plan diagrams of transverse sections of roots, stems and leaves (ii) make observations, draw and label cells of plant tissues (iii) Identify sclerenchyma fibres, phloem, sieve tubes and xylem vessels and their location. Investigate factors affecting the growth of pollen tubes.	Revise all the core practicals Topic wise revision according to the IAL specification IAL Question Papers

	Practical activities included in units 1& 2 Topic-wise revision IAL Question Papers Biology Unit-3	Core practical-8: - Determine the tensile strength of plant fibres. Core practical-9: - Investigate the antimicrobial properties of plants, including aseptic techniques for safely handling bacteria. Practical activities included in units 1& 2 Full specification of Unit 3 Topic-wise revision IAL Question Papers Biology Unit-3	
Distribution of marks	Mock Test I: As per the IAL scheme Unit 3 : 25	Qualifying Exam: As per the IAL scheme Unit 3 : 50	Mock Test II: As per IAL Scheme Unit 3 : 50

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CLASS: XI (SCIENCE)**SUBJECT: CHEMISTRY - UNIT-1**

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 :Atomic Structure and Periodic Table. Topic 2 :Bonding and Structure • Ionic Bonding • Covalent Bonding, • Shapes of Molecules, • Metallic Bonding • Solid Lattices Topic 3 :Formulae, Equations and Amount of Substances • Equations and reaction types • Empirical and molecular formulae	Topic 3 :Formulae, Equations and Amount of Substances • Empirical and molecular formulae • Calculations with solutions and gases Topic4 :Introductory Organic Chemistry and Alkanes •Introduction to organic chemistry •Alkanes Topic 5 : Alkenes •Alkenes • Addition Polymers	Revision Topic 1 :Atomic Structure and Periodic Table. Topic 2 :Bonding and Structure Topic 3 :Formulae, Equations and Amount of Substances Topic 3 :Formulae, Equations and Amount of Substances Topic4 :Introductory Organic Chemistry and Alkanes Solving Past Papers from the Question Bank
Distribution of marks	<u>Mock 1 Exam</u> Unit 1 : 40 marks (Questions as per IAL pattern)	<u>Qualifying Exam</u> Unit 1: 80 marks (Questions as per IAL pattern)	<u>Mock-2 Exam</u> Unit 1: 80 marks (Questions as per IAL pattern)

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CLASS: XI (SCIENCE)**SUBJECT: CHEMISTRY - UNIT-2**

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 : Energetics • Introducing enthalpy and enthalpy change • Standard enthalpy change of combustion • Standard enthalpy change of neutralisation • Hess's Law • Mean bond enthalpy Topic 4: Redox Chemistry and Group 1, 2 and 7 • Redox Chemistry • The elements of Group 1 and 2	Topic 4: Redox Chemistry and Group 1, 2 and 7 • Inorganic chemistry of group 7 • Quantitative chemistry Topic 5: Organic Chemistry: • Halogenoalkanes, • Alcohols • Mass and IR Spectra	Revision Topic 1: Intermolecular Forces Topic 2: Introduction to Kinetics and Equilibria Topic 3 : Energetics Topic 4: Redox Chemistry and Group 1, 2 and 7 Topic 5: Organic Chemistry (Discussions of past Question papers)
Distribution of marks	<u>Mock 1 Exam</u> Unit 2 : 40 marks (Questions as per IAL pattern)	<u>Qualifying Exam</u> Unit 2: 80 marks (Questions as per IAL pattern)	<u>Mock 2 Exam</u> Unit 2: 80 marks (Questions as per IAL pattern)

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CLASS: XI (SCIENCE)**SUBJECT: CHEMISTRY - UNIT-3**

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.	Practicals: 1.Enthalpy change of the reaction between zinc and copper (ii) sulphate solution 2.Enthalpy of hydration of anhydrous copper(ii) sulphateDetermination of the enthalpy change of a reaction using Hess's Law. 3.Reaction of solid potassium halides with concentrated sulphuric acid. 4.Precipitation reaction for halides and other anions. 5.Experiments to demonstrate the factors that influence the rate of reactions. 6.Finding the concentration of a solution of hydrochloric acid.	Practicals: 1.Preparation of a standard solution from a solid acid and use it to find the concentration of a solution of sodium hydroxide. 2.Oxidation of alcohols 3.Chlorination of 2-methylpropan-2-ol with concentrated hydrochloric acid. 4.The oxidation of propan-1-ol to produce propanal and propanoic acid. 5.Analysis of some inorganic and organic unknowns.	Revision (Discussions of past Question papers)
Distribution of marks	<u>Mock 1 Exam</u> Unit 3 : 25 marks (Questions as per IAL pattern)	<u>Qualifying Exam</u> Unit 3: 50 marks (Questions as per IAL pattern)	<u>Mock 2 Exam</u> Unit 3: 50 marks (as per IAL pattern)

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CLASS: XI (SCIENCE)**SUBJECT: INFORMATION TECHNOLOGY(IT) - UNIT 1**

Name of the book	Term 1	Term 2	Term 3
Pearson Edexcel International AS Level Information Technology Student Book	Topic 1: Hardware and software Deals with devices, technologies, and software, three areas where rapid changes are common. It is important that students are exposed to recent developments in these areas. It is important that the existing knowledge and experiences of students in using digital devices is built on in these early weeks and that this is shared with the whole group. Topic 2: Networks Deals with networks, network devices, and protocols. There are opportunities in this topic for students to undertake practical networking tasks if suitable equipment is available.	Topic 3: The online environment It is probable that many students will have personal experience of using the internet, they may be members of one or more online communities and may interact via social media. Their experiences may form a useful starting point for some topics but it is important that they do not make the mistake of assuming that what they have seen is all there is. Topic 4: IT systems Deals with IT systems. There are opportunities in this topic for students to undertake practical design tasks if suitable equipment is available. Topic 5: Data and databases This topic has strong links to Units 3 & 4. Access to database software would be useful but students will need to be able to draw their diagrams by hand in the examination.	Topic 6: Wider issues. Although Topic 6 has relatively few sub-topics, most of them are quite challenging and have substantial content which may change / develop rapidly. Revision Discuss Past IAL question Papers.
Types of Questions and Distribution of marks	Mock Test 1 Written exam(2 Hrs):80 Marks [IAL pattern] (Internal Assessment)	Qualifying Exam Written exam(2 Hrs):80 Marks [IAL pattern] (Internal Assessment)	Mock Test 2 Written exam(2 Hrs):80 Marks [IAL pattern] (Internal Assessment)

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CLASS: XI (SCIENCE)**SUBJECT: INFORMATION TECHNOLOGY(IT) - UNIT 2**

Name of the book	Term 1	Term 2	Term 3
Pearson Edexcel International AS Level Information Technology Student Book	Topic 1: Understanding the Functionality of HTML Deals with the understanding of Hypertext Markup Language (HTML). It is expected that students will carry out most of the styling within CSS. Audio and video content will use HTML only. Students may wish to specify the height and width of images, emphasizing or specifying the importance of text and the start and/or type of lists within HTML. Styling will be intensively covered within the CSS content.	Topic 2 Understanding the functionality of CSS CSS documents contain styling rules that describe how HTML elements are displayed.. Topic 3: Understanding the functions of JavaScript JavaScript is the programming language that, when applied to a HTML document, provides dynamic interactivity, such as image sliders, galleries and fluctuating layouts. To make web pages interactive, the JavaScript selects elements on the page. Students will select an element through the Document Object Model (DOM).	Topic 4: Designing web pages Adopting a design, implement, test and iterate approach to coding for the web enables web designers and developers to build functional web pages for specific audiences and purposes. Topic 5: The semantic web Semantic code describes the content rather than how the content should look. Semantic HTML adds functionality to web pages, works better on mobile devices and supports search engine optimization (SEO).
Types of Questions and Distribution of marks	Mock Test 1 Written exam(3 Hrs):80 Marks [IAL pattern] (Internal Assessment	Qualifying Exam Written exam(3 Hrs):80 Marks [IAL pattern] (Internal Assessment	Mock Test 2 Written exam(3 Hrs):80 Marks [IAL pattern] (Internal Assessment

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CLASS: XI (SCIENCE)**SUBJECT: PURE MATHEMATICS 1 - P1**

Name of the book	Mock - 1	Qualifying Exam	Mock - 2
Edexcel IAL Pure mathematics 1 ISBN- 9781292244792	Chapter 1: Algebraic expressions Chapter 2: Quadratics Chapter 3: Equations and inequalities Chapter 4: Graph and transformations Chapter 5: Straight line graphs Chapter 6: Trigonometric ratios Chapter 7: Radians Chapter 8: Differentiation Practice from IAL QP.	Chapter 9: Integration ➤ Revision: Chapter 1-9 ➤ IAL Past Question Papers	• Revision: Full P1 syllabus. • REVISION AND PRACTICE from EDEXCEL IAL QUESTION PAPERS
Types of questions and distribution of Marks	Mock Exam - 1 Marks - 50	Qualifying Exam. Marks- 75 (As per IAL Scheme)	Mock Exam - 2 Marks - 75 (As per IAL Scheme)

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CLASS: XI (SCIENCE)**SUBJECT: PURE MATHEMATICS 2 – P2**

Name of the book	Mock - 1	Qualifying Exam	Mock - 2
Edexcel IAL Pure mathematics 2 ISBN- 9781292244853	Chapter 1: Algebraic methods Chapter 2: Coordinates geometry in the (x, y) plane Chapter 3: Exponential and logarithms Chapter 4: The binomial expansion Chapter 5: Sequence and series Chapter 6: Trigonometric identities and equations Practice from IAL QP.	Chapter 7: Differentiation Chapter 8: Integration ➤ Revision: Chapter 1-8 ➤ IAL Past Question Papers	• Revision: Full P2 syllabus. • REVISION AND PRACTICE from EDEXCEL IAL QUESTION PAPERS
Types of questions and distribution of Marks	Mock Exam - 1 Marks - 50	Qualifying Exam. Marks- 75 (As per IAL Scheme)	Mock Exam - 2 Marks - 75 (As per IAL Scheme)

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CLASS: XI (SCIENCE)**SUBJECT: STATISTICS - S1**

Name of the book	Mock - 1	Qualifying Exam	Mock - 2
Edexcel IAL Statistics - 1 ISBN- 9780435519124.	Chapter 1: Mathematical Modeling. Chapter 2: Measures of Location and Spread. Chapter 3: Representation and Summary of data. Chapter 4: Probability. Chapter 5: Correlation & Regression. Chapter 6: Discrete Random Variables. Chapter 7: Normal Distribution Practice from IAL QP.	➤ Revision: Chapter 1- 7 ➤ IAL past question Papers	• Full S1 syllabus. • REVISION AND PRACTICE from EDEXCEL IAL QUESTION PAPERS
Types of questions and distribution of Marks	Mock Exam - 1 Marks - 50	Qualifying Exam. Marks- 75 (As per IAL Scheme)	Mock Exam - 2 Marks - 75 (As per IAL Scheme)

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CLASS: XI (SCIENCE)**SUBJECT: PHYSICS UNIT 1**

Name of the book	Term 1	Term 2	Term 3
PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS STUDENT BOOK 1 BY-MILES HUDSON	TOPIC-1: MECHANICS A. BASIC • Standard Units in Physics • Estimation B. MOTION • Velocity and Acceleration • Kinematics Equations • Motion Graphs • Vector addition and Resolution • Projectiles • Newton's Laws of Motion • Moments C. ENERGY • Work and Power • Gravitational Potential and Kinetic Energies D. MOMENTUM • Concept of Momentum	TOPIC: 2 MATERIALS A. FLUIDS • Density and Upthrust • Terminal Velocity • Viscosity • Stoke's Law: $F = 6\pi\eta rv$ B. PROPERTIES OF SOLID • Hooke's Law • Stress, Strain and Young Modulus • Stress versus Strain graphs • The elastic strain energy. Revision	Revision Solving Past Papers

	• Conservation of Linear Momentum		
Types of Questions and Distribution of Marks	MOCK Exam 1 Marks: 40 Pattern IAL	Qualifying Exam Marks: 80 Pattern IAL	MOCK Exam 2 Marks: 80 Pattern IAL

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CLASS: XI (SCIENCE)**SUBJECT: PHYSICS UNIT 2**

Name of the book	Term 1	Term 2	Term 3
PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS STUDENT BOOK 1 BY-MILES HUDSON & PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS LAB BOOK	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 Topic 2: Nature of Light • Photoelectric Effect & applications • Types of Spectra: Emission and • Absorption and applications • Wave particle duality	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	REVISION Waves Solving Question Papers REVISION Nature of Light Solving Question Papers REVISION DC Electricity Solving Question Papers
Types of Questions Distribution of Marks	MOCK Exam 1 Marks Unit 2: 40 Pattern: IAL	Qualifying Exam Marks Unit 2: 80 Pattern: IAL	MOCK Exam 2 Marks Unit 2: 80 Pattern: IAL

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CLASS: XI (SCIENCE)**SUBJECT: PHYSICS UNIT 3**

Name of the book	Term 1	Term 2	Term 3
PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS STUDENT BOOK 1 BY-MILES HUDSON & PEARSON EDEXCEL INTERNATIONAL AS / A LEVEL PHYSICS LAB BOOK	Uncertainty and Error calculations Measuring lengths – using micro meter and vernier calliper CORE PRACTICAL 1: Use a falling-ball method to determine the viscosity of a liquid CORE PRACTICAL 2: Determine the acceleration of a freely falling object	CORE PRACTICAL 3: Determine the Young modulus of a material CORE PRACTICAL 4: Determine the Young modulus of a material CORE PRACTICAL 5: Determine the acceleration due to gravity using a simple pendulum	REVISION Waves Past papers DC Electricity Past papers
Types of Questions Distribution of Marks	MOCK Exam 1 Marks Unit 3: 25 Pattern: IAL	Qualifying Exam Marks Unit 3: 50 Pattern: IAL	MOCK Exam 2 Marks Unit 3: 50 Pattern: IAL

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