Syllabus

Grade-VIII Session: 2024-2025



St. Joseph International School

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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 do 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 times, 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 tan of carbon dioxide over its lifetime.

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

Stay in formed: 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

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English Language 1123

Books' Names:

Cambridge lower secondary English learners book 9 by Graham Elsdon Cambridge lower secondary English workbook 9 by Graham Elsdon

Objectives:

- Introducing O level syllabus to 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.

Half Yearly Syllabus

Name of the Exam	Chapters	Pattern	Marks Percentage
Half Yearly Exam	 Unit one - writing formal reviews, travel writing Unit two – punctuation, descriptive writing Unit three - writing reports, writing story endings, descriptive writing Unit four - writing speech, writing story openings, making predictions 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. Task to improve the quality of English language – formal and informal English, sentence constructions, figurative language, crafted writing, contextualized vocabulary, basic grammar, punctuation. 	Paper 1 and Paper 2 question patterns.	60%

CT-1	 Unit one - writing formal reviews, travel writing Unit two – punctuation Comprehension - understanding of explicit meanings, understanding of implicit meanings and attitude, understanding of how writers achieve effects and influence readers. Task to improve the quality of English language – formal and informal English, sentence constructions 	Focused on Paper 1 question patterns.	
CT-2	 Unit two – descriptive writing Unit three - writing reports, writing story endings, descriptive writing Unit four - writing speech, writing story openings, making predictions 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. Task to improve the quality of English language –figurative language, crafted writing, contextualized vocabulary, basic grammar, punctuation. 	Focused on Paper 2 question patterns.	40%
	Assignment/ Presentation	100	
	Total	100	

Name of the Examination	Chapters	Pattern	Marks percentage
Annual Examination	 Unit five - imaginative, writing personal responses, discursive responses Unit eight - analyses of language, writing, dramatic scenes, writing article, writing, persuasive speech, writing, science, fiction stories Unit nine - writing biography, writing short stories with twists 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 	Paper 1 and Paper 2 question patterns.	60%

Task to improve the quality of English language – formal and informal English, sentence constructions, figurative language, crafted writing, contextualized vocabulary, basic grammar, punctuation. Unit five - imaginative, writing personal responses, discursive responses Unit eight - analyses of language, writing, dramatic scenes, writing article, writing, persuasive speech, writing, science, fiction stories Comprehension - understanding of explicit meanings, understanding of implicit meanings, understanding of how writers achieve effects and influence readers. Task to improve the quality of English language – formal and informal English, sentence constructions voice of the propose, 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. Task to improve the quality of English language – figurative language, crafted writing, contextualized vocabulary, basic grammar, punctuation. SBA Assignment/Pre sentation Total		a range of vocabulary and sentence structures appropriate to context, demonstrate understanding of implicit meanings and attitudes.		
responses, discursive responses Unit eight - analyses of language, writing, dramatic scenes, writing article, writing, persuasive speech, writing, science, fiction stories Ct-1 Ct-2 Ct-2 Ct-2 Ct-2 Ct-2 Ct-2 Ct-2 Ct-2 Ct-2 Ct-3 Ct-3 Ct-4 Ct-4 Ct-4 Ct-5 Ct-5 Ct-6 Ct-7 Ct-8 Ct-8 Ct-8 Ct-8 Ct-9 Ct-9 Ct-9 Ct-1 Ct-2 Ct-2		language – formal and informal English, sentence constructions, figurative language, crafted writing, contextualized		
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. Task to improve the quality of English language – figurative language, crafted writing, contextualized vocabulary, basic grammar, punctuation.	Ct-1	 responses, discursive responses Unit eight - analyses of language, writing, dramatic scenes, writing article, writing, persuasive speech, writing, science, fiction stories Comprehension - understanding of explicit meanings, understanding of implicit meanings and attitude, understanding of how writers achieve effects and influence readers. Task to improve the quality of English language – formal and informal English, 	_	
sentation	SBA	 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. Task to improve the quality of English language – figurative language, crafted writing, contextualized vocabulary, basic 	_	40%
	Assignment/Pre			
	sentation Total			100

Bengali

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.

Half Yearly Syllabus

NI	Haif Yearly Syllabus		
Name of the Exam	Chapters	Pattern	Marks
Exam	Paner-1	১। দ'টি বিষয় থেকে	
Half Yearly Examination	বিভাগ: ক- চিঠি: ১।তুমি এবং তোমার কয়েকজন বন্ধু মিলে সুন্দরবন ভ্রমণে গিয়েছিলে। তোমার অন্য এক বিদেশী বন্ধুকে ভ্রমণের এ অভিজ্ঞতা বিনিময় করে একটি চিঠি লেখ। ২।সম্প্রতি তুমি একটি সাংস্কৃতিক উৎসব দেখেছ।এ বিষয়ে তোমার প্রিয় বন্ধুকে একটি পত্র লেখ। ৩।দরিদ্র শিশুদের পড়ালেখার জন্য তোমার বন্ধু কিছু করতে চায়।এ বিষয়ে পরামর্শ দিয়ে বিদেশী বন্ধুকে একটি চিঠি লেখ। প্রতিবেদন: ১। তোমার এলাকায় জলাবদ্ধতার সমস্যা নিয়ে পত্রিকায় প্রকাশের জন্যে একটি প্রতিবেদন লেখ। ২। বিদ্যুৎ ব্যাবহারে সচেতনতা বৃদ্ধিতে করনীয় পদক্ষেপ সম্বন্ধে পত্রিকায় প্রকাশের জন্যে একটি প্রতিবেদন লেখ। ৩। সম্প্রতি তোমার বিদ্যালয় প্রাক্ষণে আন্তঃস্কুল ক্রীড়া প্রতিযোগিতার আয়োজন করা হয়েছে। সে বিষয়ে একটি প্রতিবেদন লেখ। বিভাগ: খ-রচনা: ১। স্কুলের শিক্ষাক্রমে খেলাখুলার প্রয়োজনীয়তা ২। তোমার প্রিয় একটি ঋতু। ৩। ছাত্রজীবনে বন্ধুত্তের প্রয়োজনীয়তা । ৪। বাংলার কুটিরশিল্প। ৫।তোমার জীবনের লক্ষ্য Paper-2 ১।সন্ধি বিচ্ছেদ ২।বাগধারা ৩।বাক্য রূপান্তর ৪।ফ্রোজ পরিচ্ছেদ। ৫।অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহুবিকল্প প্রশ্ন।	১। দু'টি বিষয় থেকে যেকোনো একটি বেছে নিয়ে প্রায় ১২০ শব্দে উত্তর লেখা। ২। তিনটি রচনার মধ্যে থেকে যেকোনো একটি বিষয়ে প্রায় ২০০ শব্দে রচনা লেখা। ৩।সন্ধি বিচ্ছেদ ৪।বাগধারা ৫।বাক্য রূপান্তর ৬।অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহুবিকল্প প্রশ্ন।	60
CT-1	প্রথম শ্রেণি পরীক্ষা চিঠি, প্রতিবেদন।	চিঠি, প্রতিবেদন।	15
CT-2	দ্বিতীয় শ্রেণি পরীক্ষা ১।সন্ধি বিচ্ছেদ ২।বাগধারা ৩।অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহুবিকল্প প্রশ্ন।	১।সন্ধি বিচ্ছেদ ২।বাগধারা ৩।অনুচ্ছেদ পড়ে বোধ জ্ঞানের বহবিকল্প প্রশ্ন।	15
	SBA		10
	Assignment/Presentation		10
	Total		100

Name of the	Annual Term Syllabus	.	
Exam	Chapters	Pattern	Marks
Annual Examination	বিভাগ: ক- কথোপকথন: ১। তুমি সম্প্রতি একটি বিজ্ঞানমেলায় অংশগ্রহণ করেছ। সেই অভিজ্ঞতা সম্বন্ধে তোমার বন্ধুর সাথে একটি কথোপকথন লেখ। ২। একটি ক্রিকেট ম্যাচ সরাসরি দেখার প্রতিক্রিয়া নিয়ে জনৈক বেতার প্রতিবেদকের সক্ষে একটি কথোপকথন লেখ। ৩। পরীক্ষার প্রস্তুতি সম্বন্ধে বন্ধুর সাথে কথোপকথন লেখ। ভাষণ: ১. 'ইন্টারনেট এর ইতিবাচক দিক ছাত্রজীবনকে করেছে সমৃদ্ধা'-এই বিষয়ের উপর বিদ্যালয়ের বার্ষিক সাংস্কৃতিক অনুষ্ঠানে ভাষণ দেয়ার জন্য তোমার শ্রেণি শিক্ষক তোমাকে নির্বাচন করেছেন।একটি ভাষণ লেখ। ৩।'প্রাতিষ্ঠানিক পড়ালেখার পাশাপাশি সহশিক্ষাক্রমিক কার্যক্রমের ভূমিকা অপরিসীম'-বিদ্যালয়ের তৃতীয় শ্রেণির নবীন বরণ অনুষ্ঠানে তোমাকে নির্বাচিত করা হয়েছে।বিষয়টির উপরএকটি ভাষণ লেখ। বিভাগ: খ- রচনা ১। তোমার প্রটি বেলার একটি প্রিয় ঘটনা। ২। তোমার প্রিয় ব্যক্তিত। ৩। ইন্টারনেটের আসক্তি ছাত্রজীবনের জন্যে বিপর্যয়- মতামত দাও। ৪।বাংলা নববর্ষ ৫।ছাত্রজীবনে সময়ের সঠিক ব্যবহার ব্যক্তিজীবনকে আলোকিত করে। Paper-2 ১)সন্ধি বিচ্ছেদ ২।বাগধারা, প্রবচন। ৩।বাক্য রূপান্তর ৪।ফ্রোজ্ব পরিছেদ। বিভাগ: খ- ৫। অনুছেদে পড়ে বোধ জ্ঞানের বহবিকল্প প্রশ্ন। বিভাগ: গ- ৬। অনুছেদে পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন। বান্ধ্যক্র সিলেবাস রিভিশন হবে)	১। দু'টি বিষয় থেকে যেকোনো একটি বেছে নিয়ে প্রায় ১২০ শব্দে উত্তর লেখা। ২।তিনটি রচনার মধ্যে থেকে যেকোনো একটি বিষয়ে প্রায় ২০০ শব্দে রচনা লেখা। ৩।সন্ধি বিছেদ ৪।প্রবচন, জোড়া শব্দ ৫।ক্লোজ পরিছেদ ৬। অনুছেদ পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন। ৭। শব্দার্থ	60
CT-1	প্রথম শ্রেণি পরীক্ষা ভাষণ, কথোপকথন লেখা।	ভাষণ, কথোপকথন লেখা।	15
CT-2	দিতীয় শ্রেণি পরীক্ষা প্রচন, জোড়া শব্দ ক্লোজ পরিচ্ছেদ। অনুচ্ছেদ পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন।	প্রবচন, ক্লোজ পরিচ্ছেদ। অনুচ্ছেদ পড়ে বোধ জ্ঞানের মুক্ত প্রশ্ন।	15
	SBA		10
	Assignment/Presentation		10
	Total		100

Mathematics (Syllabus D)

(According to the O level syllabus for the exams in 2025, 2026, 2027)

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.

Books:

1. Cambridge O Level Mathematics Course book (Second Edition)

Author: Audrey Simpson

2. Cambridge O Level Mathematics (Second Edition) Hodder Education

Author: Micheal Handbury, Jean Matthews

[The syllabus is made based on the book: Cambridge O Level Mathematics (Second Edition) Hodder Education Author:

Micheal Handbury, Jean Matthews]

Half Yearly Syllabus

Name of the Exam	Chapter / Topic	Question Pattern	Marks and Time
Half Yearly Examination	 Number Sets Powers and roots Fractions, decimals and percentages Ordering The four operations Indices 1 Standard form Estimation Limits of accuracy Ratio and proportion Rates Percentages Using a calculator Time Money Introduction to algebra Algebraic manipulation Algebraic fractions Functions Coordinate geometry 	Structured and unstructured questions	Paper 1 Marks: 50 Time: 1 hr Paper 2 Marks: 50 Time: 1 hr

CT-1	Chapter 1 - 6	Structured and unstructured questions	Marks: 15 Time: 25 min.
CT-2	Chapter 12 - 16	Structured and unstructured questions	Marks: 15 Time: 25 min.
	SBA		10
	Assignment		10

Half yearly Exam Pattern		
Paper 1: Non-calculator	Paper 2: Calculator	
1 hour 50 marks Structured and unstructured questions. Use of a calculator is not allowed	1 hour 50 marks Structured and unstructured questions. A scientific calculator is required.	

CT, SBA & Assignment marks will be converted into 40%. Hall test marks will be converted into 60%

Name of the Exam	Chapter / Topic	Question Pattern	Marks and Time
Annual Examination	17. Exponential growth and decay 18. Surds 22. Indices 2 23. Equations 24. Inequalities 25. Sequences 26. Proportion 27. Units of measure 28. Mensuration Revision of All Chapters from Half yearly	Structured and unstructured questions	Paper 1 Marks: 60 Time: 1 hr 30 min. Paper 2 Marks: 60 Time: 1 hr 30 min.

CT-1	Chapter:17, 18, 22	Structured and unstructured questions	Marks: 15 Time: 25 min.
CT-2	Chapter:23, 24	Structured and unstructured questions	Marks: 15 Time: 25 min.
	SBA		10
	Assignment		10

Annual Exam Pattern		
Paper 1: Non-calculator	Paper 2: Calculator	
1 hour 30 minutes 60 marks Structured and unstructured questions. Use of a calculator is not allowed.	1 hour 30 minutes 60 marks Structured and unstructured questions. A scientific calculator is required.	

CT, SBA & Assignment marks will be converted into 40%. Hall test marks will be converted into 60%

Physics

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.

Books: Cambridge IGCSE
PHYSICS Fourth Edition
Heather Kennett, Tom Duncan

Half Yearly Syllabus

Name of the Exam	Chapters	Pattern	Marks
	1 Motion, forces and energy	Structured Questions	
	Unit 1.1: Physical quantities and	Multiple Choice Questions	
	measurement techniques		
	Unit 1.2: Motion		
Half Yearly	Unit 1.3: Mass and weight		60%
Examination	Unit 1.4: Density		0070
	Unit 1.5: Forces		
	Unit 1.6: Momentum		
	Unit 1.7: Energy, work and Power		
	Unit 1.8 :Pressure		
	Unit 1.1: Physical quantities and	Structured Questions	
	measurement techniques	Multiple Choice Questions	
CT-1	Unit 1.2: Motion		
	Unit 1.3: Mass and weight		
	Unit 1.4: Density		
	Unit 1.5: Forces	Structured Questions	
	Unit 1.6: Momentum	Multiple Choice Questions	40%
CT-2	Unit 1.7: Energy, work and Power		
	Unit 1.8 :Pressure		
	SBA		
	Assignment /Lab Copy / Class		
	Performance		
	Total		100

Name of the Exam	Chapters	Pattern	Marks
Annual Examination	2 Thermal physics Unit 2.1:Kinetic model of matter Unit 2.2: Thermal properties and temperature Unit 2.3: Transfer of thermal energy 3. Waves Unit 3.1: General properties of waves Unit 3.2: Light Unit 3.3: Electromagnetic spectrum Unit 3.4: Sound 4.Electricity and magnetism Unit 4.1:Simple phenomena of magnetism Unit 4.2:Electrical quantities Unit 4.3: Electric circuits Unit 4.4: Electrical safety Unit 4.5: Electromagnetic effects	Structured Questions Multiple Choice Questions	60%
CT-1	2 Thermal physics Unit 2.1:Kinetic model of matter Unit 2.2: Thermal properties and temperature Unit 2.3: Transfer of thermal energy 3. Waves Unit 3.1: General properties of waves	Structured Questions Multiple Choice Questions	40%

	Unit 3.2: Light		
CT-2	Unit 3.3: Electromagnetic spectrum Unit 3.4: Sound 4.Electricity and magnetism Unit 4.1:Simple phenomena of magnetism Unit 4.2:Electrical quantities Unit 4.3: Electric circuits Unit 4.4: Electrical safety Unit 4.5: Electromagnetic effects	Structured Questions Multiple Choice Questions	
	SBA]
	Assignment /Lab Copy / Class		
	Performance		
	Total		100

Chemistry

Objective:

Approaching this syllabus for grade 8 Chemistry the learners will be beneficiary in many ways.

- It will help students for the next step of their education, to become confident, responsible, reflective, innovative and engaged.
- Learners will get a thorough knowledge and understanding of the subject matters and get help to develop their skills and the knowledge acquired to solve problems in everyday life, including the sustainability issues and the challenges facing our environment.
- It will help learners to develop a life-long curiosity about the natural world and enables them to seek scientific explanations to the phenomena around them.

Book:

1. Chemistry Matters (2nd Edition)

Authors: Tan Yin Toon, Chen Ling Kwong, John Sadler, Emily Sadler (Marshall Cavendish Education)

Half Yearly Syllabus

Name of the Exam	Chapters	Pattern	Marks
Half Yearly Examination	Chapter 1: Kinetic Particle Theory Chapter 2: Measurement and Experimental Techniques Chapter 3: Separation and Purification Chapter 4: Elements, Compounds and Mixtures Chapter 5: Atomic Structure Chapter 6: Ionic Bonding Chapter 7: Covalent and Metallic Bonding	 Multiple choice questions Structured questions (Including questions from Lab sessions) 	60%
CT-1	Chapter 1: Kinetic Particle Theory	Multiple choice questionsStructured questions	

Name of the Exam	Chapters	Pattern	Marks
	Chapter 2: Measurement and Experimental Techniques		40%
CT-2	Chapter 3: Separation and Purification Chapter 4: Elements, Compounds and Mixtures Multiple choice questions Structured questions		
	SBA	•	
	Assignment		
	Total		

Name of the	Chapters	Pattern	Marks
Exam Annual Examination	Chapter 8: Writing Chemical Equations Chapter 9: The Mole Chapter 10: Chemical Calculations Chapter 11: Acids and Bases Chapter 12: Salts Chapter 13: Oxidation and Reduction Chapter 16: The Periodic Table Revision: Half Yearly syllabus. (30% of questions will be provided from the Half Yearly syllabus).	 Multiple choice questions Structured questions (Including questions from Lab sessions) 	60%
CT-1	Chapter 8: Writing Chemical Equations Chapter 9: The Mole Chapter 10: Chemical Calculations Chapter 11: Acids and Bases	 Multiple choice questions Structured questions Multiple choice questions Structured questions 	40%
	SBA Assignment		
	Total		100

The above chapters will cover the below-listed topics from the **Cambridge O Level Chemistry 5070 syllabus**. If required, additional handouts will be provided.

1 : States of matter (Chapter 1)

1.1 : Solids, liquids and gases

1.2 : Diffusion

2 : Atoms, Elements and Compounds (Chapter 4, 5, 6, 7)

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

3 : Stoichiometry (Chapter 8, 9, 10)

3.1 : Formulae

3.2 : Relative masses of atoms and molecules3.3 : The mole and the Avogadro constant

6 : Chemical reactions (Chapter 13)6.1 : Physical and chemical changes

6.4 : Redox

7 : Acids, bases and salts (Chapter 11, 12)

7.1 : The characteristic properties of acids and bases

7.3 : Preparation of salts

8 : The Periodic Table (Chapter 16)

8.1 : Arrangement of elements

8.2 : Group I properties8.3 : Group VII properties8.4 : Transition elements

8.5 : Noble gases

12 : Experimental techniques and chemical analysis (Chapter 2, 3, 10, 12)

12.1 : Experimental design12.2 : Acid–base titrations12.3 : Chromatography

12.4 : Separation and purification12.5 : Identification of ions and gases

Biology

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.

Books: Cambridge GCE o level biology Book D.G. Mackean, Dave Hayward Half Yearly Syllabus

Name of the Exam	Chapters		Pattern	Marks
Half Yearly Examination	Unit 1: Cells Unit 2: Classification Unit 3: Movement into and out of cells Unit 4: Biological molecules	60 mi 40 ma	arks ur-option multiple-choice	*The total marks from the hall test will be converted into 60%.

	Total		100
	& Practical C.W.	2. Labeling/Drawing3. Observation	
	Practical Class Attendance	1. Experiment	10
	SBA		10
		4. Multiple Choice Questions,5. Labeling/Drawing	
CT-2	Unit 8: Human nutrition	Questions, 3. Fill in the blanks	
CTI 2	Unit 5: Enzymes	2. Short-Answer	
	molecules	Questions,	
	Unit 4: Biological	Creative/Structured	15
	and out of cens	5. Labeling/Drawing	
CT-1	Unit 3: Movement into and out of cells	3. Fill in the blanks4. Multiple Choice Questions,	
CT 1	Unit 2: Classification	2. Short-Answer Questions,	
	Unit 1: Cells	1. Creative/Structured Questions,	15
	assessment.		
	Practical & Theoretical	questions	
	Half Yearly Examination are included for both	questions	
	* All the chapters from	50 marks Short-answer and structured	Class Test
	* 411.1	1 hour 15 minutes	SBA, Practical Class and
	Unit 8: Human nutrition	2. Paper 2: Theory	provided by assessing the
	Unit 5: Enzymes		*Other 40% mark will be

Name of the Exam	Chapters	Pattern	Marks
Annual Examination	Unit 6: Plant nutrition Unit 7: Transport in Flowering Plants Unit 9: Human Gas Exchange Unit 10: Respiration Unit 11 Transport in Humans Unit 15: Coordination and Response in Plants Topics from the 1st semester will also be included in the 2nd semester. * All the chapters from Half Yearly Examination is included for Practical assessment only.	 Paper 1: Multiple Choice 60 minutes 40 marks 40 four-option multiple-choice questions Paper 2: Theory 1 hour 15 minutes 50 marks Short-answer and structured questions Paper 3: Practical 1 hour 30 marks Questions will be based on the basic experimental skills in Section 4 	*The total marks from the hall test will be converted into 60% *Other 40% mark will be provided by assessing the SBA, Practical Class and Class Test
CT-1	Unit 6: Plant Nutrition Unit 7: Transport in Flowering Plants Unit 11 Transport in Humans	 Creative/Structured Questions, Short-Answer Questions, Fill in the blanks Multiple Choice Questions, Labeling/Drawing 	15
CT-2	Unit 9: Human Gas Exchange Unit 10: Respiration Unit 15: Coordination and Response in Plants	 Creative/Structured Questions, Short-Answer Questions, Key words True or False Questions, Labeling/Drawing 	15
	SBA		10 100

Additional Mathematics 4037

(According to the syllabus for the exams in 2025, 2026, 2027)

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.

Books:

- 1. Cambridge IGCSE and O Level Additional Mathematics Coursebook (Second Edition)
- 2. New Syllabus Additional Mathematics (7th Edition), Author: Prof Lee Peng Yee, Dr Fan Liang Huo – Shinglee Publications

The syllabus is made based on Cambridge IGCSE and O Level Additional Mathematics Course book (Second Edition)
Half Yearly Syllabus

Name of the Exam	Topics	Pattern	Marks and Time
	Chapter 2: Simultaneous equations and quadratics	Structured and unstructured	Paper 1 (Non-calculator) 40 Marks
Half Yearly	Chapter 3: Indices and surds	questions	Time: 1 hour
Examination	Chapter 4: Factors and polynomials		
			Paper 2 (Calculator) 40
			Marks
			Time: 1 hour

CT-1	Chapter 2: Simultaneous equations and quadratics	Structured and unstructured questions	15 Marks Time: 25 minutes
CT-2	Chapter 3: Indices and surds	Structured and unstructured questions	15 Marks Time: 25 minutes
	SBA		10
	Assignment		10

Half-yearly Exam pattern	
Paper 1: Non-calculator	Paper 2 : Calculator
1 hour 40 marks Structured and unstructured questions Use of a calculator is not allowed	1 hour 40 marks Structured and unstructured questions A scientific calculator is required

CT, SBA & Assignment marks will be converted into 40%.

Hall test marks will be converted into 60%

Name of the	Topics	Pattern	Marks and Time
Examination			
	Chapter 1: Functions	Structured and	Paper 1
	Chapter 6: Logarithmic and exponential	unstructured	(Non-calculator)
	functions	questions	60 Marks
	Chapter 7: Straight-line graphs		Time: 1 hour 30 minutes
Ammusl	Chapter 9: Trigonometry		
Annual Examination			
Examination	Revision:		Paper 2 (Calculator) 60
	Chapter 2: Simultaneous equations and		Marks
	quadratics		Time: 1 hour 30 minutes
	Chapter 3: Indices and surds		
	Chapter 4: Factors and polynomials		
	Chapter 1: Functions	Structured and	15 Marks
CT-1		unstructured	Time: 25 minutes
		questions	
	Chapter 6: Logarithmic and exponential	Structured and	15 Marks
CT-2	functions	unstructured	Time: 25 minutes
		questions	
	SBA		10
	Assignment		10

Annual Exam pattern			
Paper 1: Non-calculator	Paper 2 : Calculator		
1 hour 30 minutes 60 marks Structured and unstructured questions Use of a calculator is not allowed	1 hour 30 minutes 60 marks Structured and unstructured questions A scientific calculator is required		

CT, SBA & Assignment marks will be converted into 40%. Hall test marks will be converted into 60%

Bangladesh Studies

Objectives:

- To understand the life and influence of major cultural figures in Bangladesh
- To acquire a sound knowledge of the history and culture of Bangladesh
- To know about the location and characteristics of the main landforms and rivers of Bangladesh
- To learn about the formation of the main features of the major rivers
- To comprehend the importance of forests and biomass to Bangladesh and its sustainable development

Book: Bangladesh Studies (Paper-1 & 2) (Code- 7094)

Half Yearly Syllabus

Name of the Exam	Chapters	Question Pattern	Marks
Half Yearly Examination	Paper 1 Topic 1: (a) Influence of Major Cultural Figures. • Alaol • Lalon Shah • Mir Mosharraf Hossain • Rabindranath Tagore • Begum Rokeya • Kazi Nazrul Islam • Jasimuddin • Zainul Abedin (Page no: 1-24) Paper 2: Topic 1: Physical Features (a) Natural Topography (b) Drainage System (Page 1-24)	Cambridge O'Level Pattern Paper-1 History and Culture of Bangladesh Paper-2 Environment and Development of Bangladesh	Marks will be converted into 60

CT-1	Topic1(a): Influence of Major Cultural Figures. • Alaol • Lalon Shah • Mir Mosharraf Hossain • Rabindranath Tagore.	MCQ, S/Q, B/Q, Define the terms, Creative Questions (Graph /Map /Figure /Paragraph analysis) Marks-15	Marks will
CT-2	Topic 1: Physical Features (a) Natural Topography	MCQ, S/Q, B/Q, Define the terms, Creative Questions (Graph /Map /Figure /Paragraph analysis) Marks-15	be converted into 40
	SBA	10	
	Assignment/Scrapbook/ Poster Making/Presentation	10	
	Total		100

Name of the Exam	Chapters	Question Pattern	Marks
	Half Yearly Syllabus will be	Cambridge	
	included.	O'Level	
	Paper 1	Pattern	
	Topic 1(b): The emergence and	1 attern	
	development of Bengali language,	Paper-1	
	literature, art and architecture.	History and	
	(Page 25-39)	Culture of	
	(1 age 25-37)	Bangladesh	Marks will be converted into
Annual Examination	Half Yearly Syllabus will be	Dangladesh	60
	included.	Paper-2	00
	Paper 2	Environment	
	Topic 3: (a) Forests and Biomass	and	
	(b) Fish	Development	
	(Page 41-56)	of	
	(Tugo II 50)	Bangladesh	
		Bungiadosii	
	Topic 1(b): General background	MCQ, S/Q,	
	• Language	B/Q, Define	
	Literature	the terms,	
	The Arts	Creative	
CT-1		Questions	Marks will be converted into
C1-1		(Graph /Map	40
		/Figure	
		/Paragraph	
		analysis)	
		Marks-15	
	Topic 3(a): Forest and Biomass	MCQ, S/Q,	
		B/Q, Define	
		the terms,	
CT-2		Creative	
		Questions	
		(Graph /Map	
		/Figure	

	/Paragraph analysis) Marks-15	
SBA		10
Assignment/Scrapbook/ Poster Making/Presentation		10
Total		100

Computer Science 2210

Objective: -

Students who learn how to code and who understand the basics of computer science develop few potentials such as

- ➤ a higher level of integral thinking, algorithmic thinking, creativity, and even teamwork skills. This whole skill-set is valuable and helpful in any field, whether or not it is related to computers and technology.
- > be able to apply problem solving skills to formalize general problem statements into precise algorithmic solutions.
- > demonstrate an understanding of the interplay between theory and practice

Books: 1. Cambridge IGCSETM and O Level

Computer Science (Second Edition)

By – David Watson & Helen Williams

2. Computer Science IGCSE and O'Level Course Book by Sarah Lawrey & Victoria Ellis Half Yearly Syllabus

Name of the Exam	Chapters	Pattern	Marks
Half Yearly Examination	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 Paper: 2 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	T/F, F/B, MCQ, One sentence Q/A, S/Q, B/Q, Creative questions	50
Practical	Computer Science – Programming Book for Python	Lab Work On Selected Topics	

	By- Chris Roffey		
CT-1	Chapter-1: Data Representation=> 1.1: Number System 1.2: Text, Sound and Images	T/F, F/B, MCQ, One sentence Q/A, S/Q, Creative questions	15
CT-2	Chapter-2: Data Transmission=>(Selected Topics) 2.1: Types and Methods of Data Transmission 2.2: Methods of Error detection 2.3: Symmetric and Asymmetric encryption	T/F, F/B, MCQ, One sentence Q/A, S/Q, Creative questions	15
	SBA		10
	Assignment		10
	Total		100

Annual Term Syllabus				
Name of the Exam	Chapters	Pattern	Marks	
Annual Examination	<u>Paper 1:</u>	T/F, F/B, MCQ, One	50	
	Chapter-3: Hardware=>	sentence Q/A, S/Q, B/Q,		
	3.1: Computer Architecture	Creative questions		
	3.2: Input and Output Device			
	3.3: Data Storage			
	3.4: Network Hardware			
	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.			
	7.8: Identifying errors in			
	Algorithm.			
	7.9: Writing and amending			
	Algorithm.			
	Chapter-8: Programming=>			
	8.1: Programming Concepts			
	8.2: Arrays			
	8.3: File Handling			

	Revision on the topics from 1st Semester		
Practical	Computer Science – Programming Book for Python By- Chris Roffey	Lab Work On Selected Topics	
CT-1	Chapter-3: Hardware=> (Selected Topics)	T/F, F/B, MCQ, One sentence Q/A, S/Q, Creative questions	15
CT-2	Chapter-7: Algorithm design and Problem Solving=>(Selected Topics) Chapter-8: Programming=> (Selected Topics)	T/F, F/B, MCQ, One sentence Q/A, S/Q, Creative questions	15
	SBA		10
	Assignment		10
	Total		100

^{***}Syllabus and question pattern can be changed or altered due to the time frame.

Economics (2281)

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

Books: Cambridge IGCSE® and O Level Economics Course book Second edition, - *Author:* Susan Grant Half Yearly Syllabus

Name of the Exam	Topics	Pattern	Marks
Half Yearly Examination	 The nature of the economic problem The factors of production Opportunity cost Production possibility curve (PPC) diagrams 	 Short questions Descriptive analysis Problem solving MCQ Case Study 	60%
CT 1	 Microeconomics and macroeconomics The role of markets in allocating resources Demand 		

CT-2	SupplyPrice determinationPrice changes	 Short questions Problem solving Short questions 	
		Problem solving	40%
	SBA		
	Assignment/Class Copy/		
	Presentation		
	Total		100

Name of the Exam	Chapters	Pattern	Marks
Annual Examination CT 1	 Price elasticity of demand (PED) Price elasticity of supply (PES) Market economic system Market failure 	 Short questions Descriptive analysis Problem solving MCQ Case Study 	60%
CT-2	 Mixed economic system Money and banking Households 	Short questionsProblem solving	40%
	Workers	Short questions Problem solving	
	SBA		
	Assignment/Class Copy/ Presentation		
	Total		100

Accounting 7707

Book's name: 1. Business Accounting 1

Author: Alan Sangster and Lewis Gordon (15th edition)

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.

Half Yearly Syllabus

Name of the Exam	Topic	Pattern	Marks
Half Yearly Examination	 The fundamentals of accounting The purpose of accounting The accounting equation Sources and recording of data The double entry system of book-keeping Business documents Books of prime entry Verification of accounting records The trial balance (except the error) 	Paper 1 (MCQ) Paper 2 (Structured written paper)	20 60
CT 1	Introduction (Accounting equation and Identifying assets and liabilities) General journal	Structured written paper	15
CT 2	Trial balance Cash Book	Structured written paper	15

Mark distribution

40% C.T., S.B.A. and Assignment

60% Hall Test

1st Semester Hall Test duration 2 hours. MCQ and Structured questions together.

Total marks: 80 (it will be converted into 60%)

Name of the Exam	Торіс	Pattern	Mark s
Annual Examination	 3. Verification of accounting 3.3 Bank reconciliation statement Control account 4. Accounting procedures 4.1 Capital and revenue expenditure and income 5. Preparation of financial statement 5.1 Sole Trader 	Paper 1 (MCQ) Paper 2 (Structured written paper)	20 80
CT 1	The purpose of accounting The double entry system of book-keeping Business documents Books of prime entry trial balance (except the error) Bank reconciliation statement	MCQ	15
CT 2	Control account Final account (Sole trader)	Structured written paper	15

^{1&}lt;sup>st</sup> Semester syllabus is included in the 2nd Semester

Mark distribution

40% C.T., S.B.A. and Assignment

60% Hall Test

2nd Semester Hall Test duration 2 hours 30 minutes.

Paper 1 MCQ 45 minutes (20 marks)
Paper 2 Structured question 1 hour 45 minutes (80 marks)

Total marks: 100 (it will be converted into 60%)

Business Studies

Learners will be able to:

- Understand the concepts, purpose, nature and classification of business activity, enterprise and entrepreneurs, why
 some businesses grow while others remain small, how business size can be measured, types of business
 organisation, business objectives and stakeholder objectives.
- Recognize the functional area of human resources, importance, methods of motivating a workforce, how businesses are organised, managed, and methods of recruitment, selection and training of employees.
- Interpret the importance and methods of effective internal and external communication, role of marketing, the distinctions between niche and mass markets, the techniques of market segmentation, the methods and importance of market research.

Books: Cambridge IGCSE and O'Level Business Studies by K. Borrington & Peter Stimpson-5th Edition
Reference Book: Cambridge IGCSE® Business Studies Coursebook by Mark Fisher, Medi Houghton, Veenu Jain
Code-7115 (12,22)

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Half Yearly Syllabus

Name of the Exam	Topics	Pattern	Marks
Half Yearly Examination	Section 1: Understanding business activity 3. Business activity 4. Classification of businesses 5. Enterprise, business growth and size 6. Types of business organisation 7. Business objectives and stakeholder objectives Section 2: People in Business 8. Motivating employees	Cambridge O'Level Pattern Paper-1: Data Response Paper-2: Case Study	Marks will be converted into 60
CT-1	 Business activity Classification of businesses 	Paper-1: Data Response Marks- 15	
CT-2	3. Enterprise, business growth and size4. Types of business organisation	Paper-1: Data Response Marks- 15	Marks will be converted into 40
	SBA	10	
	Assignment/Lab Copy/ Presentation/ Scrap Book	10	
	Total		100

Name of the Exam	Chapters	Pattern	Marks
Annual Examination	Half Yearly Syllabus will be included. Section 2: People in Business 9. Organisation and management 10. Recruitment, selection and training of employees 11. Internal and external communication Section 3: 12. Marketing, competition and the customer 13. Market research 14. The marketing mix: product	Cambridge O'Level Pattern Paper-1: Data Response Paper-2: Case Study	Marks will be converted into 60
CT-1	Section 2:7. Organisation and management8. Recruitment, selection and training of employees	Paper-1: Data Response Marks- 15	
CT-2	Section 3: Marketing 9. Internal and external communication 10. Marketing, competition and the customer	Paper-1: Data Response Marks- 15	Marks will be converted into 40
	SBA	10	
	Assignment/Lab Copy/ Presentation/ Scrap Book	10	
	Total		100