

**XAVIER SCHOOL, GAMHARIA**  
 Syllabus for the Academic session 2023-24  
 Class- XII  
Subject: Mathematics

| <b>EXAM</b>                    | <b>CHAPTERS</b>  | <b>KEY CONCEPTS</b>   | <b>PROJECT</b>   |
|--------------------------------|--|---|--|
| <b>1<sup>st</sup> Unit</b>     | 1. Differentiation<br>2. Indefinite Integration                            |   |  |
| <b>1<sup>st</sup> Semester</b> | <b>SECTION A:</b><br>1. Calculus:<br><br>2. Algebra.<br><br>3. Probability | Continuity & differentiability (complete) including Application of derivatives. Indefinite integration. (Complete).<br>Definite integration using Properties.<br><br>Inverse Trigonometric Function.<br><br>Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, (Ex mention) | Students has to select a project from section: a from council's syllabus |
|                                | <b>SECTION B:</b><br>1. Vector:<br>2. 3D Geometry:                         | COMPLETE<br>D-cosine and D-Ratio.<br><br>Equation of straight line in space.  |  |
|                                | <b>SECTION C:</b><br>1. Linear Regression.<br>2. Application of calculus   | COMPLETE  |  |

|                                |  |  |  |
|--------------------------------|--|--|--|
| <b>2<sup>nd</sup> Semester</b> | <b>Section A</b><br>1. Relation and function.<br><br>Algebra:<br>2. Matrices.<br>3. Determinants<br>4. Calculus:<br>Differential equation<br><br>5. Probability: | Domain and range,<br>inverse of a function<br><br>Self-explanatory<br><br>Complete<br><br>Theoretical<br>probability<br>distribution,<br>probability<br>distribution function;<br>mean and variance of<br>random variable,<br>Repeated independent<br>(Bernoulli trials),<br>binomial distribution<br>– its mean and<br>variance | Students has to select<br>one project either<br>from Section/Section<br>from council's<br>syllabus |
|                                | <b>SECTION B:</b><br>1. 3D Geometry: Plane<br>2. Application of<br>integration: area under<br>curve  | Complete   |  |
|                                | <b>Section C:</b><br>Linear Programming  | Problem formulation<br>and its solution.   |  |

**Subject :- Physics – XII**

**BOOK: NOOTAN ISC PHYSICS**

| <b>EXAM</b>                             | <b>CHAPTERS</b>   | <b>PROJECT/ASSIGNMENTS</b>  |
|---|---|---|
| 1 <sup>st</sup> UNIT TEST<br>(20 marks) | Ch-1: Electrostatics  |   |
| 1 <sup>st</sup> SEMESTER<br>(70 marks)  | Ch-2: Current Electricity<br>Ch-3: Magnetic Effects of<br>Current and Magnetism<br>Ch-4: Electromagnetic<br>Induction and Alternating<br>Currents<br>(Including ch-1) | Practical done during the<br>session.<br>(Practical-15 marks<br>Lab manual-5 marks) |

|   |  |  |
|---|--|--|
| 2 <sup>nd</sup> UNIT TEST<br>(20 marks) | Ch-5: Electromagnetic waves<br>Ch-6: Optics  |  |
| PRE-BOARD<br>(70 marks)                 | Ch-7: Dual Nature of Radiation and Matter<br>Ch-8: Atoms and Nuclei<br>Ch-9: Electronic Devices<br>Ch-10: Communication Systems<br>(Including ch-1 to 6) | Practical done during the session.<br>(Practical-15 marks<br>Lab manual-5 marks) |

Marks division:

|              |                 |
|--------------|-----------------|
| Unit Test    | 20/2 = 10 marks |
| Practical    | 15 marks        |
| Lab Manual   | 5 marks         |
| Theory       | 70 marks        |
| <b>TOTAL</b> | 100 marks       |

### SUB: CHEMISTRY

Name of book: Concise chemistry class XII (Selina Publishers)

| EXAM                                    | CHAPTERS                                  | PROJECT   | ACTIVITY   |
|---|---|---|--|
| 1 <sup>st</sup> Unit                    | 10. Halo alkanes and Haloareness          | Lab Manual (5 Marks)<br>+<br>Practical exam(15 Marks) | Preparation of sanitizer ,<br>soap, nail paint, chalk,<br>phenyl |
|   | 11. Alcohol, Phenols & Ethers             |   |  |
| 1 <sup>st</sup> Semester                | 12. Aldehydes, ketones & carboxylic acids |   |  |
|   | 13. organic compound containing nitrogen  |   |  |
|   | 14. Bio molecules                         |   |  |
|   | 15. Polymers                              |   |  |
|   | 16. Chemistry in everyday life            |   |  |
|   | 9. Coordination compound                  |   |  |
| 2 <sup>nd</sup> Unit                    | 1.Solid state                             |   |  |
|   | 2.Solutions                               |   |  |
| 2 <sup>nd</sup> Semester<br>(Pre-Board) | 3. Electro chemistry                      |   |  |

|  |  |   |  |
|--|--|---|--|
|  | 4. Chemical kinetics                                     | Lab Manual (5 Marks)<br>+<br>Practical exam(15 Marks) |  |
|  | 5. Surface chemistry                                     |   |  |
|  | 6. General principles & process of isolation of elements |   |  |
|  | 7. P- block elements                                     |   |  |
|  | 8. d & f block elements                                  |   |  |

**Note: Pre-Board exam all chapters are included**

**Subject :- Biology**

**NAME OF THE BOOK:** ISC BIOLOGY

**NAME OF THE AUTHOR:** Dr. S.C. Tripathi

**PUBLISHER:** Shri Balaji

| <b>EXAM</b>                              | <b>CHAPTER</b>   | <b>PROJECT</b>                                     | <b>ACTIVITY</b>      |
|--|--|--|----------------------|
| <b>1<sup>ST</sup> UNIT TEST-20 MARKS</b> | Chp-1 Reproduction in Organisms<br>Chp-2 Sexual Reproduction in Flowering Plants   |  |                      |
| <b>FIRST SEMESTER EXAM-70MARKS</b>       | Chp-2 Sexual Reproduction in Flowering Plants<br>Chp-3 Human Reproduction<br>Chp-4 Reproductive Health<br>Chp-5 Principles of Inheritance and Variation<br>Chp-6Molecular basis of Inheritance<br>Chp-7 Origin of Life<br>Chp-8 Evolution<br>Chp-9 Evolution of Man<br>Chp-13 Biotechnology: Principals and Processes<br>Chp-14Biotechnology and Its Application | <i>Any topic within the scope of the syllabus.</i> | Lab work to be done. |
| <b>PRACTICAL EXAM-15 MARKS</b>           | Lab work done during the first semester.   |  |                      |
| <b>2<sup>ND</sup> UNIT TEST-20 MARKS</b> | Chp-10 Human Health and Diseases<br>Chp-6 Principals of Inheritance and Variation  |  |                      |
| <b>SECOND SEMESTER</b>                   | Chp-8 Human Health and Diseases<br>Chp-11 Strategies in enhancement for food production<br>Chp-12 Microbes in Human Welfare  |  | Lab work to be done. |

|                                |   |  |  |
|--------------------------------|---|--|--|
|                                | Chp-15 Organism and Populations<br>Chp-16 Ecosystems<br>Chp-17 Biodiversity and its Conservation<br>Chp-18 Environmental Issues |  |  |
| <b>PRE-BOARD EXAM-70 MARKS</b> | <b>ALL THE CHAPTERS ACCORDING TO THE SYLLABUS FOR ISC 2024</b>  |  |  |
| <b>PRACTICAL EXAM-15 MARKS</b> | Practical work done during the year.  |  |  |

**Distribution of marks for both the semester- Internal assessment-30 marks** {unit test (20 marks) /2+practical exam (15 marks)+lab manual(5 marks)} + **Theory exam-70 marks**

**Subject :- Computer Applications**

**NAME OF THE BOOK: - UNDERSTANDING ISC COMPUTER SCIENCE**

**PUBLISHER: - APC (ARYA PUBLISHING COMPANY)**

| <b>EXAM</b>              | <b>CHAPTERS</b>  | <b>PRJOJECT/ACTIVITY</b>   |
|--------------------------|--|--|
| 1 <sup>ST</sup> UT       | Chapter – 1 Boolean Algebra<br>Chapter – 2 Computer Hardware   | Program Based On Numbers and Dates.                              |
| 1 <sup>ST</sup> SEMESTER | Chapter – 3 Implementation of Algorithm to solve problems<br>Chapter – 4 Object and Classes<br>Chapter – 5 Data type and Variables<br>Chapter – 6 Statement and Scope<br>Chapter – 12 Inheritance, Interfaces and Polymorphism | Program Based inheritance, interface and polymorphism.           |
| 2 <sup>ND</sup> UT       | Chapter – 13 Data Structure<br>Chapter – 14 Computational Complexity and Big O Notation  | Program Based on Data structure.                                 |
| PREBOARD                 | Chapter – 7 String Manipulations<br>Chapter – 8 Arrays<br>Chapter – 9 Method / Function<br>Chapter – 10 Class as User Defined and Constructors<br>Chapter – 11 Recursion   | Program Based String, Arrays, method, constructor and recursion. |

## EXAM PATTERN

| <b>Exam / Assignment / Project</b> | <b>Marks</b> | <b>Converted Marks</b> | <b>Final Marks</b> |
|------------------------------------|--------------|------------------------|--------------------|
| Unit Test                          | 20           | 10                     | 30                 |
| Lab Manual                         | 5            | 5                      |                    |
| Lab Test                           | 15           | 15                     |                    |
| Semester Exam                      | 70           | 70                     | 70                 |
| Total                              |              |                        | 100                |

### Subject:-English Literature

**Name of the books: -** The Tempest by William Shakespeare  
Echoes (Short Stories)  
Reverie (Poems)

| <b>EXAM</b>              | <b>CHAPTERS</b>  | <b>PROJECT</b>   | <b>ACTIVITY</b>  |
|--------------------------|--|--|--|
| 1 <sup>st</sup> Unit     | The Tempest : Act 3<br><br>Short Stories:<br>1) Fritz<br><br>Poems:<br>1) The Darkling Thrush<br>2) Birches                  |  | Discuss the similarities and differences in the poet's approach in treating nature in the poems ' The Darkling Thrush ' and 'Birches'. |
| 1 <sup>st</sup> Semester | The Tempest:<br>Act 4<br>Short Stories:<br>1) Quality<br>2) The Singing Lesson<br>Poems:<br>1) The Dolphins<br>2) John Brown | Compare and contrast the characters of Ariel and Caliban from William Shakespeare's 'The Tempest'. | Construct an alternative ending of the story 'The Singing Lesson'.   |
| 2 <sup>nd</sup> Unit     | The Tempest: Act V<br>Short Story:<br>1) B. Wordsworth<br>Poem: 1) Dover Beach   |  |  |
| Pre- Board Exam          | The entire syllabus is to be tested for the Pre- Board Exam.   |  |  |

## Subject :- English

### Aims (English Language)

To develop the ability to:

- derive, infer and critically assess information through listening.
  - express oneself by speaking individually, or in a discussion.
  - read with comprehension drawing information directly or by inference from the text, through an understanding of grammar and structure, vocabulary and idiom.
  - employ a variety of skills in writing: within a framework, using argument or imagination or summarizing.
- use the English language for the purpose of study and social and cultural interaction.
  - speak and write clearly and to the purpose, using appropriate grammar, vocabulary and idiom.

*Paper 1: English Language (3 hours) – 80 marks*

### Paper 1: English Language (3 hours)

**Question One:** A composition on one of a number of subjects.

... 20 Marks

#### Question Two:

- (a) Directed writing (article writing, book review, film review, review of cultural programme, speech writing, report writing, personal profile, and statement of purpose) based on suggested points.

...15 Marks

- (b) Proposal Writing based on a given situation. The proposal should include (i) The Heading (ii) Statement of Objective (iii) List of measures.

...10 Marks

**Question Three:** Short-answer questions to test grammar, structure and usage.

...15 Marks

**Question Four:** Comprehension. ...20 Marks

It is recommended that in Paper 1, about 45 minutes should be spent on Question one, 55 minutes on Question two, 30 minutes on Question three and

50 minutes on Question four.

### ***Question One***

Candidates will be required to select ***one*** composition

topic from a choice of ***six***. The choice will normally include narrative, descriptive, reflective, argumentative, discussion topics and short story.

The required length of the composition is **400 – 450** words.

The main criteria by which the compositions will be marked are as follows:

- (a) The quality of the language employed, the range and appropriateness of vocabulary and sentence structure, syntax, the correctness of grammatical constructions, punctuation and spelling.
- (b) The degree to which candidates have been successful in organising the content of the composition as a whole and in individual paragraphs.



### ***Question Two***

There are *two* parts in this question and it is emphasized both parts are compulsory.

- (a) The piece of directed writing will be based on the information and ideas provided. The required length will be about 300 words. The range of subjects may include article writing, book review, film review, review of cultural programme, speech writing, report writing, personal profile, and statement of purpose.

Skills such as selecting, amplifying, describing, presenting reasoned arguments, re-arranging and re-stating may be involved. The candidates' ability in the above skills, including format will be taken into account as well as their ability to handle language appropriately in the context of the given situation.

- (b) Candidates will be required to write a proposal based on a given situation. The candidate's ability to decide on the set of measures to be taken in a given situation will be taken into account. A heading and an objective must be stated.

### ***Question Three***

All the items in this question are compulsory, and their number and type / pattern may vary from year to year. They will consist of short-answer, open completion items or any other type, which will test the candidates' knowledge of the essentials of functional English grammar and structure. Only two or three types will be included in any one examination.

### ***Question Four***

A passage of about 500 words will be provided. Questions based on the passage will be as follows:

- Questions that test the candidates' knowledge of vocabulary and ability to understand the content of and infer information and meanings from the text.
- A question that elicits the main ideas of all or part of the passage.

In this part of the question, the candidate will be required to frame a summary (keeping to a word limit), in a coherent manner. Marks will be awarded for expression and the candidate's ability

to summarise clearly in complete sentences. Marks will be deducted for linguistic errors.

**It is recommended that this part be done in the grid form.**

**Use of abbreviations will not be accepted.**

All questions are compulsory.

### ***Project Topics( any one)***

1. The text of a brochure
2. A product description
3. Description of a process – Ex. Description of how to operate a device, cook a dish or conduct a scientific experiment
4. A description of a sporting event- Ex. A description of a cricket match
5. An autobiographical experience-Ex. The day I learnt the lesson of punctuality
6. A review of a T.V. serial- Ex. A review-favourable or unfavourable of any T.V. serial

