

**SAHIBZADA AJIT SINGH ACADEMY, ROOPNAGAR**

**(School Affiliation Number-1630148)**

**Syllabus for XII(Medical-Non Medical)**

**Class 2021-22**

**IMPORTANT INSTRUCTIONS**

- 1) No student from a school affiliated to the Board shall be eligible to take the examination unless he has completed 75% of attendances counted from the opening of class XII upto the 1<sup>st</sup> of the month proceeding the month, in which the examination commences in the subjects of internal assessment.
- 2) The Examination would be conducted in theory as well as in practicals, depending upon the nature of the subject(s) and the marks/grades allotted shall be as prescribed in the curriculum.
- 3) Marks/grades shall be awarded for individual subjects and the aggregate marks shall not be given.
- 4) Assessment of theory/practical papers in external subjects shall be in numerical scores. In addition to numerical scores, the Board shall indicate grades in the marks sheets issued to the candidates in case of subjects of external examination
- 5) The Board will award Merit Certificates in each subject to the top 0.1% of candidates passing that subject, provided that they have passed the examination as per the pass criteria of the Board.
- 6) A candidate may offer an additional subject which can be either a language at elective level or another elective subject as prescribed in the Scheme of Studies, subject to the conditions laid down in the Pass Criteria.
- 7) A candidate will be eligible to get the pass certificate of the Board, if he/she gets a grade higher than E in all subjects of internal assessment unless he/she is exempted. Failing this, result of the external examination will be withheld but not for a period of more than one year.
- 8) The Board shall conduct Class XII examination in all subjects except General Studies, Work Experience, Physical & Health Education which will be assessed internally by the school.
- 9) In all subjects examined by the Board, a student will be given one paper each carrying 100 marks for 3 hours. However, in subjects requiring practical examination, there will be a theory paper and practical examinations as required in the syllabi and courses.
- 10) In Work Experience, General Studies, and Physical and Health Education, the schools will maintain cumulative records of student's periodical achievements and progress during the year. These records are subject to the scrutiny of the Board as and when deemed fit.

**PUNJABI**

- 9) Poetry- Kav Yatra : By CBSE, New Delhi  
Vichar Publication, Bikrampura Jalandhar
- 10) Katha Jagat : By CBSE, New Delhi, New Book company,  
Mai Heera gate, Jalandhar Ph- 0181-2280045
- 11) Gavachiya Munda : Vichar Publication,  
(Jagdish Kaushal) Adda Hushiarpur Chownk, Jalandhar

**BIOLOGY (Code No. - 044)**

- 12) Biology for Class-XII : NCERT, Publications.
- 13) Biology Lab Manual : Valcun Publication Ring Road A-2  
Naraina Vihar, Delhi, Ph-08376920433

**INFORMATICS PRACTICES**

- 14) Informatics Practices : Sumita Arora Dhanpat Rai & Co. (P) Ltd.  
A Text Book for Class XII 4576/15, Agarwal Road, Darya Ganj,  
New Delhi-110002, Ph-23247736,37,38

**PHYSICAL EDUCATION**

- 15) Health, Physical Education : SP Text Books, N.D 413, Sharda Nand Street,  
& Sports (C.B.S.E) Adda Hoshiarpur, Jalandhar (Pb.) India.  
Ph-0181-2227899
- 16) Physical Education For XII: SP Text Books, N.D 413, Sharda Nand Street,  
Practical Notebook, Adda Hoshiarpur, Jalandhar Ph-0181-2227899

**DIVINITY**

- 17) Japji Sahib : Hemkunt Press Publisher, New delhi401,  
Ansals Tower, Community Centre Naraina Vihar  
Delhi-110028 Tele-011-41412083
- 18) The Illustrated Ardaas : Hemkunt Press Publisher, New delhi401,  
Ansals Tower, Community Centre Naraina Vihar  
Delhi-110028 Tele-011-41412083

**ENVIRONMENTAL EDUCATION**

- 19) A Textbook of Environmental: Goyal Brothers Prakashan  
Education for Class-XII New Delhi. D-231, Sec-63, Noida-201301(U.P)  
Ph-0126-3830000

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11) A candidate failing in one of the five subjects of external examination shall be placed in compartment in that subject provided he/she qualifies in all the subjects of internal assessment.

12) There will be weekly tests on **Monday** – No Test, **Tuesday** – Maths/ Bio., **Wednesday** – Physics, **Thursday** – Chemistry, **Friday** – English/(Physical Education/ Computer / Punjabi )

13) **Subject Code Numbers English** – 301, **Mathematics** – 041, **Phy. Edu.** – 048, **Biology** – 044, **Physics** – 042, **Chem.** – 043, **IP** – 065, **Punjabi** - 104

14) For Class XII, there will be Annual System of Examinations consisting of two unit tests (i.e. monthly tests in July& November), Cumulative exams. (i.e. half yearly in Sept.), and Pre-Board in January. Final exam in March.

**SUBJECTS OF STUDIES & SCHEME OF EXAMINATIONS**

The learning areas will include the following subjects of studies:

Details of question papers, marks and duration are given below:

Sr. No.	Subject	Code No.	No. of Question Papers	Max. Marks	Duration	Max Marks (Theory)	Duration	Max. Marks (Practical)	Duration	Suggestive Pds. Per Week
1.	Language I (English Core)	301	1	100	3 hrs.	-	-	-	-	6
2.	Language II Pbi. Core/ Hindi Core	104/302	1	100	3 hrs.	-	-	-	-	6
3.	Mathematics	041	1	100	3 hrs.	-	-	-	-	12
4.	Physics	042	1	100		70	3 hrs.	30	3 hrs.	12
5.	Chemistry	043	1	100		70	3 hrs.	30	3 hrs.	12
6.	Biology	044	1	100		70	3 hrs.	30	3 hrs.	12
7.	Informatics Practices	065	1	100		70	3 hrs	30	3 hrs.	6
8.	Physical Education	048	1	100		70	3 hrs.	30	3hrs.	6
9.	Environmental Education		1	100		70	3 hrs	30	3hrs.	6

Assessment in the following subjects will be undertaken by the school in terms of grades on a five-point scale.

**Suggestive Pds. Per Week**

General Studies (G.K)	3
Work Experience (Vocational Education)	2+2
Physical & Health Education	2

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ENVIRONMENTAL EDUCATION

**One Paper (Theory)**

**Three Hours**

**70 Marks**

**Unit:**

- Biodiversity
- Environmental Management  
Unit: 3 & 4 are not in syllabus.

**DIVINITY**

Ardaas, Mool Mantar, Japji Sahib

**RECOMMENDED BOOKS**

**ENGLISH CORE : (CODE NO. 301)**

- Flamingo: English Reader : Published by N.C.E.R.T. New Delhi.
- Vistas: Supplementary Reader : Published by N.C.E.R.T. New Delhi.
- BBC : Compecta Super Text Assignments and worksheets

**MATHEMATICS (Code No. 041)**

- Mathematics : NCERT

**PHYSICS (Code No - 042)**

- Physics for XII : NCERT, Publications.

- Laboratory Manual Physics : Jyoti Book Deepot Pvt. Ltd295, Ibrahim Mandi, Karnal -132001 (Hr) Ph-0184-2241119, Fax- 2241520

**CHEMISTRY (Code No. 043)**

- Chemistry for Class-XII : NCERT, Publications.

- Chemistry Practical Note Book : Effectual Chemistry Jyoti Book Deepot Pvt Ltd. 295, Ibrahim Mandi, Karnal -132001 (Haryana) Ph-0184-2241119

UNIT-VII

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**Physiology and Injuries in Sports**

- Gender differences in physical & physiological parameters.
- Physiological factor determining component of Physical Fitness
- Effect of exercise on Cardio Vascular System
- Effect of exercise on Muscular system
- Physiological change due to ageing
- **Sports Injuries:** Classification: (Soft Tissue Injuries: (Abrasion, Contusion, Laceration, Incision, Sprain & Strain) Bone & Joint Injuries: (Dislocation, Fractures: Stress Fracture, Green Stick, Communated, Transverse Oblique & Impacted)
- First Aid- Aims & Objectives

UNIT-VIII

**Biomechanics and Sports**

- Meaning and Importance of Biomechanics in Sports
- Types of movements (Flexion, Extension, Abduction & Adduction)
- Newton's Law of Motion & its application in sports
- Friction & Sports

UNIT-IX

**Psychology and Sports**

- Personality, its definition and types- Traits & Type (Sheldon & Jung Classification) & Big Five Theory
- Motivation, its type and techniques
- Exercise adherence – reasons to exercise, benefits of exercise.
- Strategies for enhancing adherence to exercise.
- Meaning, Concept & Types of Aggressions in Sports

UNIT-X

**Training in Sports**

- Strength-Definition, types and methods of improving strength-Isometric- Isotonic and Isokinetic
- Endurance-Definition, types and methods to develop Endurance- continuous training , interval training, fartlek training
- Speed- Definition, types and methods to develop speed – acceleration run and pace run.
- Flexibility-Definition, types and methods to improve flexibility
- Coordinative abilities-Definition and types
- Circuit Training-Introduction & its importance.

**PRCATICAL**

**Max. Marks 30**

01. Physical Fitness-Test 06 Marks
02. Proficiency in Games & Sports (Skill of any one Team Game of choice from the given list) 07 Marks
03. Yoga Practices 07 Marks
04. Record File\*\* 05 Marks
05. Viva Voce (health/ Games & Sports/ Yoga) 05 Marks

\* Basketball, Football, Kabaddi, Handball, Hockey, Kho Kho , Rifle Shooting , Unified Basketball & Volleyball

(CWSN ) Children with special needs-Divyang

\*\*Record file shall include.

Practical -1: Fitness tests administration for al items.

Practical-2: Procedure for Asans, Benefits & Contraindication for any two Asans each lifestyle disease.

Practical-3: Procedure for administering Senior Citizen Fitness Test for 5 elderly Family members.

Practical-4: Any one game of your choice out of the list above. Labelled diagram of field & equipment Rules, Terminology & Skills).

Month wise syllabus:

Subject	April	May	June-July	Aug.	Sept	Oct	Nov.	Dec.
Phy Edu	U-1,2	U-3,4	U-5	U-6	Exam	U-7,8	U-9	U-10

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**ENGLISH CORE**

**(Code No-301)**

**3 Hours**

**One Paper**

**Marks: 100**

I	<b>Reading Comprehension</b>	20
II	<b>Creating Writing Skill</b>	30
III	<b>Literary Texts Books</b>	30
IV	<b>Assessment of speaking and listening skills</b>	20

**SECTION-A**

**READING COMPREHENSION**

**20 Marks**

**The section A will have two passages.**

- A.** One unseen passage with a variety of **Objective Type Questions, (including Multiple Choice Question and Short Answer Questions** to test comprehension, interpretation and inference. Vocabulary such as word formation and inference of meaning will also be tested. The total length of the passages will be between 800 - 900 words. **Five Multiple Choice type question and Seven Objective Type Questions** (Total 12 Marks) shall be asked from this passage. The passage will include one of the following:
- a) **Factual passages**, e.g., instructions, descriptions, reports.
  - b) **Descriptive passages involving opinion**, e.g., argumentative, persuasive or interpretative text.
  - c) **Literary passages**, e.g., extract from fiction, drama, poetry, essay or biography.
- B.** The second passage will be of 400-500 words. Note-making and abstraction will be assesd.
- Note making (4 Marks)
  - Summary (4 marks)

**SECTION-B**

**WRITING SKILLS**

**30 Marks**

- Advertisement and notices, designing or drafting posters, writing formal and informal invitation and replies. One question out of the two short Answer Questions- **4 Marks**
  - Letters based on verbal/ visual input One question out of the two Long Answer Questions to be answered in 120-150 words: - **6 Marks.**
- Letter types include**
- Business or official letters (for making enquiries, registering complaints, asking for and giving information, placing orders and sending replies)
  - Letters to the editor (giving suggestions or opinion on issues of public interest)
  - Application for a job.
- C.** Two compositions based on visual and/or verbal input may be descriptive or argumentative in nature such as an article/a debate/ a speech or a report- **Two Very Long Answer Questions containing internal choice, to be answered in 150-200 words:**

**(10x2=20 Marks)**

**SECTION C****LITERATURE TEXTBOOKS AND LONG READING TEXT****40 Marks****Flamingo and Vistas**

- **Eight Objective type Questions-** 4 from one poetry and 4 from one prose extract to test comprehension and appreciation. (8 Marks)
- **Five out of Seven Short Answer Questions** based on prose/ drama/ poetry from both texts.(10 Marks)
- **One out of two Long Answer Questions to be answered in 120-150 words** to test global comprehension and extrapolation beyond the texts. (6 Marks) (**Flamingo**)
- **One out of two Long Answer Questions to be answered in 120-150 words-** to test global comprehension along with analysis and extrapolation (6 Marks). (**Vistas**)

**Prescribed Books**

- 1. Flamingo: English Reader** published by National Council of Education Research and Training, New Delhi
- 2. Vistas: Supplementary Reader** published by National Council of Education Research and Training, New Delhi

**Textbooks**

Flamingo		Vistas
Prose	Poetry	
		The Third Level
The Last Lesson	My Mother At Sixty Six	The Tiger King
Lost Spring	An Elementary School Classroom In A Slum	Journey To The End Of The Earth
Deep Water	Keeping Quiet	The Enemy
The Rattrap	A Thing Of Beauty	Should Wizard Hit Mommy
Indigo	A Roadside Stand	On The Face Of It
Poets And Pancakes	Aunt Jennifer's Tigers	Evans Tries An O-Level
The Interviews		Memories Of Childhood
Going Places		The Cutting Of My Long Hair
		We Too Are Human Being

**THEORY  
UNIT-I****Planning in Sports**

- Meaning and Objectives of Planning
- Various Committees and its responsibilities (pre, during, post)
- Tournament-Knock-Out, League or Round Robin and Combination.
- Procedure to draw Fixtures-Knock-Out (Bye and Seeding) and League (Staircase and Cyclic)
- Intramural and Extramural-Meaning, Objectives and its Significance
- Specific sports Programme (Sports Day, Health Run, Run for fun, Run for Specific Cause and Run for Unity)

**UNIT-II****Sports and Nutrition**

- Balanced Diet and Nutrition: Macro and Micro Nutrients
- Nutritive and Non-Nutritive Components of Diet.
- Eating for Weight Control-A Healthy weight, The pitfalls of Dieting, food intolerance and food myths.

**UNIT-III****Yoga & Lifestyle**

- Asanas as preventive measures
- Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, Ardha Matsyendrasana
- Diabetes: Procedure, Benefits & contraindications for Bhujangasana, Paschimottasana, Pawanuktasana, Ardha Matsyendrasana
- Asthma: Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana.
- Hypertension: Tadasana, Vajrasana, Pawanuktasana, Ardha Chakrasana, Bhujangasana, Shavasana
- Back Pain: Tadasana, Ardha Matsyendrasana, Vakrasana, Shalabhasana, Bhujangasana.

**UNIT-IV****Physical Education & Sports for CWSN(Children with special needs- Divyang)**

- Concept of Disability & Disorder
- Type of Disability, its causes & nature (cognitive disability, intellectual disability, physical disability)
- Types of Disorder, its causes & nature (ADHD, SPD, ASD, ODD, OCD)
- Disability Etiquettes
- Advantage of Physical Activities for children with special needs
- Strategies to make Physical Activities assessable for children with special need.

**UNIT-V****Children and Women in Sports**

- Motor development & factors affecting it
- Exercise Guidelines at different stages of growth & Development
- Advantages & disadvantages of weight training.
- Common Postural Deformities- Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scolioses and their corrective measures
- Sports participation of women in India
- Special consideration (Menarche & Menstrual Dysfunction)
- Female Athletes Triad (Oestropenis, Amenoria, Eating Disorders)

**UNIT-VI****Test and Measurement in Sports**

- Motor Fitness Test- 50M standing Start, 600 M Run/ Walk, Sit & Reach, Partial Curl up, Push ups(Boys), Modified Push ups (Girls), Standing Broad Jump, Agility- 4 X 10 M Shuttle Run.
- General Motor Fitness – Barrow three item general motor ability (Standing Broad Jump, Zig Zag Run, Medicine Ball Put- For Boys: 03 Kg & For Girls :01 Kg)
- Measurement of Cardio Vascular Fitness-Harward Step Test/Rockfort test
- Computation of Fitness Index: Duration of the Exercise in Seconds X 100  
5.5 X Pulse count of 1-1.5 Min after Exercise
- Rikli & Jones- Senior Citizen Fitness Test
  1. Chair stand Test for lower body strength
  2. Arm curl Test for upper body strength
  3. Chair Sit & Reach Test for lower body flexibility.
  4. Back Scratch Test for upper body flexibility.
  5. Eight Foot Up & Go Test for agility
  6. Six Minute Walk Test for Aerobic Endurance

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**Unit 3: Relational Database Management System (50 Theory+40 Practical) Periods**  
**Review of RDBMS from Class XI**

**Database Fundamentals** Concept of Database Transaction, Committing and revoking a Transaction using COMMIT and ROLLBACK. Grouping Records: GROUP BY, Group functions – MAX(), MIN(), AVG(), SUM(), COUNT(); using COUNT(\*), DISTINCT clause with COUNT; Group Functions and Null Values.

Displaying Data From Multiple Tables: Cartesian product, Union, concept of Foreign Key, Equi-Join

Creating a Table with PRIMARY KEY and NOT NULL constraints, Viewing Constraints, Viewing the Columns Associated with Constraints using DESC command. ALTER TABLE for  
 - deleting column(s), modifying data type(s) of column(s),- adding a constraint, enabling constraints, dropping constraints. DROP Table for deleting a table

**Unit 4: IT Applications (10 Theory+26 Practical) Periods**

Front-end Interface: Introduction; content and features; identifying and using appropriate component (Text Box, Radio Button, CheckBox, List, etc., as learnt in Unit 2 (Programming)) for data entry, validation and display. Back-end Database: Introduction and its purpose, exploring the requirement of tables and its essential attributes. Front-End and Database Connectivity: Introduction, requirement and benefits.

Demonstration and development of appropriate Front-end interface and Back-end Database for e-Governance, e-Business and e-Learning applications.

Impact of ICT on society: Social and Economic benefits.

In each of the above domains, identify at least two real-life problems, list the expected outputs and the input(s) required for the output, and describe the problem solving approach and develop relevant front-end interface and back-end database.

**COURSE DESIGN**

**CLASS–XII: (PRACTICAL) (2018– 19)**

**S. N. Description Marks**

1 Problem solving using Java . SQL queries. Practical Records: Simple problems using IDE Java  
 SQL Queries IT Applications . Project Work. Viva Voce

**TOTAL 30**

**Month wise syllabus:**

Sub	April	May	June-July	Aug.	Sept	October	Nov.	Dec.
IP	U-1 Ch: (1,2)	U-2 Ch: (cont.2)	U-2 Ch: (3,4)	U-2 Ch: (5,6)	Revision & Exam	U-3 Ch: (1,2,3)	U-4 Ch: (1)	Revision

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**Month wise syllabus:**

Subject	April	May	June	July-Aug.	September
(English) Flamingoes	L-1	L-2	L-3	L-4	Revision & Exam
Poetry	P-1	P-2	P-3	--	
Vistas (Supplementary Reader)	L-1	L-2	L-3	L-4,5	
Writing Skills	Notice, Article	Advt/Letter to Editor	Poster, Job Application	Invitation, Business Letters	

**ASL PRACTICE FROM BBC**

Subject	October	November	December	Jan-Feb.
(English) Flamingoes	L-5,6	L-7	L-8	-
Poetry	P-4	P-5	P-6	-
Vistas (Supplementary Reader)	L-6,7	L-8,9	L-10	-
Writing Skills	Debate/ Speech	-----	Report writing	Revision

**ASL PRACTICE FROM BBC**

**Note: Sample Papers revised side by side.**

**MATHEMATICS  
(CODE NO. 041)**

**One Paper**

**Three Hours**

**Marks: 80**

Units	No. of Periods	Marks
Relations and Functions	30	08
Algebra	50	10
Calculus	80	35
Vectors and Three-Dimensional Geometry	30	14
Linear Programming	20	05
Probability	30	08
<b>Total</b>	<b>240</b>	<b>80</b>
<b>Assessment (Periodic Test (10) + Maths Activities (10))</b>		<b>20</b>
<b>Total</b>		<b>100</b>

**UNIT: 1 RELATIONS AND FUNCTIONS**

1. Relations and functions 15 Periods
2. Inverse Trigonometric Functions 15 Periods

**UNIT: 2 ALGEBRA**

3. Matrices 25 Periods
4. Determinants 25 Periods

**UNIT: 3 CALCULUS**

1. Continuity and Differentiability 20 Periods
2. Applications of Derivatives 10 Periods
3. Integrals 20 Periods
4. Applications of the Integrals 15 Periods
5. Differential Equations 15 Periods

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**UNIT: 4 VECTORS AND THREE-DIMENSIONAL GEOMETRY**

- 6. Vectors 15 Periods
- 7. Three – dimensional Geometry 15 Periods

**UNIT: 5 LINEAR PROGRAMMING**

- 8. Linear Programming 20 Periods

**UNIT: 6 PROBABILITY**

- 13. Probability 30 Periods

**Month wise syllabus:**

Sub	April	May	June- July	Aug.	September	Oct	Nov.	Dec.
	<b>U-2</b>	<b>U-1</b>	<b>U-3</b>	<b>U-5</b>		<b>U-3</b>	<b>U-4</b>	<b>U-6</b>
<b>Maths</b>	L-3,4	L-1,2	L-5,6,7	L-7,12	Revision & Exam	L-7,8 & 9	L-9,10,11	L-13

**Physics(Code No. 042)**

One Paper	Three Hours	70 Marks
	No. of Periods	Mark
<b>Unit-I</b>	<b>Electrostatics</b>	16
	Chapter-1: Electric Charges and Fields	
	Chapter-2: Electrostatic Potential and Capacitance	
<b>Unit-II</b>	<b>Current Electricity</b>	20
	Chapter-3: Current Electricity	17
<b>Unit-III</b>	<b>Magnetic Effects of Current and Magnetism</b>	
	Chapter-4: Moving Charges and Magnetism	
<b>Unit-IV</b>	<b>Electromagnetic Induction and Alternating Currents</b>	20
	Chapter-6: Electromagnetic Induction	18
	Chapter-7: Alternating Current	
<b>Unit-V</b>	<b>Electromagnetic Waves</b>	04
	Chapter-8: Electromagnetic Waves	12
<b>Unit-VI</b>	<b>Optics</b>	
	Chapter-9 Ray Optics and Optical Instruments	
	Chapter-10 Waves Optics	07
<b>Unit-VII</b>	<b>Dual Nature of Radiation and Matter</b>	
	Chapter-11: Dual Nature of Radiation and Matter	
<b>Unit-VIII</b>	<b>Atoms and Nuclei</b>	15
	Chapter-12: Atoms	12
	Chapter-13: Nuclei	
<b>Unit-IX</b>	<b>Electronic Devices</b>	12
	Chapter-14: Semiconductor Electronics: Materials, Devices and Simple Circuits	70
<b>Total</b>		<b>150</b>

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**INFORMATICS PRACTICES**

(Code No. 065)

Unit	Topic	Period		Total Periods
		Theory	Practic	
1	Networking and Open standards	20	4	
2	Programming	46	44	
3	Relational Database Management System	50	40	
4	It Applications	10	26	
	Total	126	114	240

**Unit 1: Networking and Open Standards (20 Theory+4 Practical) Periods**

**Computer Networking:**

Networking: a brief overview; □ Communication Media: Wired Technologies – Network Devices: Hub, Switch, Repeater, Gateway – and their functions; Types of network: Network Topologies: Network Protocols: HTTP, TCP/IP, PPP; Identifying computers and users over a network: Control), and IP Address, domain name resolution; Network security: denial of service, intrusion problems, snooping; Internet Applications: SMS, Voice Mail, Electronic Mail, Chat, Video Conferencing; Wireless/Mobile Communication: GSM, CDMA, WLL, 3G, 4G; Network Security Concepts: Cyber Law, Firewall, Cookies, Hackers and Crackers.

**Open Source Concepts:** Open Source Software (OSS)

**Unit 2: Programming (46 Theory+44 Practical) Periods**

**Review of Class XI; Programming Fundamentals**

(Refer to Appendix A for Swing Control Methods & Properties, and Appendix B for sample guidelines of GUI Programming) . Basic concept of Access specifier for class members (data members and methods). Basic concept of Inheritance. Commonly used libraries: - String class and methods: to String(), concat (), length(), to Lower Case(), to Upper Case(), trim(), substring()- Math class methods: pow(), round() Accessing MySQL database using ODBC/JDBC to connect with database. Web application development: URL, Web Server, Communicating with the web server, concept of Client and Server Side. HTML based web pages covering basic tags – HTML, TITLE, BODY, H1..H6, Paragraph (P), Line Break (BR), Section Separator (HR), FONT, TABLE, LIST (UL, OL), FORM. Creating and accessing static pages using HTML and introduction to XML.

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ਨਿੱਕੀਆਂ ਕਹਾਣੀਆਂ

1) ਵਿਸ਼ਾ ਵਸਤੂ, ਚਰਿੱਤਰ ਚਿਤਰਨ, ਆਲੋਚਨਾਤਮਕ ਸਾਰ ਸੰਬੰਧੀ (125-150 ਸ਼ਬਦ) ਚੋਣ ਅਧਾਰਿਤ 08

I. ਬਹੁਵਿਕਲਪੀ 4 ਪ੍ਰਸ਼ਨ (1 x 4 = 4)

II. ਅਤਿ ਛੋਟੇ 4 ਪ੍ਰਸ਼ਨ (1 x 4 = 4)

ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ

ਪੰਜਾਬੀ ਸਾਹਿਤ ਵਿੱਚ ਗੁਰਮਤਿ ਕਾਵਿ ਤੇ ਸੂਫੀ ਕਾਵਿ ਦੀ ਉਤਪਤੀ, ਵਿਕਾਸ, ਵਿਚਾਰਧਾਰਾ ਅਤੇ ਵਿਸ਼ੇਸ਼ਤਾਈਆਂ ਬਾਰੇ ਪ੍ਰਸ਼ਨ 08

ਭਾਸ਼ਾ 40

II. ਅਫਵਾਸ ਪੜ੍ਹਨ ਕੌਸ਼ਲ 05

ਜਾਣਕਾਰੀ ਭਰਪੂਰ ਇੱਕ ਅਣਡਿੱਠਾ ਪੈਰਾ ਅਤੇ ਉਸ ਨਾਲ ਸੰਬੰਧਤ 5 ਛੋਟੇ ਪ੍ਰਸ਼ਨ

III. ਪ੍ਰਭਾਵਸ਼ਾਲੀ ਲਿਖਣ ਕੌਸ਼ਲ

1. ਸਮਾਜਿਕ ਅਤੇ ਸੱਭਿਆਚਾਰਕ ਵਿਸ਼ੇ ਸੰਬੰਧੀ 200-250 ਸ਼ਬਦਾਂ ਵਿੱਚ ਲੇਖ 10

2. ਅਖਬਾਰ ਦੇ ਸੰਪਾਦਕ ਜਾਂ ਦਫ਼ਤਰ ਪੱਤਰ (ਦੋ ਵਿੱਚੋਂ ਕੋਈ ਇੱਕ) 05

IV. ਵਿਹਾਰਕ ਵਿਆਕਰਨ

1. ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨੇਮ (ਗ ਤੇ ਘ, ਜ ਤੇ ਝ, ਡ ਤੇ ਢ, ਵ ਤੇ ਬ, ਸਹਾਰੀ ਤੇ ਲਾਂ ਅਤੇ ਹੋੜਾ ਤੇ ਕਨੋੜਾ ਦੀ ਵਰਤੋਂ)

(ੳ) ਛੋਟੇ ਪ੍ਰਸ਼ਨ (3) (ਅ) ਬਹੁਵਿਕਲਪੀ (2) 05

2. ਵਾਕਾਂ ਨੂੰ ਸ਼ੁੱਧ ਕਰਕੇ ਲਿਖਣਾ

(ੳ) ਛੋਟੇ ਪ੍ਰਸ਼ਨ (3) (ਅ) ਬਹੁਵਿਕਲਪੀ (2) 05

3. ਵਿਸਰਾਮ ਚਿੰਨ੍ਹਾਂ ਦੀ ਵਰਤੋਂ

(ੳ) ਛੋਟੇ ਪ੍ਰਸ਼ਨ (3) (ਅ) ਬਹੁਵਿਕਲਪੀ (2) 05

4. ਮੁਹਾਵਰੇ (ਅਰਥ ਸਪਸ਼ਟ ਕਰਦੇ ਹੋਏ ਵਾਕ ਬਣਾਉਣਾ) (ਟ ਤੋਂ ਤ ਤੱਕ)

(ੳ) ਛੋਟੇ ਪ੍ਰਸ਼ਨ (3) (ਅ) ਬਹੁਵਿਕਲਪੀ (2) 05

Subject	April	May	June	July-Aug	Sept.	October	November
ਪੰਜਾਬੀ ਕਾਵਿ ਯਾਤਰਾ	ਪਾਠ-1	ਪਾਠ-2	ਪਾਠ-3	ਪਾਠ-4	Revision & Exam	ਪਾਠ-5,6	ਪਾਠ-7,8
ਗੁਆਚਿਆ ਮੁੰਡਾ	-	-	Whole	-	-	-	-
ਕਥਾਂ ਜਗਤ	ਪਾਠ-1	ਪਾਠ-2	ਪਾਠ-3	ਪਾਠ-4	Revision & Exam	ਪਾਠ-5,6	ਪਾਠ-7,8
ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ	--	--	ਪ੍ਰਸ਼ਨ-1	-	-	ਪ੍ਰਸ਼ਨ-2	-
ਵਿਆਕਰਣ	ਅਣਡਿੱਠਾ ਪੈਰਾ, ਲੇਖ, ਪੱਤਰ	ਇਸਤਿਹਾਰ, ਨੋਟਿਸ	--	ਮੁਹਾਵਰੇ, ਵਿਸਰਾਮ ਚਿੰਨ	Revision & Exam	ਵਾਕਾਂ ਨੂੰ ਸ਼ੁੱਧ ਕਰਕੇ ਲਿਖਣਾ	-

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PRACTICALS (TOTAL PERIODS 60)

- Every Student will perform 15 Experiments (with a minimum of 6 from section)
- Every Student will perform 5 Activities (with a minimum of 2 each from section A and section B) which is to be demonstrated by the teachers.
- Every Student will prepare the project.

Evaluation Scheme

Total Periods : 60

Two Experiments one each section	8+8 Marks
Practical Record [experiments & activities]	6 Marks
Investigatory Project	3 Marks
Viva on experiments, activities & project	5 Marks
	<b>Total 30 Marks</b>

PRACTICAL SCHEDULE: I TERM- SECTION A (Containing 7 Practicals)

II TERM- SECTION B (Containing 8 Practicals)

Month wise syllabus:

Subject	April	May	June- July	Aug.	Sept	Oct	Nov.	Dec.
Physics	U - 1	U - 2 & 3	U - 3 & 4 Project	U - 5, 7	Revision & Exam	U - 8	U - 9	U - 6

CHEMISTRY

(Code No. 043)

Unit No.	Title	NO. OF PERIODS	Marks
Unit I	Solutions	10	23
Unit II	Electrochemistry	12	
Unit III	Chemical Kinetics	10	
Unit IV	Surface Chemistry	08	
Unit V	General principles and processes of Isolation of Elements	08	19
Unit VI	p-Block Elements	14	
Unit VI	d- and f- Block Elements	12	
Unit VII	Coordination Compounds	12	28
Unit VIII	Haloalkanes and Haloarenes	12	
Unit IX	Alcohols, Phenols and Ethers	12	
Unit X	Aldehydes, Ketones and Carboxylic Acids	14	
Unit XI	Organic Compounds containing Nitrogen	12	
Unit XII	Biomolecules	12	
Unit XIII	Polymers	06	
Unit XIV	Chemistry in Everyday Life	06	
	<b>TOTAL</b>		<b>70</b>

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**PRACTICALS**

**Evaluation Scheme for Examination**

Content Based Experiment	06
Volumetric Analysis	08
Salt Analysis	08
Class Record and Viva	04
<b>Project</b>	<b>04</b>
<b>Total</b>	<b>30</b>

**PRACTICAL SCHEDULE: I TERM-** Content Based Experiment & Volumetric Analysis

**II TERM-** Salt Analysis, Project Work

**Month wise syllabus:**

Subject	April	May	June-July	Aug.	Sep.	October	Nov.	Dec.	Jan.
<b>Chemistry</b>	Unit-1,2	Unit-3,4	Unit-5,6	Unit-7,8,9	Revision & Exams	Unit -10,11,12	Unit-12,13,14	Unit -15,16	Revision

**BIOLOGY**  
(Code No. 044)

**One Theory Paper** **Three Hours** **70 Marks**

Unit	Marks	Periods
1. Reproduction	14	30 Periods
2. Genetics and evolution	18	40 Periods
3. Biology and human Welfare	14	30 Periods
4. Biotechnology and its applications	10	30 Periods
5. Ecology and environment	14	30 Periods
<b>Total</b>	<b>70</b>	

**UNIT I: REPRODUCTION**

Reproduction in Organism, Sexual Reproduction in Flowering Plants, Human Reproduction, Reproductive Health

**UNIT II: GENETICS AND EVOLUTION**

Principles of Inheritance and variation, Molecular Basis of Inheritance, Evolution.

**UNIT III: BIOLOGY AND HUMAN WELFARE**

Human Health and Diseases, Strategies for Enhancement in Food Production, Microbes in Human Welfare.

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**UNIT IV : BIOTECHNOLOGY AND ITS APPLICATIONS**

Biotechnology- Principles and processes, Biotechnology & its Application.

**UNIT V : ECOLOGY & ENVIRONMENT**

Organisms and Populations, Ecosystem, Biodiversity and Its conservation, Environmental Issues.

**PRACTICAL**

Evaluation Scheme	
One Major Experiment Part A Exp No.	5 Marks
One Minor Experiment Part A Exp No. (2,3,4)	4 Marks
Slide Preparation Exp No. (1,7)	5 Marks
Spotting	7 Marks
Practical Record+Viva Voce	4 Marks
Project Record+Viva Voce	5 Marks
<b>Total</b>	<b>30 Marks</b>

**PRACTICAL SCHEDULE: I TERM-** Experiments=04, Spotting=08

**II TERM-** Experiments=05, Spotting=03

**Month wise syllabus:**

Subject	April	May	June-July	Aug.	Sep.	October	Nov.	Dec.	Jan.
<b>Biology</b>	Unit-3	Unit-2	Unit-1	Unit-1	Revision & Exams	Unit -4	Unit- 4	Revision	

**PUNJABI (CORE)**

Code No. 104 ਜਮਾਤ ਬਾਰੂਵੀਂ

ਇੱਕ ਪੇਪਰ 3 ਘੰਟੇ ਅੰਕ 100

ਇਕਾਈ/ਸਿੱਖਣ ਦਾ ਖੇਤਰ	ਅੰਕ	ਪੀਰੀਅਡ
ਸਾਹਿਤ	40	85
ਭਾਸ਼ਾ		
(ੳ) ਅਡਵਾਂਸ ਪੜ੍ਹਨ ਕੌਸ਼ਲ	05	10
(ਅ) ਪ੍ਰਭਾਵਸ਼ਾਲੀ ਪੜ੍ਹਨ ਕੌਸ਼ਲ	15	25
(ੲ) ਵਿਹਾਰਕ ਵਿਅਕਾਰਨ	20	40
Internal Assessment Project (10), ASL (05), Writing Skills (05)	20	

ਸਾਹਿਤ

ਅੰਕ  
40

**I. ਕਵਿਤਾ**

1. ਦਿੱਤੀਆਂ ਗਈਆਂ ਦੋ ਕਾਵਿ ਟੁਕੜੀਆਂ ਵਿੱਚੋਂ ਕਿਸੇ ਇੱਕ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ 08

**II. ਨਾਟਕ**

2) ਵਿਸ਼ਾ ਵਸਤੂ, ਚਰਿੱਤਰ ਚਿਤਰਨ, ਕਥਾਨਕ ਬਾਰੇ (125-150 ਸ਼ਬਦ) ਚੋਣ ਅਧਾਰਿਤ 08