

Syllabus

Grade-X

Session: 2024-2025



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Ten Basic Tips to Help Stop Climate Change

Climate is defined as an area's long-term weather patterns. The simplest way to describe climate is to look at average temperature and precipitation over time. Other useful elements for describing climate include the type and the timing of precipitation, amount of sunshine, average wind speeds and directions, number of days above freezing, weather extremes, and local geography. You must consider all the factors that work together to determine climate. Don't have a lot of time, but want to take action? Here are ten, simple, everyday things each of us can do to help stop climate change.

Change a light: Replacing a regular light bulb with a compact fluorescent one saves 150 pounds of carbon dioxide each year.

Drive less: Walk, bike, carpool, take mass transit, and/or trip chain. All of these things can help reduce gas consumption and one pound of carbon dioxide for each mile you do not drive.

Recycle more and buy recycled: Save up to 2,400 pounds of carbon dioxide each year just by recycling half of your household waste.

Check your tires: Properly inflated tires mean good gas mileage. For each gallon of gas saved, 20 pounds of carbon dioxide are also never produced.

Use less hot water: It takes a lot of energy to heat water. Reducing the amount used means big savings in not only your energy bills, but also in carbon dioxide emissions.

Avoid products with a lot of packaging: Preventing waste from being created in the first place means that there is less energy waste and fewer resources consumed.

Adjust your thermostat: Keeping your thermostat at 68 degrees in winter and 78 degrees in summer not only helps with your energy bills, but it can reduce carbon dioxide emissions as well.

Plant a tree: A single tree can absorb one ton of carbon dioxide over its lifetime.

Turn off electronic devices when not in use: Simply turning off your TV, VCR, computer and other electronic devices can save each household thousands of pounds of carbon dioxide each year.

Stay informed: Use the Earth 911 Web site to help stay informed about environmental issues, and share your knowledge with others. Together, we can and do make Every Day Earth Day!

Ref:<http://earth911.com/blog/2001/04/02>

Few Words on the Syllabus of 2024-2025

It is our utmost pleasure to introduce you to the syllabus of grade-III to X for the academic year of 2024-2025. We believe a syllabus should help students becoming more effective learners in the course. Hard work and regular studies only can enable students to achieve their desired academic success. To accomplish this aim, unit heads of those classes had been assigned for making and developing the syllabus of 8 subjects taught in different grades. Then the unit heads, with the help of subject-teachers, produce this example of collective effort to give a detailed outline about the topics and readings to be covered in the whole session. We have included CT and Hall test syllabus, question patterns and marks distribution for first and final semester of the current academic year. We have followed Cambridge Curriculum System to make it a useful learning tool. Therefore, learners of SJIS are expected to follow them and take preparations accordingly. Educational institutions should facilitate the scholastic and cognitive development (physical, mental, moral and spiritual) of the young aspirants. In order to achieve this objective, a well-planned syllabus is an essential means. As this is written on our school monogram, advancing in wisdom and virtue, we are dedicated to develop stimulated intellect of our students.

In about 182 years earlier, after the French Revolution, founder of the Congregation of Holy Cross, Blessed Basil Anthony Moreau, CS.C established the congregation with some enthusiast and dedicated brothers and prioritized education to develop his country. In order to follow his legacy Holy Cross Brothers are also serving in different educational institutions to help students transforming into an ideal human being till date.

Since some subjects might not incorporate CT syllabus but the chapters name only, students are asked to discuss these issues with the respective subject-teachers.

In addition, I want to extend my sincere thanks and appreciation to all the soul worked to develop this syllabus. Moreover, any observations or suggestions regarding this syllabus will be highly regarded. With thanks



Brother Victor Bikash D' Rozario, CSC
Vice Principal

English Language 1123

Book's Name:

- English language for Cambridge, O Level, course book - Relevant topics from this book will be revised for paper 1 and paper 2.
- Question paper bank.
- All the necessary handouts will be provided by the teachers to strengthen the quality of English language.

Objectives:

- Completing and revising O level syllabus with the learners.
- R1 demonstrate understanding of explicit meanings
- R2 demonstrate understanding of implicit meanings and attitudes
- R3 analyse, evaluate and develop facts, ideas and opinions, using appropriate support from the text
- R4 demonstrate understanding of how writers achieve effects and influence readers
- R5 select and use information for specific purposes.
- W1 articulate experience and express what is thought, felt and imagined
- W2 organise and structure ideas and opinions for deliberate effect
- W3 use a range of vocabulary and sentence structures appropriate to context
- W4 use register appropriate to context
- W5 make accurate use of spelling, punctuation and grammar.

Name of the exam	Chapters	Pattern	Marks
CT-1	<ul style="list-style-type: none"> Comprehension - understanding of explicit meanings, understanding of implicit meanings and attitude, understanding of how writers achieve effects and influence readers. Summary - understanding of explicit meanings, select and use information for specific purposes, organise and structure ideas and opinions for deliberate effect, use a range of vocabulary and sentence structures appropriate to context, demonstrate understanding of implicit meanings and attitudes. 	Focused on Paper 1 question patterns.	15
Pre-Qualifying Examination	<p>Paper 1</p> <ul style="list-style-type: none"> Comprehension - understanding of explicit meanings, understanding of implicit meanings and attitude, understanding of how writers achieve effects and influence readers. Summary - understanding of explicit meanings, select and use information for specific purposes, organise and structure ideas and opinions for deliberate effect, use a range of vocabulary and sentence structures appropriate to context, demonstrate understanding of implicit meanings and attitudes. Solving O level pattern question papers. <p>Paper 2</p> <ul style="list-style-type: none"> Directed Writing – Discursive/argumentative/ persuasive speech, email, report, letters, article. Composition – Descriptive: A descriptive piece of writing describes a person, place or situation (including atmosphere) in detail so that the reader can picture it. Narrative: A narrative piece of writing tells a story containing a sequence of connected events which may be real or imaginary Task to improve the quality of English language – formal and informal English, sentence constructions, figurative 	Focused on Paper 1 and Paper 2 question patterns.	100

	language, crafted writing, contextualised vocabulary, basic grammar, punctuation. <ul style="list-style-type: none"> • Solving O level pattern question papers. • Necessary handouts will be provided by the teachers to strengthen the quality of English language. • Topics covered in grade 8 and 9, will be included. 		
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Mathematics D 4024

In coordination with Cambridge O Level Mathematics (Syllabus D) 4024 syllabus for 2025, and 2027.

Books:

1. Cambridge O Level Mathematics – Second Edition

Hodder Education

Michael Handbury, Jean Matthews

Series editor: Brian Seager

Contributing author: Elaine Dorsett

(For further practice students will solve O level past papers & worksheets provided on different topics in the class)

Objectives:

This syllabus is specially designed to provide valuable learning experiences to engage the hearts and minds of students sitting for the Cambridge O Level examination in Mathematics. Cambridge O Level Mathematics allows learners to gain lifelong benefits, including:

- Increase intellectual curiosity, develop mathematical language as a means of communication and investigation and explore mathematical ways of reasoning.
- Acquire and apply skills and knowledge relating to numbers, measure, and space in mathematical situations that they will meet in life.
- Acquire a foundation appropriate to their further study of mathematics and of other disciplines.
- Appreciate the pattern, structure and power of mathematics and derive satisfaction, enjoyment, and confidence from the understanding of concepts and the mastery of skills.

Name of the examination	Topic		Pattern	Marks
CT - 1	Patterns and sequences Nets Symmetry		Structured questions	15
Pre-Qualifying Exam	1. Number 2. Set language and notation 3. Squares, square roots, cubes and cube roots 4. Directed numbers 5. Vulgar and decimal fractions and percentages	20. Solutions of equations and inequalities 21. Graphical representation of inequalities 22. Sequences 23. Variation 24. Graphs of functions 25. Function notation 26. Coordinate geometry 27. Geometrical terms 28. Geometrical constructions (not including LOCUS) 29. Similarity and congruence 30. Symmetry 31. Measures	Structured and unstructured questions	200

	6. Ordering 7. Standard form 8. The four operations 9. Estimation 10. Limits of accuracy 11. Ratio, proportion, rate 12. Percentages 13. Use of an electronic calculator 14. Time 15. Money 16. Personal and small business finance 17. Algebraic representation and formulae 18. Algebraic manipulation 19. Indices	32. Trigonometry 33. Vectors in two dimensions 34. Transformations 35. Probability 36. Categorical, numerical and grouped data 37. Statistical diagrams		
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Assessment:

All candidates take two papers: Paper 1 and Paper 2.

Each paper may contain questions on any part of the syllabus and questions may assess more than one topic.

Paper 1	2 hours
<p>Paper 1 has approximately 25 short answer questions. Candidates should show all working in the spaces provided on the question paper. Essential working must be shown for full marks to be awarded. No calculators are allowed for this paper. 100 marks This paper will be weighted at 50% of the total qualification.</p>	
Paper 2	2 hours
<p>Paper 2 has approximately 11 structured questions. Candidates should answer all questions. Electronic calculators may be used and candidates should have access to a calculator for this paper. Candidates should show all working in the spaces provided on the question paper. Essential working must be shown for full marks to be awarded. 100 marks This paper will be weighted at 50% of the total qualification.</p>	

Bengali 3204

Objectives:

- enable students to communicate accurately, appropriately and effectively in writing
- enable students to understand and respond appropriately to what they read
- encourage students to enjoy and appreciate the variety of language
- complement the students' other areas of study by developing skills of a more general application (e.g. analysis, synthesis, drawing of inferences)
- promote the students' personal development and an understanding of themselves and others.

Name of the exam	Chapters	Pattern	Marks
Pre-qualifying Exam	Paper-১ বিভাগ: ক- চিঠি, প্রতিবেদন বিভাগ: খ- রচনা Paper-২ বিভাগ: ক- ১। সন্ধি বিচ্ছেদ ২। বাগধারা, প্রবচন, জোড়া শব্দ ৩। বাক্য রূপান্তর ৪। ক্রোজ পরিচ্ছেদ। বিভাগ: খ- ৫। অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহুবিকল্প প্রশ্ন। বিভাগ: গ- ৬। অনুচ্ছেদ পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন। ৭। শব্দার্থ।	Paper-১ বিভাগ: ক- চিঠি, প্রতিবেদন - ৩০ বিভাগ: খ- রচনা -৬০ Paper-২ বিভাগ: ক- ১। সন্ধি বিচ্ছেদ-১০ ২। বাগধারা, প্রবচন, জোড়া শব্দ-১০ ৩। বাক্য রূপান্তর -১০ ৪। ক্রোজ পরিচ্ছেদ - ২০ বিভাগ: খ- ৫। অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহুবিকল্প প্রশ্ন-১৪ বিভাগ: গ- ৬। অনুচ্ছেদ পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন। -৩৬ ৭। শব্দার্থ -১০	P১- ৯০ P২-১১০
CT-১	প্রথম শ্রেণি পরীক্ষা ১। সন্ধি বিচ্ছেদ ২। চিঠি, প্রতিবেদন	১। সন্ধি বিচ্ছেদ ২। চিঠি, প্রতিবেদন	১৫

Physics 5054

Books: 1. FEDERAL PHYSICS

A course for 'O' Level Second edition

Charles Chew, Leong See Cheng, Chow Siew Foong

2. Cambridge O Level Physics Second edition

Tom Duncan, Heather Kennett

Aim: The aims describe the purposes of a course based on this syllabus.

- acquire scientific knowledge and understanding of scientific theories and practice
- develop a range of experimental skills, including handling variables and working safely
- use scientific data and evidence to solve problems and discuss the limitations of scientific methods
- communicate effectively and clearly, using scientific terminology, notation and conventions
- understand that the application of scientific knowledge can benefit people and the environment
- enjoy science and develop an informed interest in scientific matters which support further study.

Knowledge with understanding

- scientific phenomena, facts, laws, definitions, concepts and theories
- scientific vocabulary, terminology and conventions (including symbols, quantities and units)

- scientific instruments and apparatus, including techniques of operation and aspects of safety
- scientific and technological applications with their social, economic and environmental implications.

Name of the exam	Chapters	Pattern	Marks
CT-1	1. Magnets and induced magnetism 2. Magnetic field lines 3. Electromagnetic induction 4. Working of a d.c motor 5. Working of a a.c. generator 6. The transformer	Paper 1 Multiple Choice Questions Paper 2 Structured Questions	15
Pre-Qualifying Examination	2 Thermal physics <ul style="list-style-type: none"> • 2.1 Kinetic particle model of matter • 2.2 Thermal properties and temperature • 2.3 Transfer of thermal energy 3. Waves <ul style="list-style-type: none"> • 3.1 General properties of waves • 3.2 Light • 3.3 Electromagnetic spectrum • 3.4 Sound 4 Electricity and magnetism <ul style="list-style-type: none"> • 4.1 Simple magnetism and magnetic fields • 4.2 Electrical quantities • 4.3 Electric circuits • 4.4 Practical electricity • 4.5 Electromagnetic effects • 4.6 Uses of an oscilloscope 5 Nuclear physics <ul style="list-style-type: none"> • 5.1 The nuclear model of the atom • 5.2 Radioactivity 6 Space physics <ul style="list-style-type: none"> • 6.1 Earth and the Solar System • 6.2 Stars and the Universe 		P1- 40 P2- 80

Chemistry (5070)

Book: Chemistry Matters.

By Toon, Kwong, Sadler & Sadler, Marshall Cavendish Education

Aims

The aims are to enable students to:

- acquire scientific knowledge and understanding of scientific theories and practice
- develop a range of experimental skills, including handling variables and working safely
- use scientific data and evidence to solve problems and discuss the limitations of scientific methods
- communicate effectively and clearly, using scientific terminology, notation and conventions
- understand that the application of scientific knowledge can benefit people and the environment
- enjoy science and develop an informed interest in scientific matters which support further study.

Exam	Syllabus	Question Pattern	Marks Distribution
CT	6.3: Reversible reactions and equilibrium Unit 1: States of matter 1.1: Solids, liquids and gases		15

Pre-Qualifying	<p>1.2: Diffusion</p> <p>Unit 2: Atoms, Elements and Compounds 2.1: Elements, compounds and mixtures 2.2: Atomic structure and the Periodic Table 2.3: Isotopes 2.4: Ion and Ionic bonds 2.5: Simple molecules and covalent bonds 2.6: Giant covalent structures 2.7: Metallic bonding</p> <p>Unit 3: Stoichiometry 3.1: Formulae 3.2: Relative masses of atoms and molecules 3.3: Mole and Avogadro constant</p> <p>Unit 4: Electrochemistry 4.1: Electrolysis 4.2: Hydrogen-oxygen fuel cells</p> <p>Unit 5: Chemical energetics 5.1: Exothermic and Endothermic reactions</p> <p>Unit 6: Chemical reactions 6.1: Physical and chemical changes 6.2: Rate of reaction 6.3: Reversible reactions and equilibrium 6.4: Redox</p> <p>Unit 7: Experimental techniques and chemical analysis 7.1: The characteristic properties of acids and bases 7.2: Oxides 7.3: Preparation of salts</p> <p>Unit 8: The Periodic Table 8.1: Arrangement of elements 8.2: Group I properties 8.3: Group VII properties 8.4: Transition elements 8.5: Noble gases</p> <p>Unit 9: Metals 9.1: Properties of metals 9.2: Uses of metals 9.3: Alloys and their properties 9.4: Reactivity series 9.5: Corrosion of metals 9.6: Extraction of metals</p> <p>Unit 10: Chemistry of the Environment 10.1: Water 10.2: Fertilisers 10.3: Air quality and climate</p>	<p>Multiple choice questions (P1)</p> <p>Structured questions (P2)</p>	<p>P1: 40 marks</p> <p>P2: 80 marks</p>
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Biology 5090

Books: Cambridge O Level Biology, D. G. Mackean, Dave Hayward
 Reference book: Cambridge IGCSE Biology Coursebook 4th Edition by Mary Jones, Geoff Jones
 O level Past Question Paper

Objectives:

- acquire scientific knowledge and understanding of scientific theories and practice
- develop a range of experimental skills, including handling variables and working safely
- use scientific data and evidence to solve problems and discuss the limitations of scientific methods
- communicate effectively and clearly, using scientific terminology, notation and conventions
- understand that the application of scientific knowledge can benefit people and the environment.
- enjoy science and develop an informed interest in scientific matters which support further study.

Name of the exam	Chapters	Pattern
CT-1	Unit 17: Inheritance Unit 18: Biotechnology & Genetic Engineering	Focused on Paper 1 & Paper-2 question patterns.
Pre - Qualifying Examination	CAIE syllabus of O level 2025 19 Relationships of organisms with one another and with the environment	<p>Paper 1: Multiple Choice 1 hour 40 marks 30%</p> <p>40 four-option multiple-choice questions</p> <p>1. Paper 2: Theory 1 hour 45 minutes 80 marks 50% Short-answer and structured questions</p> <p>2. Paper 3: Practical 1 hour 30 minutes 40 marks 20% Questions will be based on the experimental skills in Section 4</p>

Additional Mathematics (4037)

In accordance with Cambridge O Level Additional Mathematics 4037 syllabus for 2025, 2026 and 2027.

Books:

1. New Syllabus Additional Mathematics (7th Edition)

Author: Prof Lee Peng Yee, Dr Fan Liang Huo – Shinglee Publications

2. Cambridge IGCSE and O Level Additional Mathematics Coursebook (Second Edition)

(For further practice students will solve worksheets given on topics during class and O level past papers)

Objectives: Cambridge O Level Additional Mathematics enriches learners' understanding of connections within mathematics, refining their reasoning and analytical skills. This course reinforces learners' competency, confidence, and fluency in their use of techniques with and without a calculator, strengthening mathematical understanding and communication skills. It requires a fluent and confident ability to solve problems in abstract mathematics.

Cambridge O Level Additional Mathematics encourages learners to further develop their mathematical ability in problem solving, to provide strong progression for advanced study of mathematics or highly numerate subjects. It is designed to stretch the more able candidates and provides a smooth transition to Cambridge International AS & A Level Mathematics.

Our approach in Cambridge O Level Additional Mathematics encourages learners to be:

confident, in using mathematical language and more complex concepts to ask questions, explore ideas and communicate

responsible, by taking ownership of their learning to prepare for independent mathematical learning, and applying their mathematical knowledge and skills so that they can reason, problem solve and work collaboratively

reflective, by making connections within mathematics and across other subjects, and in evaluating methods and presenting logical arguments to justify solutions

innovative, by applying their knowledge and understanding to solve unfamiliar problems creatively, flexibly and efficiently, selecting from a range of mathematical techniques

engaged, by the beauty, patterns and structure of mathematics, they are curious to learn about the relevance of its many applications in society and the economy.

Name of the examination	Topics	Pattern	Marks
CT – 1	Integration (Basic) Integration and Limits Area under curves (Using integration)	Structured questions	15
Pre-Qualifying Exam	1. Functions 2. Quadratic functions 3. Equations, inequalities, and graphs 4. Indices and surds (assumed knowledge from Math D 4024) 5. Factors of polynomials 6. Simultaneous equations 7. Logarithmic functions 8. Straight line graphs 9. Circular measure 10. Trigonometry 11. Vectors in two dimensions 12. Differentiation and integration	Structured and unstructured questions	160

Details of Assessment:

All candidates will take **two** written papers.

Candidates must show all necessary working; no marks will be given to unsupported answers from a calculator.

Paper 1
2 hours, 80 marks Candidates answer all questions. This paper consists of questions of various lengths. Electronic calculators NOT allowed. This is a compulsory component for all candidates.
Paper 2
2 hours, 80 marks Candidates answer all questions. This paper consists of questions of various lengths. Electronic calculators are required. This is a compulsory component for all candidates. .

Computer Science 2210

Books: Cambridge IGCSE™ and O Level Computer Science (Second Edition)

By – David Watson & Helen Williams

Practical Book: Cambridge IGCSE™ and O Level Computer Science – Programming Book for Python

By- Chris Roffey

Objective: The aims describe the purpose of a course based on the syllabus.

The aims are to enable students to develop:

1. Computational thinking skills.
2. An understanding of the main principles of solving problems using computers.
3. The skills necessary to solve computer-based problems using a high-level programming language.
4. An understanding of the component parts of computer systems and how they interrelate.
5. An understanding of the internet as a means of communication and its associated risks.
6. An understanding of the development and use of automated and emerging technology

Name of the exam	Chapters	Pattern	Marks
CT	Paper: 1 Chapter-1: Data Representation=> 1.1: Number System 1.2: Text, Sound and Images 1.3: Data Storage and File compression Chapter-2: Data Transmission=> 2.1: Types and Methods of Data Transmission	T/F, F/B, MCQ, one sentence Q/A, S/Q, B/Q, Creative questions, rearranging given statement is correct order	15

	9.1 Databases Chapter:10 => Boolean Logic 10.1: Standard Logic Gates Symbol 10.2: The function of the Six Logic gates 10.3: Logic Circuits, Logic Expression, Truth Tables and Problem Statements		75
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Accounting 7707

Book's name: 1. Business Accounting 1

Author: Alan Sangster and Lewis Gordon

2. Question paper bank (Paper 1 and Paper 2)

Objective:

The objects are to enable students to develop:

- knowledge and understanding of the principles and purposes of accounting for individuals, businesses, non-trading organizations and society as a whole
- an understanding of accounting concepts, principles, policies, techniques, procedures and terminology
- improved skills of numeracy, literacy, communication, enquiry, presentation and interpretation
- improved accuracy, orderliness and the ability to think logically
- an excellent foundation for advanced study.

Name of the exam	Topic	Pattern	Marks
CT-1	Non-current assets, Provision for depreciation and Disposal account	Structured written paper	15
Pre-Qualifying	1 The fundamentals of accounting 1. The purpose of accounting 2. The accounting equation 2 Sources and recording of data 2.1 The double entry system of book- keeping 2.2 Business documents 2.3 Books of prime entry 3 Verification of accounting Records 3.1 The trial balance	MCQ Structured written paper	P 1: 35 P 2: 100

	3.2 Correction of errors 3.3 Bank reconciliation 3.4 Control accounts 4 Accounting procedures 4.1 Capital and revenue expenditure and receipts 4.2 Accounting for depreciation and disposal of non-current assets 4.3 Other payables and other receivables 4.4 Irrecoverable debts and provision for doubtful debts 4.5 Valuation of inventory 5 Preparation of financial statements 5.1 Sole traders 5.2 Partnerships 5.3 Limited companies 5.4 Clubs and societies 5.5 Manufacturing accounts 5.6 Incomplete records 6 Analysis and interpretation 6.1 Calculation and understanding of accounting ratios 6.2 Interpretation of accounting ratios 6.3 Inter-firm comparison 6.4 Interested parties 6.5 Limitations of accounting statements 7 Accounting principles and policies 7.1 Accounting principles 7.2 Accounting policies		
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Business Studies (7115)

Books: Cambridge IGCSE and O Level Business Studies (5 th Edition)
- Author: Karen Borrington, Peter Stimpson

Objectives: Learners will be able to: •understand different forms of business organisations, the environments in which businesses operate and business functions such as marketing, operations and finance •appreciate the role of people in business success.

Name of the exam	Topics	Pattern	Marks
CT-1	External influences on business activity 1. Statement of financial position 2. Analysis of accounts	<ul style="list-style-type: none"> Short questions Problem solving Calculation 	15
Pre-Qualifying	1 Understanding business activity 1. Business activity 2. Classification of businesses 3. Enterprise, business growth and size 4. Enterprise, business growth and size continued 5. Types of business organization 6. Business objectives and stakeholder objectives 2 People in business	<ul style="list-style-type: none"> Short Answer and Data Response (P 1) Case Study (P 2) 	P 1: 80 P 2: 80

	2.1 Motivating employees 2.2 Organisation and management 2.3 Recruitment, selection and training of employees 2.4 Internal and external communication 3 Marketing 3.1 Marketing, competition and the customer 3.2 Market research 3.3 Marketing mix 3.4 Marketing strategy 4 Operations management 4.1 Production of goods and services 4.2 Costs, scale of production and break-even analysis 4.3 Achieving quality production 4.4 Location decisions 5 Financial information and decisions 5.1 Business finance: needs and sources 5.2 Cash-flow forecasting and working capital 5.3 Income statements 5.3 Income statements continued 5.4 Statement of financial position 5.5 Analysis of accounts 6 External influences on business activity 6.1 Economic issues 6.2 Environmental and ethical issues		
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Economics (2281)

Books: Cambridge IGCSE® and O Level Economics Coursebook (Second Edition)

Author: Susan Grant

Objectives: Students will gain lifelong skills, including:

- an understanding of economic theory, terminology and principles
- the ability to apply the tools of economic analysis
- the ability to distinguish between facts and value judgements in economic issues
- an understanding of, and an ability to use, basic economic numeracy and literacy
- the ability to take a greater part in decision-making processes in everyday life
- an ability to use examples from a variety of economies
- an excellent foundation for advanced study in economic

Name of the exam	Topics	Pattern	Marks
CT-1	Economic development <ul style="list-style-type: none"> • Living standards • Poverty • Population • Differences in economic development between countries 	<ul style="list-style-type: none"> • Short questions • Structured Questions 	15

	International trade and globalisation <ul style="list-style-type: none"> • International specialization • Globalisation, free trade and protection • Foreign exchange rates • Current account of balance of payments 		
Pre-Qualifying	<p>1. The basic economic problem</p> <ol style="list-style-type: none"> 1. The nature of the economic problem 2. The factors of production 3. Opportunity cost 4. Production possibility curve (PPC) diagrams <p>2. The allocation of resources</p> <ol style="list-style-type: none"> 2.1 Microeconomics and macroeconomics 2.2 The role of markets in allocating resources 2.3 Demand 2.4 Supply 2.5 Price determination 2.6 Price changes 2.7 Price elasticity of demand (PED) 2.8 Price elasticity of supply (PES) 2.9 Market economic system 2.10 Market failure 2.11 Mixed economic system <p>3 Microeconomic decision makers</p> <ol style="list-style-type: none"> 3.1 Money and banking 3.2 Households 3.3 Workers 3.4 Trade unions 3.5 Firms 3.6 Firms and production 3.7 Firms' costs, revenue and objectives 3.8 Market structure <p>4 Government and the macroeconomy</p> <ol style="list-style-type: none"> 4.1 The role of government 4.2 The macroeconomic aims of government 4.3 Fiscal policy 4.3 Fiscal policy continued 4.4 Monetary policy 4.5 Supply-side policy 4.6 Economic growth 4.7 Employment and unemployment 4.8 Inflation and deflation <p>5 Economic development</p> <ol style="list-style-type: none"> 5.1 Living standards 5.2 Poverty 5.3 Population 5.4 Differences in economic development between countries <p>6 International trade and globalisation</p> <ol style="list-style-type: none"> 6.1 International specialization 6.2 Globalisation, free trade and protection 	<ul style="list-style-type: none"> • Multiple Choice (P 1) • Structured Questions (P 2) 	P 1: 30 P 2: 90

	6.3 Foreign exchange rates 6.4 Current account of balance of payments		
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Qualifying Examination
English Language 1123

Name of the Examination	Chapters	Pattern	Marks
Qualifying Examination	Paper 1 <ul style="list-style-type: none"> Comprehension - understanding of explicit meanings, understanding of implicit meanings and attitude, understanding of how writers achieve effects and influence readers. Summary - understanding of explicit meanings, select and use information for specific purposes, organise and structure ideas and opinions for deliberate effect, use a range of vocabulary and sentence structures appropriate to context, demonstrate understanding of implicit meanings and attitudes. Solving O level pattern question papers. Paper 2 <ul style="list-style-type: none"> Directed Writing – Discursive/argumentative/ persuasive speech, email, report, letters, article. Composition – Descriptive: A descriptive piece of writing describes a person, place or situation (including atmosphere) in detail so that the reader can picture it. Narrative: A narrative piece of writing tells a story containing a sequence of connected events which may be real or imaginary Task to improve the quality of English language – formal and informal English, sentence constructions, figurative language, crafted writing, contextualised vocabulary, basic grammar, punctuation. Solving O level pattern question papers. Necessary handouts will be provided by the teachers to strengthen the quality of English language. Topics covered in grade 8 and 9, will be included. 	Focused on Paper 1 and Paper 2 question patterns.	100

Mathematics D 4024

(According to the syllabus for the exams in 2023, 2024)

Name of the examination	Topic		Pattern	Marks
Qualifying Exam	1. Number 2. Set language and notation 3. Squares, square roots, cubes and cube roots 4. Directed numbers 5. Vulgar and decimal fractions and percentages 6. Ordering 7. Standard form 8. The four operations 9. Estimation	22. Sequences 23. Variation 24. Graphs in practical situations 25. Graphs of functions 26. Function notation 27. Coordinate geometry 28. Geometrical terms 29. Geometrical constructions 30. Similarity and congruence	Structured and unstructured questions	180

10. Limits of accuracy 11. Ratio, proportion, rate 12. Percentages 13. Use of an electronic calculator 14. Time 15. Money 16. Personal and small business finance 17. Algebraic representation and formulae 18. Algebraic manipulation 19. Indices 20. Solutions of equations and inequalities 21. Graphical representation of inequalities	31. Symmetry 32. Angles 33. Loci 34. Measures 35. Mensuration 36. Trigonometry 37. Vectors in two dimensions 38. Matrices 39. Transformations 40. Probability 41. Categorical, numerical and grouped data 42. Statistical diagrams		
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Assessment:

All candidates take two papers: Paper 1 and Paper 2.

Each paper may contain questions on any part of the syllabus and questions may assess more than one topic.

Paper 1	2 hours
<p>Paper 1 has approximately 25 short answer questions. Candidates should show all working in the spaces provided on the question paper. Essential working must be shown for full marks to be awarded. No calculators are allowed for this paper. 100 marks This paper will be weighted at 50% of the total qualification.</p>	
Paper 2	2 hours
<p>Paper 2 has approximately 11 structured questions. Candidates should answer all questions. Electronic calculators may be used and candidates should have access to a calculator for this paper. Candidates should show all working in the spaces provided on the question paper. Essential working must be shown for full marks to be awarded. 100 marks This paper will be weighted at 50% of the total qualification.</p>	

Bangla 3204

Name of the exam	Chapters	Pattern	Marks
Qualifying Exam	<p>Paper-১ বিভাগ: ক- চিঠি, প্রতিবেদন, কথোপকথন, ভাষণ। বিভাগ: খ- রচনা</p> <p>Paper-২ বিভাগ: ক- ১।সন্ধি বিচ্ছেদ ২।বাগধারা, প্রবচন, জোড়া শব্দ। ৩।বাক্য রূপান্তর, ৪।ক্লোজ পরিচ্ছেদ বিভাগ: খ- ৫। অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহুবিকল্প প্রশ্ন বিভাগ: গ- ৬। অনুচ্ছেদ পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন। ৭। শব্দার্থ</p>	<p>Paper-১ বিভাগ: ক- চিঠি, প্রতিবেদন, কথোপকথন, ভাষণ- ৩০ বিভাগ: খ- রচনা -৬০</p> <p>Paper-২ বিভাগ: ক- ১।সন্ধি বিচ্ছেদ -১০ ২।বাগধারা, প্রবচন, জোড়া শব্দ।-১০ ৩।বাক্য রূপান্তর, -১০ ৪।ক্লোজ পরিচ্ছেদ, -২০ বিভাগ: খ- ৫। অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহুবিকল্প প্রশ্ন-১৪ বিভাগ: গ- ৬। অনুচ্ছেদ পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন। -৩৬ ৭। শব্দার্থ -১০</p>	১০০

Physics 5054

Name of the exam	Chapters	Pattern	Marks
Qualifying Examination	<p>1 Motion, forces and energy 1.1 Physical quantities and measurement techniques 1.2 Motion 1.3 Mass and weight 1.4 Density 1.5 Forces 1.6 Momentum 1.7 Energy, work and power 1.8 Pressure</p> <p>2 Thermal physics 2.1 Kinetic particle model of matter 2.2 Thermal properties and temperature 2.3 Transfer of thermal energy</p> <p>3. Waves 3.1 General properties of waves 3.2 Light 3.3 Electromagnetic spectrum 3.4 Sound</p> <p>4 Electricity and magnetism 4.1 Simple magnetism and magnetic fields 4.2 Electrical quantities 4.3 Electric circuits 4.4 Practical electricity</p>	<p>Paper 1 Multiple Choice Questions</p> <p>Paper 2 Structured Questions</p> <p>Paper 3 Laboratory Question</p>	<p>40</p> <p>80</p> <p>40</p>

	4.5 Electromagnetic effects 4.6 Uses of an oscilloscope 5 Nuclear physics 5.1 The nuclear model of the atom 5.2 Radioactivity 6 Space physics 1. 6.1 Earth and the Solar System 2. 6.2 Stars and the		
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Chemistry 5070

Exam	Syllabus	Question Pattern	Marks Distribution
Qualifying	Unit 1: States of matter 1.1: Solids, liquids and gases 1.2: Diffusion Unit 2: Atoms, Elements and Compounds 2.1: Elements, compounds and mixtures 2.2: Atomic structure and the Periodic Table 2.3: Isotopes 2.4: Ion and Ionic bonds 2.5: Simple molecules and covalent bonds 2.6: Giant covalent structures 2.7: Metallic bonding Unit 3: Stoichiometry 3.1: Formulae 3.2: Relative masses of atoms and molecules 3.3: Mole and Avogadro constant Unit 4: Electrochemistry 4.1: Electrolysis 4.2: Hydrogen-oxygen fuel cells Unit 5: Chemical energetics 5.1: Exothermic and Endothermic reactions Unit 6: Chemical reactions 6.1: Physical and chemical changes 6.2: Rate of reaction 6.3: Reversible reactions and equilibrium 6.4: Redox Unit 7: Experimental techniques and chemical analysis 7.1: The characteristic properties of acids and bases 7.2: Oxides 7.3: Preparation of salts Unit 8: The Periodic Table 8.1: Arrangement of elements 8.2: Group I properties 8.3: Group VII properties	Multiple choice questions (P1) Structured questions (P2) Practical exam (P3)	P1: 40 marks P2: 80 marks P3: 40 marks

	8.4: Transition elements 8.5: Noble gases Unit 9: Metals 9.1: Properties of metals 9.2: Uses of metals 9.3: Alloys and their properties 9.4: Reactivity series 9.5: Corrosion of metals 9.6: Extraction of metals Unit 10: Chemistry of the Environment 10.1: Water 10.2: Fertilisers 10.3: Air quality and climate Unit 11: Organic Chemistry 11.1: Formulae, functional groups and terminology 11.2: Naming organic compounds 11.3: Fuels 11.4: Alkanes 11.5: Alkenes 11.6: Alcohols 11.7: Carboxylic acids 11.8: Polymers		
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Biology 5090

Name of the exam	Chapters	Pattern	Marks
Qualifying Examination	CAIE syllabus of O level 2025 1 Cells 2 Classification 3 Movement into and out of cells 4 Biological molecules 5 Enzymes 6 Plant nutrition 7 Transport in flowering plants 8 Human nutrition 9 Human gas exchange 10 Respiration 11 Transport in humans 12 Disease and immunity 13 Excretion 14 Coordination and control 15 Coordination and response in plants 16 Development of organisms and continuity of life 17 Inheritance 18 Biotechnology and genetic modification 19 Relationships of organisms with one another and with the environment	1. Paper 1: Multiple Choice 1 hour 40 marks 30% 40 four-option multiple-choice questions 2. Paper 2: Theory 1 hour 45 minutes 80 marks 50% Short-answer and structured questions 3. Paper 3: Practical 1 hour 30 minutes 40 marks 20% Questions will be based on the experimental skills in Section 4	Paper 1: 40 Paper 2: 80 Paper 3: 40

Additional Mathematics 4037

(According to the syllabus for the exams in 2023, 2024)

Name of Examination	Topic	Pattern	Marks
Qualifying Exam	<ol style="list-style-type: none">1. Functions2. Quadratic functions3. Equations, inequalities and graphs4. Indices and surds5. Factors of polynomials6. Simultaneous equations7. Logarithmic and exponential functions8. Straight line graphs9. Circular measure10. Trigonometry11. Permutations and combinations12. Series13. Vectors in two dimensions14. Differentiation and integration	Structured and unstructured questions	160

Details of Assessment: All candidates will take **two** written papers.

Candidates must show all necessary working; no marks will be given to unsupported answers from a calculator.

Paper 1
2 hours, 80 marks Candidates answer all questions. This paper consists of questions of various lengths. Electronic calculators are required. This is a compulsory component for all candidates.
Paper 2
2 hours, 80 marks Candidates answer all questions. This paper consists of questions of various lengths. Electronic calculators are required. This is a compulsory component for all candidates.

Computer Science 2210

Name of the exam	Chapters	Pattern	Marks
Qualifying Paper : 1	Chapter-1: Data Representation=> 1.1: Number System 1.2: Text, Sound and Images 1.3: Data Storage and File compression Chapter-2: Data Transmission=> 2.1: Types and Methods of Data Transmission 2.2: Methods of Error detection 2.3: Symmetric and Asymmetric encryption Chapter-3: Hardware=> 3.1: Computer Architecture 3.3: Data Storage Chapter-5: The internet and its uses 5.1 The internet and the World Wide Web (WWW) 5.2 Digital currency 5.3 Cyber security Chapter-6: Automated and emerging technologies 6.1 Automated systems 6.2 Robotics 6.3 Artificial intelligence (AI)	T/F, F/B, MCQ, One sentence Q/A, S/Q, B/Q, Creative questions, rearranging given statement is correct order	75

Name of the exam	Chapters	Pattern	Marks
Qualifying Paper: 2	Chapter-7: Algorithm design and Problem Solving=> 7.1: The Program Development Life Cycle. 7.2: Computer System, Sub-system and decomposition. 7.3: Explaining the purpose of the Algorithm. 7.4: Standard methods of Solution. 7.5: Validation and Verification 7.6: Test data 7.7: Trace table to document dry runs of algorithm.	T/F, F/B, MCQ, One sentence Q/A, S/Q, B/Q, Creative questions, rearranging given statement is correct order	75

	<p>7.8: Identifying errors in Algorithm.</p> <p>7.9: Writing and amending Algorithm.</p> <p>Chapter: 8 => Programming 8.1 Programming Concept 8.2 Arrays 8.3 File handling</p> <p>Chapter: 9 => Database 9.1 Databases</p> <p>Chapter:10 => Boolean Logic 10.1: Standard Logic Gates Symbol 10.2: The function of the Six Logic gates 10.3: Logic Circuits, Logic Expression, Truth Tables and Problem Statements</p>		
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Accounting 7707

Name of the exam	Topics	Pattern	Marks
Qualifying Examination	<p>1 The fundamentals of accounting</p> <ol style="list-style-type: none"> 1. The purpose of accounting 2. The accounting equation <p>2 Sources and recording of data</p> <ol style="list-style-type: none"> 2.1 The double entry system of book- keeping 2.2 Business documents 2.3 Books of prime entry <p>3 Verification of accounting Records</p> <ol style="list-style-type: none"> 3.1 The trial balance 3.2 Correction of errors 3.3 Bank reconciliation 3.4 Control accounts <p>4 Accounting procedures</p> <ol style="list-style-type: none"> 4.1 Capital and revenue expenditure and receipts 4.2 Accounting for depreciation and disposal of non-current assets 4.3 Other payables and other receivables 4.4 Irrecoverable debts and provision for doubtful debts 4.5 Valuation of inventory <p>5 Preparation of financial statements</p> <ol style="list-style-type: none"> 5.1 Sole traders 5.2 Partnerships 5.3 Limited companies 5.4 Clubs and societies 5.5 Manufacturing accounts 5.6 Incomplete records <p>6 Analysis and interpretation</p> <ol style="list-style-type: none"> 6.1 Calculation and understanding of accounting ratios 6.2 Interpretation of accounting ratios 	<p>MCQ</p> <p>Structured written paper</p>	<p>P 1: 35</p> <p>P 2: 100</p>

	6.3 Inter-firm comparison 6.4 Interested parties 6.5 Limitations of accounting statements 7 Accounting principles and policies 7.1 Accounting principles 7.2 Accounting policies		
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Business Studies (7115)

Name of the exam	Chapters	Pattern	Marks
Qualifying Examination	1 Understanding business activity 7. Business activity 8. Classification of businesses 9. Enterprise, business growth and size 10. Enterprise, business growth and size continued 11. Types of business organization 12. Business objectives and stakeholder objectives 2 People in business 2.1 Motivating employees 2.2 Organisation and management 2.3 Recruitment, selection and training of employees 2.4 Internal and external communication 3 Marketing 3.1 Marketing, competition and the customer 3.2 Market research 3.3 Marketing mix 3.4 Marketing strategy 4 Operations management 4.1 Production of goods and services 4.2 Costs, scale of production and break-even analysis 4.3 Achieving quality production 4.4 Location decisions 5 Financial information and decisions 5.1 Business finance: needs and sources 5.2 Cash-flow forecasting and working capital 5.3 Income statements 5.3 Income statements continued 5.4 Statement of financial position 5.5 Analysis of accounts 6 External influences on business activity 6.1 Economic issues 6.2 Environmental and ethical issues 6.3 Business and the international economy 6.3 Business and the international economy continued	<ul style="list-style-type: none"> • Short Answer and Data Response (P 1) • Case Study (P 2) 	P 1: 80 P 2: 80

Economics (2281)

Name of the exam	Chapters	Pattern	Marks
Qualifying Examination	<p>3. The basic economic problem</p> <ol style="list-style-type: none"> 1. The nature of the economic problem 2. The factors of production 3. Opportunity cost 4. Production possibility curve (PPC) diagrams <p>4. The allocation of resources</p> <ol style="list-style-type: none"> 2.1 Microeconomics and macroeconomics 2.2 The role of markets in allocating resources 2.3 Demand 2.4 Supply 2.5 Price determination 2.6 Price changes 2.7 Price elasticity of demand (PED) 2.8 Price elasticity of supply (PES) 2.9 Market economic system 2.10 Market failure 2.11 Mixed economic system <p>3 Microeconomic decision makers</p> <ol style="list-style-type: none"> 3.1 Money and banking 3.2 Households 3.3 Workers 3.4 Trade unions 3.5 Firms 3.6 Firms and production 3.7 Firms' costs, revenue and objectives 3.8 Market structure <p>4 Government and the macroeconomy</p> <ol style="list-style-type: none"> 4.1 The role of government 4.2 The macroeconomic aims of government 4.3 Fiscal policy 4.3 Fiscal policy continued 4.4 Monetary policy 4.5 Supply-side policy 4.6 Economic growth 4.7 Employment and unemployment 4.8 Inflation and deflation <p>5 Economic development</p> <ol style="list-style-type: none"> 5.1 Living standards 5.2 Poverty 5.3 Population 5.4 Differences in economic development between countries <p>6 International trade and globalisation</p> <ol style="list-style-type: none"> 6.1 International specialization 6.2 Globalisation, free trade and protection 6.3 Foreign exchange rates 6.4 Current account of balance of payments 	<ul style="list-style-type: none"> • Multiple Choice (P 1) • Structured Questions (P 2) 	<p>P 1: 30</p> <p>P 2: 90</p>