

City Montessori School, Lucknow

Syllabus 2010-2011

Class XII

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NOTE: Please refer to ISC Council Syllabus and Scope of Syllabus 2011 for further reference.

AIMS AND OBJECTIVES

MORAL EDUCATION:

1. To develop in every student the essential elements of morality.
2. To develop the values and capabilities necessary for making right decisions and upright conduct.
3. To develop in them the attitude of open mindedness, to appreciate and be ready to accept others and to act constructively not defensively.
4. To develop the skill of striving not only for good but to handle the conflicting situations without demeaning self and others.
5. To develop the ability to monitor themselves and find out constructive ways of conflict resolutions.
6. To promote the development of good character for the purpose of lessening crime and raising the standard of good citizenship.

ENGLISH LANGUAGE:

1. To develop habits of:
 - a. clear articulate expression, using accepted syntactical forms and structures with a firm grasp of idioms;
 - b. critical thinking, involving assessment and analysis of the written material provided.
2. To develop the capacity to critically and innovatively examine and to assess the value of passages of argumentative writing, to consider the assumptions upon which the arguments rest and to trace the implications that follow.
3. To develop adequate and appropriate vocabulary.
4. To develop the ability to comprehend and appreciate good prose.

ENGLISH (Prescribed Texts):

1. To develop an appreciation of literature through a critical study of selected literary works.
2. To help students achieve through the study of literature, an understanding of the study of man.
3. To create an interest in the warp of thought, which differs from that of the group to which, the student belongs.
4. To develop the power of expression.

HINDI:

1. To develop habits of clear articulate expression using accepted syntactical forms and structures, with a firm grasp of idiom and to comprehend and appreciate good prose.
2. To expose candidates to a deeper knowledge and appreciation of literary works in the language.

HISTORY:

1. To provide accurate knowledge of the most significant events and personalities of the period under study in sequence and in context.
2. To familiarise candidates with factual evidence.
3. To develop an understanding of the existence of problems and relevance of evidence of explanations.
4. To develop the capacity to marshal facts and evaluate evidence and to discuss issues from a historical point of view.
5. To develop the capacity to read historical views in the light of new evidence or new interpretation of evidence.

Progress is the activity of today and assurance of tomorrow. – Emerson
Class XII

6. To foster a sense of historical continuity.
7. To familiarise candidates with various types of historical evidence and to provide some awareness of the problems involved in evaluating different kind of source materials.

PSYCHOLOGY:

1. To develop an understanding of human behaviour: the nature of individuals and of members of social groups.
2. To develop an understanding of the methods of research and study employed in psychology.
3. To develop an appreciation of the practical value of psychology and its applications in daily life.

ECONOMICS:

1. To enable candidates to acquire knowledge, information and develop an understanding of facts, terms, concepts, conventions, trends, principles, generalisations, assumptions, hypothesis, problems, processes etc. in economics.
2. To acquaint candidates with tools of economic analysis.
3. To develop an understanding of important economic problems.
4. To acquaint candidates with the main institutions through which the productive process is carried out.
5. To develop an understanding of the role of institutions in the functioning of an economy.
6. To enable candidates to compare their own economic structure with that of the other areas of the world.

COMMERCE:

1. To develop an interest in the theory and practice of business, trade and industry.
2. To familiarise candidates with theoretical foundations, organising, managing and handling operations of a business firm.
3. To provide a study of the more important aspects of the commercial world.
4. To provide knowledge of the activities of commerce in the marketing of goods and services.

ACCOUNTS:

1. To provide an understanding of the principles of accounts and practice in recording transactions and interpreting individual as well as company accounts.
2. To develop an understanding of the form and classification of financial statements as a means of communicating financial information.

Progress is the activity of today and assurance of tomorrow. – Emerson

MATHEMATICS:

1. To enable candidates to acquire knowledge and to develop an understanding of the terms, concepts, symbols, definitions, principles, processes and formulae of mathematics.
2. To develop the ability to apply the knowledge and understanding of mathematics to unfamiliar situations or to new problems.
3. To develop skills of –
 - a. computation
 - b. drawing geometrical figures and graphs
 - c. reading tables, charts, graphs, etc.
4. To develop an appreciation of the role of mathematics in day-to-day life.
5. To develop an interest in mathematics.
6. To develop a scientific attitude through the study of mathematics.

PHYSICS:

1. To enable candidates to acquire knowledge and to develop an understanding of the terms, facts, concepts, definitions, fundamental laws, principles and processes in the field of physics.
2. To develop the ability to apply the knowledge and understanding of physics to unfamiliar situations.
3. To develop a scientific attitude.
4. To develop skills in –
 - a. the practical aspects of handling apparatus, recording observations and
 - b. Drawing diagrams, graphs etc.
5. To develop an appreciation of the contribution of physics towards scientific and technological developments and towards human happiness.

CHEMISTRY:

1. To foster acquisition of knowledge and understanding of terms concepts, fact, processes and principles.
2. To develop the ability to apply the knowledge of contents and principles of chemistry in unfamiliar situations.
3. To develop skills in proper handling of chemicals and apparatus.
4. To develop and ability to appreciate achievements and its role in nature and society.
5. To develop an interest in activities involving the usage of the knowledge of chemistry.

BIOLOGY:

1. To enable candidates to acquire the knowledge and to develop an understanding of biological terms, concepts, facts, formulae, etc.
2. To create awareness about the problems of the environment and the manner in which these problems can be overcome.

3. To develop the ability to appreciate biological phenomena in nature and the contribution of biology to human welfare.
4. To develop interest in plants and animals and their respective environments.
5. To develop scientific attitude towards scientific phenomena.
6. To create awareness of the fundamentals of human biology, food, health, nutrition and population control.

COMPUTER SCIENCE:

1. To enable students to comprehend basic concepts and practices for problem solving.
2. To develop an understanding of how computers store and process data.
3. To develop the ability to describe the major components of computer hardware and their functions and interactions.
4. To develop the ability to analyse applications and systems of interacting objects.
5. To develop the ability to code, test, debug, document and validate programs to implement various algorithms.
6. To develop an appreciation of the implications of computer use in everyday life in contemporary society.

BIOTECHNOLOGY:

1. To enable candidates to acquire the knowledge and develop an understanding of how materials are provided by biological agents to provide goods and services.
2. To appreciate the role played by biotechnology in improving health care of human beings.
3. To understand the interdisciplinary nature of this subject.
4. To create awareness about the appreciation of biological processes to industries.
5. To develop the ability to appreciate biological phenomenon in nature and the contribution of biotechnology to human welfare.
6. To develop scientific attitude towards biological phenomenon.

ENVIRONMENTAL EDUCATION:

- 1 To develop an in-depth understanding of various environmental issues and concerns of national and global importance.
- 2 To develop a balanced view of the relationship between environment and development.
- 3 To understand basic concepts related to sustainable development vis-a-vis improvement of quality of life.
- 4 To develop a deeper concern for the environment and the sense of commitment and responsibility to take proactive action.
- 5 To appreciate the variety in living organisms and recognise India as a mega-diversity nation.
- 6 To appreciate the role of the individual, community, national and international agencies in resolving environmental problems.

MORAL EDUCATION

Name of the Textbook: Student’s Handbook for Spiritual Education

Publisher: CMS Publication

I Term April - September			
Suggested Month	Chapter Number	Name of the Chapter	
July-August		Students' Hand Book for Spiritual Education	
July	Section C Chapter 4	Exercising one’s initiative in a disciplined and creative way.	77-82
	Section D	Interaction on the prescribed topics.	83-87
Note: Section D – Topics to be taken up as per convenience.			

ENGLISH LANGUAGE

Note: English Language test papers to be prescribed by the subject teachers at the branch level.

Question No.	Topics
1.	Composition:
a	narrative
b	descriptive
c	reflective
d	imaginative
e	abstract / exposition
f	argumentative
g	story writing
2.	Report Writing:
	- an accident
	- a natural calamity
	- coverage of an official function
	- visit of a dignitary
	- an article
	- an incident
	- F.I.R.
	- any other topic

	Review Writing on:
	- a film
	- a book
	- a testimonial
	- curriculum vitae
	- any other topic
3.	Functional Grammar:
a	transformation of sentences
b	prepositions
c	tenses
4.	Comprehension:
a (i)	similar meaning sentences
(ii)	different meaning sentences
(iii)	two line explanation
b	comprehension questions
c	précis writing
FIRST COMPARATIVE EXAMINATION (JUNE)	
SECOND COMPARATIVE EXAMINATION (SEPTEMBER - OCTOBER)	
FIRST PRE-BOARD EXAMINATION (DECEMBER)	
SECOND PRE-BOARD EXAMINATION (JANUARY)	
(* One Test Paper to be done every month)	
(** October and November to be considered as one month i.e. only one test paper to be done in both the months.)	

Paper 1: English Language (3 hours, 100 marks)

- Question 1** – A composition on one of a number of subjects. (450-500 words)
... **30 marks**
- Question 2** – A short composition based on the information and ideas provided.
(300 words) ... **20 marks**
- Question 3** – Short-answer questions to test grammar, structure and usage.
... **20 marks**
- Question 4** – Comprehension (about 500 words will be provided) ... **30 marks**

Please note: Refer to the Council Syllabus 2011.

ENGLISH (Prescribed Texts)

- Name of the Textbook:**
1. Pygmalion / Macbeth
 2. Footprints
 3. Hues
 4. Starlight
- Author:**
1. Bernard Shaw / Shakespeare
 2. Ed. by Stephen DaCosta
 3. Anupam Bannerjee, Barry Antunis, S. Thomas, Sumana Saha
 4. Ed. by Guy Kenneth Dantes
- Publisher:**
1. Orient Longman / OUP
 2. Evergreen
 3. Macmillan
 4. Orient Black Swan

Suggested Month	Chapter Number	Name of the Chapter	Page
April-May		Macbeth – Act IV (Scenes 1, 2, 3)	143 - 194
		Pygmalion – Act IV	72 - 82
		Starlight	
	1	Tintern Abbey	3
	14	I Sit and Look Out	66
		Hues	
	9	What Men Live By	79
	19	Love Across the Salt Desert	166
		Footprints	
	15	Ideas That Have Helped Mankind	84
	17	Work in the Sun And In the Light	91
June	FIRST COMPARATIVE EXAMINATION		
July – August		Macbeth – Act V (Scenes 1 – 9)	195 - 235
		Pygmalion – Act V + Sequel	83 - 118
		Starlight	
	10	Preludes	49
	11	An Old Woman	53
		Hues	
	13	The Fortune-Teller	123
	17	The Fly	152
		Footprints	
	16	Prayer – The Essence of Religion	88

	19	The Awakening of Women	98
September		Macbeth – Revision	
		Pygmalion – Revision	
		Hues	
	10	Talking of Space: Report on Planet Three	99
		REVISION	
Sept. – Oct.	SECOND COMPARATIVE EXAMINATION		

Suggested Month	Chapter Number	Name of the Chapter	Page
October		Macbeth – Revision	
		Pygmalion – Revision	
		Starlight	
	5	The Shield of Achilles	21
		Hues	
	16	Third Thought	148
		Footprints	
	20	Youth and the Tasks Ahead	102
November - December		Starlight	
	12	Church Going	56
	20	I'm getting Old Now	79
		Hues	
	14	Dr Heidegger's Experiment	129
	20	The Castaway	175
		Footprints	
	22	My Struggle For An Education	112
	23	The Ailing Planet: The Green Movement's Role	116
		Pygmalion – Revision	
		Macbeth – Revision	
DECEMBER	FIRST PRE-BOARD EXAMINATION		
JANUARY	SECOND PRE-BOARD EXAMINATION		

Paper 2: Prescribed Texts (3 hours, 100 marks)

Candidates will be required to answer **five** questions as follows:

One textual question (compulsory) on the Shakespeare play / alternative prescribed play together with **four** other questions on at least **three** texts, which may include the Shakespeare play / alternative play.

Question 1 compulsory ... 20 marks, **four** other questions, each carrying 20 marks.

(Note: Candidates are reminded that infringement of the rubric will certainly invite penalty during the marking of answer scripts.)

The textual questions, which will be set on the Shakespeare play / alternative play, will contain **four** short passages and candidates will be required to answer questions set on **three** of the passages. These questions may require candidates to explain words and phrases, to rewrite passages in modern English, or to relate an extract to the work as a whole.

The rest of the questions on the Shakespeare play / alternative play and on other prescribed texts will require essay- type answers and will be set on the context, plot or plots, characters and other prominent literary qualities of the works prescribed.

It is recommended that in **Paper 2 about 35 minutes** should be spent on every question.

Please note: Refer to the Council Syllabus 2011.

हिन्दी

Name of Textbook : 1. काव्य तरंग Author: 1. आर०पी० विश्वेन्दु
2. कथा सुरभि 2. डा० पूरन चन्द
3. निर्मला 3. प्रेमचन्द
4. हिन्दी व्याकरण मंजूषा 4. विनोदिनी शर्मा

Publication : 1. ऐवरग्रीन पब्लिकेशन्स
2. जनता बुक
3. ऐवरग्रीन पब्लिकेशन्स
4. इण्टर यूनिवर्सिटी प्रेस

Suggested Month	Name of the book	Name of the Chapter
April/May	काव्य तरंग	मैं हूँ उनके साथ (कबीर - साखी, सूरदास-विनय और भक्ति, तुलसीदास - सच्ची मित्रता, दोहा एकादश, रहीमदास, भारत महिमा, विश्वराज्य - पुनरावृत्ति)
	कथा सुरभि	भाग्य-रेखा

		(बूढ़ी काकी, रक्षाबन्धन, संन्यासी, महाराजा का इलाज, मधुआ - पुनरावृत्ति)
	निर्मला	अध्याय १६, १७, १८, १९ (१ - १९) पुनरावृत्ति
	निबंध/व्याकरण	वर्णनात्मक, सूक्तिपरक, कहानी-लेखन, अपठित गद्यांश, मुहावरे, वाक्य संशोधन।
June	FIRST COMPARATIVE EXAMINATION	
July	काव्य तरंग	(i) ओ नभ में मंडराते बादल, मनुष्य और सर्प (ii) तूफानों की ओर (प्रियतम - पुनरावृत्ति)
	कथा सुरभि	कर्मनाशा की हार (घीसा, पाजेब - पुनरावृत्ति)
	निर्मला	अध्याय - २०, २१ (अध्याय - १०, ११, १२ पुनरावृत्ति)
	निबंध/व्याकरण	विचारात्मक, अपठित गद्यांश, मुहावरे, वाक्य संशोधन।
August	काव्य तरंग	इंसान बनकर आ रहा सवेरा है। (मौन-निमन्त्रण, हल्दी घाटी - पुनरावृत्ति)
	कथा सुरभि	कामकाज, लक्ष्मी का वाहन
	निर्मला	अध्याय - २२, २३, २४ तक अध्याय - (१३, १४, १५ पुनरावृत्ति)
	निबंध/व्याकरण	कल्पनात्मक, समस्या-मूलक, अपठित गद्यांश, मुहावरे, वाक्य संशोधन।
September	REVISION	
Sept. – Oct.	SECOND COMPARATIVE EXAMINATION	
October	काव्य तरंग	सुमन के प्रति
November	कथा-सुरभि	घरती अब भी घूम रही है, ऐसी होली खेलो लाल।
	निर्मला	अध्याय - २५, २६, २७
December		पुनरावृत्ति), मॉडल टेस्ट पेपर का अभ्यास
December	FIRST PRE-BOARD EXAMINATION	
January	SECOND PRE-BOARD EXAMINATION	

There will be **one** paper of **3** hours duration, which will consist of two sections:

Section 1: Language (50 marks)

Section 2: Prescribed Textbooks (50 marks)

Candidates will be required to answer **four** questions on **at least three** of the prescribed textbooks.

HISTORY

Name of the Textbook: 1. Modern Indian History - 2
2. Mastering World History
3. ISC History Class 12
Author: 1. D. N. Kundra 2. Norman Lowe
3. Sachhidananda Banerjee

Suggested Month	Topic	Name of the Chapter
April / May	1	The Growth of Radical Nationalism (at the turn of the 20 th century) (i – v)
	2	Communal Factors in Indian Politics (1885-1919) (i – iv)
	6	Fascism and Nazism (i – vi)
	7	The Collapse of International Order in the 1930s (i – iii)
June	FIRST COMPARATIVE EXAMINATION	
July	3	The years of Gandhian Leadership of the National Movement (i – vi)
	4	The Last Phase (1935-1947) (i – iv)
August	8	The Second World War (1939-1945) (i – iii)
	5	Post Independence India (1947-1962) (i – ii)
September	REVISION	
Sept.– Oct.	SECOND COMPARATIVE EXAMINATION	
October	9	Tension and Co-operation after the Second World War (i – iv)
November	10	The Middle East (i – iii)
December	REVISION	

	FIRST PRE-BOARD EXAMINATION
January	SECOND PRE-BOARD EXAMINATION

There will be one paper of three hours duration of 100 marks divided into two parts.

Paper I (20 marks) will consist of compulsory short answer questions testing fundamental factual knowledge and understanding of the entire syllabus.

Paper II (80 marks) will be divided into **two** sections, Section **A** and Section **B**, each consisting of **five** questions. Each question shall carry 16 marks.

Candidates will be required to attempt **two** questions from each section and **one** question from either section A or section B. A total of **five** questions will be attempted from part II.

Refer to the Council Syllabus 2011 for details.

PSYCHOLOGY

Name of the Textbook: 1. Psychology
 2. Introduction to Psychology
Author: 1. Robert Baron
 2. Morgan & King
Publisher: 1. Pearson 2. Tata Mc Graw Hill

Suggested Month	Name of the Chapter
April/May	Personality and its assessment
	Stress and Stress Management
	Attitudes
	Revision
June	FIRST COMPARATIVE EXAMINATION
July/August	Intelligence
	Aptitude
	Achievement
	Interest
	Prejudices
September	Social Thought and Social Behaviour
Sept.– Oct.	SECOND COMPARATIVE EXAMINATION
November	Psychological Disorders and Psychotherapy
December	Lifespan Development – Meaning of Development, growth and

	maturation, infancy, childhood and Adolescence – motor, cognitive and socio – emotion development;
	Applications of Psychology (i) Clinical and Counselling (ii) Educational (iii) Organisational (iv) Crime
	REVISION
December	FIRST PRE-BOARD EXAMINATION
January	SECOND PRE-BOARD EXAMINATION
Internal Assessment – Two studies to be undertaken on topics given in the Council syllabus and as guided by the subject teacher.	

* There will be two papers in the subject.

Paper I – Theory: Three hours ... 70 marks

Paper II – Practical work ... 30 marks

Paper I (Theory)

Part I (20 marks) will consist of compulsory short answer questions relating to the fundamental aspects of the entire syllabus.

Part II (50 marks) will consist of **two** sections A and B.

Candidates will be required to answer **two** out of **three** questions from section A and **three** out of **five** questions from Section **B**. Each question in this part shall carry 10 marks.

ECONOMICS

Name of the Textbook: Frank ISC Economics Class XII
Author: D.K. Sethi & U. Andrews
Publisher: Frank Brothers & Co.

Suggested Month	Chapter Number	Name of the Chapter	Page
April	1	Micro and Macro Economics: Introduction	1
	2	Demand and Law of Demand	13
	3	Theory of Consumer Behaviour – Law of Diminishing Marginal Utility, Law of Equi Marginal utility & consumers equilibrium through marginal utility approach.	43
	4	Elasticity of Demand	76
	5	Supply – Law of Supply and Price	109

		Elasticity of Supply	
May	6	Equilibrium Price: Market Equilibrium	143
	7	Laws of Returns – Returns to a Factor and Returns to Scale	165
	13	National Income and Circular Flow of Income	305
	14	Nature of Goods and Services Produced	327
	15	National Income Aggregates	334
	16	Measurement of National Income	359
June	FIRST COMPARATIVE EXAMINATION		
July	8	Cost and Revenue Analysis	192
	9	Forms of Market	243
August	10	Equilibrium of Firm	265
	11	Determination of Equilibrium Price and Output Under Perfect Competition	276
	12	Factor pricing: Basic concepts of Rent, Wages, Interest and Profit	286
September	17	International Trade: Need and Basis	407
	18	Balance of Payments	429
Sept. – Oct.	SECOND COMPARATIVE EXAMINATION		
October	19	Public Finance – Taxation	449
November	20	Public Expenditure	487
	21	Public Debt	500
	22	Fiscal Policy and Deficit Financing	513
	23	Government Budget	531
December	FIRST PRE-BOARD EXAMINATION		
January	SECOND PRE-BOARD EXAMINATION		

There will be **one** paper of three hours duration of 100 marks divided into two parts.

Part I (30 Marks) will consist of compulsory short answer questions testing knowledge, application and skills relating to elementary / fundamental aspects of the entire syllabus.

Part II (70 marks) will consist of **eight** questions out of which the candidate will be required to answer **five** questions. Each question in this part shall carry 14 marks.

COMMERCE

Name of the Textbook: **A Complete Course in ISC Commerce Vol. II**

Author: **R.P. Maheshwari**

Publisher: **Pitambar Publishing Co. Pvt. Ltd.**

Suggested Month	Chapter Number	Name of the Chapter	Page
April -May	1	Corporate Organization	2
	2	Formation of a Joint Stock Company	22
	3	Multinational Corporations	40
	4	Managerial Personnel	52
June	FIRST COMPARATIVE EXAMINATION		
July	5	Financing	62
	6	Financial Institutions	87
	7	Commercial Banks	101
	8	Mutual Funds	111
August	9	Management	120
	10	Functions of Management	134
	11	Principles of Management	148
September	12	Communication	162
Sept. – Oct.	SECOND COMPARATIVE EXAMINATION		
October	13	Marketing and its Functions	182
November	14	Sales Promotion & Advertising	199
	15	Personal Selling (Salesmanship)	224
December	FIRST PRE-BOARD EXAMINATION		
January	SECOND PRE-BOARD EXAMINATION		

There will be one paper of three hours duration of 100 marks divided into two parts.

Part I (30 marks) will consist of compulsory short answer questions testing knowledge, application and skills relating to elementary / fundamental aspects of the entire syllabus.

Part II (70 marks) will have nine questions out of which candidates will be required to answer seven questions and each question will carry 10 marks.

ACCOUNTS

Name of the Textbook: **New ISC Accountancy (Class XII)**
Author: **D.K. Goel and Rajesh Goel**
Publisher: **Avichal Publishing Company**

Suggested Month	Chapter Number	Name of the Chapter	Page
April	1	Stores Ledger and Inventory Valuation	1.1
	2	Cost Sheet	2.1
May	3	Joint Venture	3.1
	4	Sectional Balancing System and Self Balancing System	4.1
	12	Final Accounts of Companies	12.1
June	FIRST COMPARATIVE EXAMINATION		
July	5	Accounting for Partnership Firms - Fundamentals	5.1
	6	Admission of a partner	6.1
August	8	Retirement or Death of a partner	8.1
	9	Dissolution of a Partnership firm	9.1
September	14	Ratio Analysis	14.1
		REVISION	
Sept. – Oct.	SECOND COMPARATIVE EXAMINATION		
October	13	Cash flow statement	13.1
November	13	Cash flow statement (Continued)	13.1
	10	Company Accounts – Issue of Shares	10.1
	11	Company Accounts – Issue of Debentures	11.1
December	11	Company Accounts – Issue of Debentures (continued)	11.1
December	FIRST PRE-BOARD EXAMINATION		
January	SECOND PRE-BOARD EXAMINATION		

There will be one paper of three hours duration of 100 marks divided into two parts.

Part I (30 marks) will be compulsory and will consist of two questions based on the entire syllabus.

Question 1 (20 marks) will include compulsory short answer questions, testing knowledge, application and skills relating to elementary / fundamental aspects of syllabus.

Question 2 (10 marks) will be a compulsory numerical question.

Part II (70 marks) Candidates will be required to answer five questions out of eight questions from this section. Each question shall carry 14 marks.

MATHEMATICS

Name of the Textbook: **ISC Mathematics II**
Author: **O.P. Malhotra, S.K. Gupta & Anubhuti Gangal**
Publisher: **S. Chand & Company Ltd.**

Syllabus as per the Council Syllabus 2011

Suggested Month	Chapter Number	Name of the Chapter	Page
April - May		Section A	
	1	Determinants	1.3-1.50
	2	Matrices	2.1-2.85
	3	Boolean Algebra and Switching Circuits	3.1-3.49
	7	Inverse Trigonometric Functions	7.1-7.42
	8	Differentiation	8.1-8.86
	9	Indeterminate Forms of Limits	9.1-9.20
	10	Mean Value Theorems	10.1-10.20
	11	Maxima and Minima	11.1-11.48
		Section B	
	22	Scalar or Dot Product of Vectors	22.3-22.29
	23	Vector or Cross Product of Two Vectors	23.1-23.26
	24	Scalar Triple Product	24.1-24.23
		Section C	
	29	Discount and Bill of Exchange	29.3-29.14
	32	Application of Calculus in Commerce and Economics	32.1-32.20
June	FIRST COMPARATIVE EXAMINATION		

July		Section A	
	4, 5, 6	Conics	4.1-6.22
	12	Integration	12.1-12.21
	13	Standard Methods of Integration	13.1-13.36
	14	Special Integrals	14.1-14.44
August	15	Definite Integrals	15.1-15.34
	16	Application of Definite Integrals (Areas)	16.1-16.31
	21	Differential Equations	21.1-21.46
September		Section B	
	25	Straight Lines in Space	25.1-25.46
	26	The Plane	26.1-26.54
		Section C	
	30	Annuities	30.1-30.30

	31	Linear Programming	31.1-31.54
Sept.– Oct.	SECOND COMPARATIVE EXAMINATION		
October		Section A	
	20	Complex Numbers	20.1-20.76
	17	Correlation	17.1-17.28
	18	Regression Analysis	18.1-18.29
November	19	Probability	19.1-19.87
		Section B	
	27	Further Probability – Baye's Theorem	27.1-27.20
	28	Probability Distribution	28.1-28.33
		Section C	
	33	Index Numbers	33.1-33.25
	34	Moving Average	34.1-34.25
December		REVISION	
December	FIRST PRE-BOARD EXAMINATION		
January	SECOND PRE-BOARD EXAMINATION		

There will be one paper of **three** hours duration of 100 marks. The syllabus is divided into **three** sections A, B and C. Section A is compulsory for all candidates. Candidates will have a choice of attempting questions from **either** Section B or Section C.

Section A (80 marks) will consist of 9 questions. Candidates will be required to answer **Question 1 (compulsory)** and **five** out of the rest of the **eight** questions.

Section B/C (20 marks): Candidates will be required to answer **two** questions out of **three** from either Section B or Section C.

PHYSICS

Name of the Textbook: Nootan ISC Physics for Class XII
Author: Kumar & Mittal
Publisher: Nageen Prakashan Pvt. Ltd

Suggested Month	Topic Number	Name of the Topic
April	1 – 5	Coulomb's Law
		Electric field; Electric dipole
		Gauss' Theorem
		Electric Potential
		Capacitors and Dielectrics
May	6-11	Steady Currents
		Electric Resistance, Ohm's Law
		D.C. Circuits and Measurements
		Ammeters & Voltmeters
		Heating Effect of Current

		Thermoelectricity
June	FIRST COMPARATIVE EXAMINATION	
July	12 – 19	Magnetic field & Earth's Magnetism
		Magnetic classification of substances
		Magnetic Effect of Current
		Magnetic Torque on a current carrying loop, Moving Coil Galvanometer
		Electromagnetic Induction
		Transient Current
		Generators & Motors
		Alternating Current Circuits
August	26 – 31	Refraction of light at plane surfaces
		Refraction of light through a Prism
		Refraction of light at spherical surfaces, Lenses
		Dispersion of light, Spectrometer and Spectra
		Spherical and chromatic aberrations in lenses
		Microscopes & Telescopes
	20 – 22	Electromagnetic Waves
		Modulation and Demodulation
		Wave nature of light: Huygen's Principle
September	23 – 25	Interference of light
		Diffraction of light
		Polarisation of light
		REVISION
Sept. – Oct.	SECOND COMPARATIVE EXAMINATION	
October / November	32 – 43	Cathode Rays, Discovery of electron
		Photo-electric Effect
		Wave particle duality, Matter Waves
		Structure of atom and origin of spectra, Bohr's theory of Hydrogen atom
		X-Rays
		Radioactivity
		Nuclear Structure
		Energy Mass Equivalence, Nuclear Binding Energy
		Nuclear fission & fusion, Sources of Energy
		Conductors, Insulators and Semi-Conductors
		Junction Diodes
		Junction Transistors
December	44	Logic Gates
		REVISION
December	FIRST PRE-BOARD EXAMINATION	
January	SECOND PRE-BOARD EXAMINATION	

LIST OF PRACTICALS
(According to ISC 2011 Syllabus)

Month	Expt. No.	Experiment
April	1	Using a metre bridge determine the resistance of 100 cm long constantan wire. Also measure the radius of the wire by a screw gauge and hence calculate resistivity of the material of the wire.
	2	Verify Ohm's law for the given unknown resistance (a 60 cm long resistance wire), plotting a graph of potential difference versus current. From the slope of graph and the length of the wire, calculate the resistance per cm of the wire.
May	3	Using a potentiometer study the variation of potential difference with the length of the wire for a constant current. Also draw graph of potential difference versus length of the wire tapped and find (i) potential gradient of the wire (ii) specific resistance of the wire.
	4	Compare the e.m.f. of two cells using a potentiometer.
July	5	Find the internal resistance of a cell by potentiometer method.
	6	Given the figure of merit and resistance of a galvanometer convert it to (i) an ammeter of range say 2A and (ii) a voltmeter of range say 4V. Also calculate the resistance of the new ammeter and voltmeter.
August	7	Set up a deflection magnetometer in tan A position and use it to compare the dipole moments of the given bar magnets using (i) deflection method, neglecting the length of the magnets and (ii) null method.
	8	Set up a vibration magnetometer and use it to compare the magnetic moments of the given bar magnets of equal size but different strengths.
	9	Determine the galvanometer constant of a tangent galvanometer measuring the current (using an ammeter) and galvanometer deflection, varying the current using a rheostat. Also determine the magnetic field at the centre of the galvanometer coil for different values of current and for different number of turns of the coil.
September	10	Draw $y = \frac{100}{v}$ against $x = \frac{100}{u}$ graph for a convex lens to find the focal length of the lens by intercepts.
	11	To find the focal length of a convex lens by using u-v method.

	12	To find the focal length of a convex lens by displacement method.
	13	To find the focal length of a convex lens by using coaxially an auxiliary convex lens (not in contact)
October		Practical examination (on ISC Board pattern)
	14	Determine the focal length of a concave lens by using an auxiliary convex lens, not in contact and plotting appropriate graph.
	15	Determine the refractive index of the material of a lens by Boy's method.
	16	Determine the refractive index of a liquid by using convex lens and a plane mirror.
November	17	Using a spectrometer measure the angle of the given prism and the angle of minimum deviation. Also calculate the refractive index of the material of the prism. (A dark room is not necessary)
	18	To draw I-V characteristics of a semi conductor diode in forward and reverse bias.
	19	To draw characteristics of a zener diode and determine the reverse breakdown voltage.
December	20	To study the characteristics of PNP and NPN transistor in common emitter configuration.
January		Practical Examination (on ISC Board pattern)

The following guidelines are applicable for the Council's examination 2011.

Project work – 10 marks

The project work is to be assessed by a Visiting Examiner appointed locally and approved by the Council.

All candidates will do project work involving some physics related topics, under the guidance and regular supervision of the Physics teacher.

Candidates are to prepare a technical report formally written, including an abstract, some theoretical discussion, experimental setup, observations with tables of data collected, analysis and discussion of results, deductions, conclusion, etc. (after the draft has been approved by the teacher). The report should be kept simple, but neat and elegant. No extra credit shall be given for type-written material/decorative cover, etc. Teachers may assign or students may choose any one project of their choice.

There will be two papers in the subject.

Paper I: Theory – three hours ... 70 marks

Paper II: Practical – three hours ... 20 marks

Project work: 10 marks

Note: For further details please refer to the Council's syllabus for ISC examination 2011.

CHEMISTRY

Name of the Textbook: Nootan ISC Chemistry For Class XII
Author: H C Srivastava
Publisher: Nageen Prakashan

Suggested Month	Topic Number	Name of the Chapter	
April/ May	1	Relative Molecular Mass and Mole	
	2	Chemical Bonding	
	5	Chemical Kinetics	
	8	Coordination Compounds	
	11	Metallurgy of Fe, Cu, Zn and Ag	
		Compounds AgNO ₃ , KMnO ₄ , K ₂ Cr ₂ O ₇	
	12	Alcohols and Phenols	
June	16	Polymers	
	17	Isomerism	
	FIRST COMPARATIVE EXAMINATION		
	July / August / September	4	Chemical Energetics
		11	Chemistry of Transition and Inner-Transition Elements
	6	Ionic Equilibria	
	9	Chemistry of p-Block Elements: Groups 16, 17, 18	
	10	Preparation / Manufacture, Properties and Uses of Compounds of groups 16, 17 – Ozone, Sulphur Dioxide, Sulphuric Acid, Hydrochloric Acid	
Sept.– Oct.	13	Ethers, Carbonyl Compounds	
	14	Carboxylic Acids and Acid Derivatives	
	SECOND COMPARATIVE EXAMINATION		
	October	3	States of Matters: Structure and Properties
November - December	7	Electrochemistry	
	15	Cyanide, Isocyanide, Nitro Compounds and Amines	
	18	Biomolecules	
	REVISION		
December	FIRST PRE-BOARD EXAMINATION		
January	SECOND PRE-BOARD EXAMINATION		

Note: The chapter numbers are according to the Council Syllabus 2011.

PRACTICALS

S. No.	LIST OF PRACTICALS
	July to September
1	Qualitative Analysis

2	Study of the rate of reaction
3	Testing of Vitamins A and B
4	Project work
	October to December
5	Identification of Organic compounds
6	Volumetric analysis
7	Testing of food material for adulteration

Note:

There will be **two** papers in the subject.

Paper I (Theory): Three hours (70 marks)

Paper II (Practical): Three hours (20 marks), project work (7 marks) and practical file (3 marks)

Paper I (Theory) – 70 marks

There will be one paper of three hours duration divided into two parts.

Part I (20 marks) will consist of compulsory short answer questions, testing knowledge, application and skills relating to elementary/fundamental aspects of the entire syllabus.

Part II (50 marks) will be divided into **three** sections A, B and C. Candidates are required to answer **two** out of **three** questions from Section A (each carrying 10 marks), **two** out of **three** questions from Section B (each carrying 5 marks) and **two** out of **three** from Section C (each carrying 10 marks). Therefore, a total of six questions are to be answered in Part II.

Refer Council Syllabus 2011 for details.

BIOLOGY

Name of the Textbook: Nootan ISC Biology for Class XII
Author: Prof V Singh and Dr D K Jain
Publisher: Nageen Prakashan Pvt. Ltd.

Suggested Month	Topic Number	Name of the Topic
April	1	Multicellularity: Structure and Function – Plant Life
	(i)	Tissues
	(ii)	Absorption and movement of water in plants
	(iii)	Mineral nutrition in plants
May	(iv)	Modes of nutrition (excluding photosynthesis)
	2	Multicellularity: Structure and Function – Animal Life

	(iii)	Respiration
	(iv)	Circulation
	(v)	Excretion
	3	Origin and Evolution of Life
	(i)	Origin of life
	(ii)	Theories of evolution
	4	Applications of Biology
	(vii)	Biomedical Engineering
	(viii)	Human Population
June	FIRST COMPARATIVE EXAMINATION	
July	4	Applications of Biology
	(iii)	Biofertilizers
	(iv)	Pesticides
	1	Multicellularity: Structure and Function –Plant Life
	(iv)	Modes of nutrition – Photosynthesis
	(v)	Reproduction and development in Angiosperms
	(vi)	Differentiation and organ formation
	(vii)	Plant growth
August	2	Multicellularity: Structure and Function – Animal Life
	(i)	Tissues
	(viii)	Locomotion
	(ii)	Nutrition
	1	Multicellularity: Structure and Function – Plant Life
	(viii)	Photomorphogenesis
September	2	Multicellularity: Structure and Function – Animal Life
	(vi)	Endocrine system
	4	Applications of Biology
	(i)	Domestication of plants and crop improvement
	(ii)	Crops today
	(vi)	Mental health and community health
Sept.– Oct.	SECOND COMPARATIVE EXAMINATION	
October	2	Multicellularity: Structure and Function – Animal Life
	(vii)	Nervous System
November	(ix)	Reproduction
	(x)	Growth, ageing and death
	4	Applications of Biology
	(v)	Human Diseases
December	REVISION	

December	FIRST PRE-BOARD EXAMINATION
January	SECOND PRE-BOARD EXAMINATION

		LIST OF PRACTICALS
	1.	Taxonomy
	(i)	Family Malvaceae – type – china rose / hollyhock
	(ii)	Family Compositae – type – sunflower / Cosmos / marigold (with single whorled ray florets)
	(iii)	Family Leguminosae – subfamily – papilionaceae – type – sweet pea / pea / bean
	(iv)	Family Solanaceae – type – petunia / datura
	(v)	Family Liliaceae – type – onion/Amarallydaceae – type – lily
	2.	Experiments
	(i)	Demonstration of plasmolysis
	(ii)	Demonstration of osmosis in living plant cells (potato osmoscope)
	(iii)	Demonstration of unequal transpiration in leaves
	(iv)	To demonstrate the effect of different intensities of light on photosynthesis.
	(v)	To demonstrate that O ₂ evolution takes place during photosynthesis.
	(vi)	Effect of different CO ₂ concentrations on the rate of photosynthesis.
	3.	Model study
	(i)	Human digestive system
	(ii)	Human heart (V.S.)
	(iii)	Human eye (V.S.)
	(iv)	Human ear (V.S.)
	(v)	Human brain (external and V.S.)
	(vi)	Human kidney (V.S.)
	4.	Slide preparation
	(i)	T.S. of dicot root
	(ii)	T.S. of monocot root
	(iii)	T.S. of dicot stem
	(iv)	T.S. of monocot stem
	(v)	Striated muscles of cockroach
	(vi)	Nerve cells from spinal cord of a vertebrate (goat)
	(vii)	Identification of human blood groups.

5.	Spotting
(i)	Identify and comment on permanent slides of:
(a)	T.S. of monocot and dicot stem
(b)	T.S. of monocot and dicot root
(c)	T.S. of monocot and dicot leaf
(d)	T.S. of spinal cord of mammal
(e)	T.S. of bone of mammal
(f)	T.S. of ovary of mammal
(g)	T.S. of testis of mammal
(ii)	Comment on experimental set up studied in physiology.

PROJECT WORK AND PRACTICAL FILE - 10 Marks

Project Work – 7 Marks

The project work is to be assessed by a Visiting Examiner appointed locally and approved by the Council.

The candidate is to creatively execute one project/assignment on an aspect of biology. Teachers may assign or students may choose any one project of their choice. Students can choose any other project besides the ones indicated in the list. Following is only a suggestive list of projects:

- (i) Diabetes.
- (ii) Endocrine glands.
- (iii) Vegetarianism / non-vegetarianism.
- (iv) Role of micro-organisms in industry.
- (v) Drug addiction and community.
- (vi) Balanced diet.
- (vii) Human population.
- (viii) Cancer.
- (ix) AIDS/Hepatitis.
- (x) Cell organelles.

Ecology

- (i) Abiotic and biotic factors.
- (ii) Food chains.
- (iii) Ecological pyramids.
- (iv) Ecosystems.
- (v) Biomass and bionumber.
- (vi) Carbon, nitrogen and mineral cycles.
- (vii) Environmental resistance.
- (viii) Ecological impact of pollution.
- (ix) Acid rain.
- (x) Ozone layer.
- (xi) Conservation of natural resources.
- (xii) Green house effect.

Practical File – 3 Marks

The Visiting Examiner is required to assess students on the basis of the Biology Practical file maintained by them during the academic year.

There will be two papers in the subject.

Paper I: Theory: (three hours) ... 70 marks

Paper II: Practical: (three hours) ... 20 marks

Project work: (7 marks) Practical File (3 Marks)

Paper I: Theory (70 marks) there will be one paper of three hours duration divided into two parts.

Part I (20 marks) will consist of compulsory short answer questions, testing knowledge, application and skills relating to elementary/fundamental aspects of the entire syllabus.

Part II (50 marks) will be divided into **two** sections A and B. Candidates are required to answer **three** out of **five** questions from Section A and **two** out of **four** questions from Section B. Each question in this part shall carry 10 marks.

COMPUTER SCIENCE

Name of the Textbook: Computer Science with Java A Textbook for Class XII

Author: Sumita Arora
Publisher: Dhanpat Rai and Company

Suggested Month	Chapter No	Name of the Chapter
April/May	1	Boolean Algebra
	2	Computer Hardware
	3	Objects and Classes (Revision)
	4	Primitive Values, Wrapper classes, Types and Casting (Revision)
	5	Variable and Expressions (Revision)
	6	Statements, Control Structures and Scope (Revision)
	7	Functions / Methods (Revision)
	8	Arrays and strings (Revision)
	9	Compiling and Running Java Programs (Revision)
	10	Java classes: An OOP perspective (Revision)
June	FIRST COMPARATIVE EXAMINATION	
July	11	Operations on Files
	12	Recursion
	13	Concept of Inheritance
August	13	Concept of Inheritance (Continued)
	14	Exception Handling

	15	Simple Data Structures
September	15	Simple Data Structures (Continued)
		REVISION
Sept.– Oct.	SECOND COMPARATIVE EXAMINATION	
November	16	Recursive Data Structures
	17	Computational Complexity
December		REVISION
December	FIRST PRE-BOARD EXAMINATION	
January	SECOND PRE-BOARD EXAMINATION	

There will be two papers in the subject:

Paper 1: Theory (three hours) ... 100 marks

Paper 2: Practical (three hours) ... 100 marks

Paper 1: (Theory) Paper 1 will be of three hours duration and be divided into two parts.

Part 1: (30 marks) this part will consist of compulsory short answer questions, testing knowledge, application and skills relating to the entire syllabus.

Part 2: (70 marks) this part will be divided into **three** sections A, B and C.

Candidates are required to answer **three** questions out of **four** from Section A and **two** questions out of **three** in each of the Sections **B** and **C**. Each question in this part shall carry 10 marks.

Note: Algorithms may be done along with the programs.

GEOGRAPHY

Name of the Textbook: ISC Geography Part II

Author: D R Kullar

Publisher: Kalyani

Suggested Month	Topic Number	Name of the Chapter
April/May	1	Physical Environment Locational Setting-India: Size and area.
	2	Structure of India
	3	Climate: India
	4	Natural Vegetation
		Map Work
June	FIRST COMPARATIVE EXAMINATION	
July	5	Population and Human Settlements (i) Population of India (ii) National and State level patterns (iii) State level patterns population density. (iv) State level pattern of population growth

		(v) Migration trends (vi) Demographic attributes (vii) Rural settlements (viii) Urban settlements
August	6	Resources of India and their Utilisation (i) Land Resources (ii) Water Resources and types of irrigation (iii) Agriculture – Types, Development and Problems (iv) Fishing in India (v) Minerals and Power Resources
	7	Infrastructure Resources (a) Railways – roadways – water transport
September		Air Transport – Pipelines and Communication
		REVISION
Sept.– Oct.	SECOND COMPARATIVE EXAMINATION	
October	8	Industries (a) Study of the location and distribution of important industrial centres; a general comparison of disparities (b) Major and minor industrial regions (c) Location, production and growth of the following industries: (i) agro based industries (ii) mineral based industries (d) Tourism industry
November	9	Regional Economic Development (Case Studies) (i) Chattisgarh (ii) Bangalore (iii) Haldia
	Map of India	Topics 1 -9.
December		REVISION
December	FIRST PRE-BOARD EXAMINATION	
January	SECOND PRE-BOARD EXAMINATION	

Practical work

Month	Topic
July	1. Drawing of Scales
August	2. Drawing of cross-section or profiles of imp. contours
October	3. Understanding of SOI maps
November	4. Map reading of SOI Maps.
December	5. Elementary principles of Survey an Area.

Progress is the activity of today and assurance of tomorrow. – Emerson
Class XII

Practical work: 10 marks
Project work: 10 marks
Viva: 10 marks
Theory: 70 marks

There will be one theory paper of **three** hours divided into two parts –

Part I (30 marks) will be **compulsory** and will consist of Section A and Section B.

Section A will include **compulsory** short answer questions testing knowledge, application and skills related to elementary / fundamental of the entire syllabus.

Section B will consist of one question on **map work**.

Part II (40 marks) will consist of **seven** questions. Candidates will be required to answer **four** out of **seven** questions. Each question in this part shall carry 10 marks

BIOTECHNOLOGY

Name of the Textbook: Textbook of Biotechnology (Class XII)

Author: Dr R C Dubey

Publisher: S. Chand

Suggested Month	Topic Number	Name of the Topic
April	1.	Molecular Biology
	(a)	Biomolecules
	(b)	Nucleic acids
May	(c)	Protein synthesis
	2.	Genetic Engineering
	(a)	Innovations in Biotechnology
June		FIRST COMPARATIVE EXAMINATION
July	(b)	Introduction to gene cloning
	(c)	Biochemical techniques
August	(d)	Gene Analysis techniques
	3.	Cell Culture Technology
	(a)	Introduction and techniques
	(b)	Cell culture and cellular totipotency (till synchronisation of cell culture)
September	(b)	Cell culture and cellular totipotency (contd.)
	(c)	Germplasm Conservation

Progress is the activity of today and assurance of tomorrow. – Emerson

Sept.– Oct.	SECOND COMPARATIVE EXAMINATION	
October	(d)	Applications of cell culture technology
November	(d)	Applications of cell culture technology (contd.)
	4.	Bioinformatics
	(a)	Introduction
	(b)	Genomics
	(c)	Proteomics
December		REVISION
December	FIRST PRE-BOARD EXAMINATION	
January	SECOND PRE-BOARD EXAMINATION	

PRACTICALS

1	Determination of blood groups
2	Salivary amylase activity on starch
3	Sterilization techniques
4	Separation of plant pigments by chromatography
5	Preparation of culture media
6	Growth of bacteria in culture
7	Preparation of buffers
8	Isolation of proteins
9	Identification of Plasmid DNA and Genomic (chromosomal) DNA bands in the gels (by photographs only)
10	Estimation of DNA either by colourimeter or spectrophotometer.

There will be two papers in the subject.

Paper I: Theory: (three hours) ... 70 marks

Paper II: Practical: (three hours) ... 20 marks

Project work: 7 marks, Practical File: 3 marks

Paper I: Theory (70 marks) there will be one paper of three hours duration divided into two parts.

Part I (20 marks) will consist of compulsory short answer questions, testing knowledge, application and skills relating to elementary/fundamental aspects of the entire syllabus.

Part II (50 marks) will consist of **eight** questions out of which the candidates will be required to answer **five** questions. Each question in this part shall carry 10 marks.

Note: For details of project work and practical file, refer to Council Syllabus 2011.

ENVIRONMENTAL EDUCATION

Name of the textbook: ISC Environmental Education Part II
Author: Dr A. N. Rai
Publisher: Goyal Brothers

Suggested Month	Chapter Number	Name of the Chapter	Page
April	1	Biodiversity	1-6
	2	Biodiversity for Sustenance of Mankind	7-11
	3	Ecological Role and Economic Potential of Biodiversity	12-19
	4	Loss of Biodiversity and its Conservation	20-31
May	5	Environmental Management	32-39
	6	Legal Provisions for Environmental Management	40-43
June	FIRST COMPARATIVE EXAMINATION		
July	7	Approaches for Environmental Management	44-53
	8	Sustainable Development	54-61
	9	Role-Play in Sustainable Development	62-67
	10	Support Base for Sustainable Development	68-75
August	11	Sustainable Agriculture	76-82
	12	Green Revolution	83-89
	13	Soil Management	90-95
	14	Irrigation Systems and use of Manures and Fertilizers	96-100
September	15	Crop Protection and Pest Management	101-108
	16	Elements of Sustainable Agriculture	109-116
Sept.– Oct.	SECOND COMPARATIVE EXAMINATION		
October/ November	17	Biotechnology for Crop Improvement	117-122
	18	Agricultural Management	123-129
December	REVISION		

December	FIRST PRE-BOARD EXAMINATION
January	SECOND PRE-BOARD EXAMINATION

Note:

There will be two papers in the subject:

Paper I	Theory	3 hours	70 marks
Paper II	Practical/Project work	30 marks	

Paper I Theory

There will be one paper of three hours duration carrying 70 marks.

The paper will have two sections:

Section A (Compulsory) will contain short answer questions covering the entire syllabus.

Section B will consist of questions, which will require detailed answers. There will be a choice of questions in this section.

For practical / project work refer Council syllabus 2011.