## ST. XAVIER'S SCHOOL, DORANDA
## Syllabus for the Academic Year(2023-24)
## CLASS XI
## Syllabus for ENGLISH I (Language)
## FIRST TERMINAL

1. Composition
2. Grammar
3. Directed Writing
4. Proposal Writing
5. Comprehension
6. Precis-Writing

**ASSIGNMENT**: Write a **composition** (400-450 words) on the assigned topic

## Syllabus for ENGLISH II (Literature)

DRAMA: Shakespeare's- Macbeth - Act I

PROSE:

1. A Living God- Lafcadio Hearn
2. Advice to Youth- Mark Twain

POETRY:

1. Upagupta- Rabindranath Tagore
2. Why I like the Hospital- Tony Hoagland
3. Sonnet 116- William Shakespeare

**ASSIGNMENT**: Write a life sketch (Background+Literary contribution ) of any author from your textbook "Prism". (minimum 1500 words) . Make a powerpoint presentation, audio-video presentation or animation.

## Syllabus for Geography

**PAPER I: THEORY (70 Marks)**

**GEOGRAPHY AS A DISCIPLINE.          (  MAY -JUNE )**

**First Term**

1. **Geography - its interdisciplinary approach and future prospects**

   Geography as an integrating discipline. Physical Geography and Natural Sciences; Geography and Social Sciences.

   *Branches of Geography:*

   *(i) Systematic approach: Physical Geography (Geomorphology, Climatology, Hydrology); Human Geography (Historical, Social, Population and Settlement, Economic, Political).*

   – *The conceptual and intellectual ideas of a number of new approaches to contemporary human geography should be examined to understand the strengths and limitations of each approach within the context of Human Geography and Social Sciences.*

   *(ii) Regional approach: Regional/ Area Studies, Regional Planning, Regional Development.*

   *Future prospects of Geography to be discussed:*

   ● *In the area of GPS, GIS, Remote Sensing for resource identification.*

   ● *Applied geography in town and country planning, environment management and cartography and mapping, geography, education map analysis, travel and tourism (to be taught only for the sake of awareness, not for testing).*

PRINCIPLES OF PHYSICAL GEOGRAPHY

   **2. Formation of the Earth.                    (  JUNE- JULY)**

   Theories of formation; Methods of measuring age of the earth; Structure and Composition; Rocks.

   *(i) Theories of formation of the earth: the Big Bang theory.*

   *(ii) Methods of measuring age of the earth: Tidal force, Sedimentation, Rate of Erosion, Salinity*

*of the Ocean, Radioactivity – a brief understanding.*

*(iii) Structure and composition of the earth's interior:( July - August)*
  *crust, mantle, core; their properties*
  *- temperature, pressure, thickness. Sources of information – direct and indirect; seismic waves, their behaviour and inferences.*

*(iv) Rocks:  ( August )*
  *Definition of rocks and minerals. The mineral groups responsible for different rocks formed on the earth: silicates, carbonates, sulphides, metals.*
  *Classification of rocks by origin: igneous, metamorphic and sedimentary rocks – their distribution in India; characteristics, types, economic importance.*
  *The rock cycle.*

### Syllabus – POLITICAL SCIENCE          2023-2024          STD XI –E

**1. MAY-JUNE**

  i. Fundamental Concepts

**2. JULY**

  ii. The Origin of a State

  iii. Cold War and End of Cold War

**3. AUGUST**

  iv. Political Ideologies
  v. Unipolar World: Unilateralism

**4. SEPTEMBER**

  vi. Sovereignty

**5. OCTOBER**

  vii. Regional Cooperation

**6. NOVEMBER**

  viii. Law
  ix. Non- Alignment

**7. DECEMBER**

  x. Liberty

**8. JANUARY**

  xi. Equality
  xii. Justice

# SYLLABUS for HISTORY

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

*Paper I: Theory 3 hours ------ 80 marks*

*Paper II: Project Work -------20 marks*

## PAPER I (THEORY) – 80 Marks

***Part I (16marks)*** *will consist of **compulsory** short objective answer questions testing fundamental factual knowledge and understanding of the entire syllabus.*

***Part II (64marks)*** *will be divided into **two** sections, **Section A** and **Section B**, each consisting of 8questions and 4questions respectively. Each question shall carry **4 marks** and8marks respectively . Candidates will be required to attempt all questions One.internal choice is provided to you both from Indian History and World History in section A and section B respectively .*

*Section A or Section B. A total of **five** questions will be attempted from Part II.*

## SECTION A

## INDIAN HISTORY

### 1. Growth of Nationalism [MAY]

(i) Swadeshi Movement

*Partition of Bengal and anti-Partition Movement, leading to the Swadeshi and Boycott Movement: causes, features and impact which should include the aggravation of the Moderate-Extremist clash, and the foundation of the Muslim League. The assessment of the movement should include the positive and negative features.*

(ii) Revolutionary Nationalism

*The growth of revolutionary activities should explain what led to the development and concentrate on some well-known organizations: Abhinav Bharat, Yugantar, AnushilanSamiti.*

### 2. Emergence of the Colonial Economy[JUNE/JULY]

(i) Development of the means of transport and communication.

*Transportation: a brief look at the development of the railways – other means can simply be mentioned.*

(ii) Disruption of traditional economy: British revenue policy: impact on peasants and artisans; poverty and famines.

*A general account of the impact of the British rule on peasants and artisans. Revenue policy: the Permanent Settlement and Ryotwari Settlement should be done in some detail.*

(iii)Development of modern industries.

*An account of the growth of large scale machine based industries in western India, its economic impact.*

(iv) Colonial Forest Policy - impact on local communities.

*The Forest Acts of 1865 and 1894 to be studied critically. Political and economic impact of the Colonial Forest Policy on local communities.*

### 3. Social and Religious Movements [JULY]

(i) Impact of the modern ideas in Europe on Indian administrators.

*The characteristics of modern thought (liberalism, utilitarianism) to be very briefly explained as a background to British policy.*

(ii) Reform Movements – BrahmoSamaj, AryaSamaj, Aligarh Movement.

*A critical look at each of the above movements.*

(iii)Struggle against caste – JyotiraoPhule, Narayan Guru, Veerasalingam.

*A brief outline of their contributions.*

(iv) The Women's Question

*The following Acts to be studied: Abolition of Sati 1829, Widow Remarriage 1856, Female Infanticide Prevention 1870 and Age of Consent 1891. The background and features have to be read critically to evaluatetheir impact on women*

### 4. Protest Movements against Colonial Rule[AUGUST]

*A brief account of the Indigo Uprising (1859), Deccan riots (1875), Munda Uprising (1899-1900) and the response of the colonial authority*

**5. Gandhian Nationalism (1916 – 1922) [OCTOBER]**

(i) The launching of the passive resistance movement by Gandhi; background and main features of the movement.

*A general background of the development of Gandhian ideas of non-violence and satyagraha in South Africa. Brief summaries of the three localisedsatyagrahas: Champaran, Ahmedabad, and Kheda district.*

   (ii) Agitation against the Rowlatt Act, JalianwalaBagh (1919), Khilafat and Non-Cooperation Movement (1919-1922).

*The reasons behind the Rowlatt Act and its main terms to be studied in brief. A general account of the satyagraha against the Act, leading to JalianwalaBagh and the aftermath.*

*The launching of the Khilafat and the Non-Cooperation Movements; why Gandhi decided to support Khilafat. There should be a connected chronological account of the movement and its suspension after ChauriChaura.***6. Gandhian Nationalism (1927 – 1934) [NOVEMBER]**

   (i) Simon Commission: its boycott and the demand for Dominion Status by 1929; Lahore session and declaration of 'PoornaSwaraj' as the Congress objective.

*The reasons for sending the Commission in 1927 as well as its boycott should be briefly explained. A general account of the agitation against the Commission as well as a very brief account of the Nehru Report. The Lahore Session should be set against the expiry of the deadline by the Congress; the main points ofthePoornaSwaraj Resolution.*

   (ii) Civil Disobedience Movement (1930-1934).

*A general account of the development of the Movement and different strands within the Movement; main features of the Gandhi-Irwin Pact. The 1ˢᵗand 2ⁿᵈ Round Table Conferences can be put very briefly in context. The resumption of the Movement, the Poona Pact (in the context of the Communal Award)should be touched upon.*

**SECTION B**
**WORLD HISTORY**

**7. Impact of the second phase of industrialization in Europe during the late 19ᵗʰand early 20ᵗʰcenturies [JUNE]**

   (i) Urbanisation, growth of working class: Workers' movements.

*Trade Union and Socialist Movements in Germany.*

   (ii) Growth of Women's struggles for rights: Suffragette Movement.

*Focus on Britain and WPSU: an account of demand for women's right to vote until the election of 1919.*

**8. World War I: Causes, events leading to it;major changes in warfare and strategy; peace settlements[JULY**

*An outline of the main long term causes: alliances, imperial rivalry, arms race, nationalism; short term causes: events from 1908 to 1914: the Moroccan crisis, the annexation of Bosnia-Herzegovina. The main interests of the big powers in the Balkans should be briefly touched upon, particularly Russia and Austria-Hungary, as well as the growth of Balkan nationalism and the two Balkan Wars; the assassination at Sarajevo and how it developed into a major European War.*

*Introduction of new technologies and strategies: trench warfare, use of gas, tanks, air warfare and submarines with one example for each.*

*Reasons for US's entry into the War and a brief account of its contribution.*

*A brief explanation of the various causes for thedefeat of the Central Powers.*

**9. Peace Settlements after World War I and the establishment of the League of Nations[AUGUST]**

*Changes in the map of Europe after the Paris Peace Settlements; critical evaluation of the impact of the peace settlements.*

*League of Nations – membership (absence of major powers); establishment of the mandates*

*System; failure of collective security (Manchuria& Abyssinia).*

**10. The Great Depression [SEPTEMBER]**

*Causes leading to the Wall Street Crash of 1929 and its impact on the economy of USA, Germany, Britain, France, & Japan.*

**11. Rise of Communism: Russia (1917-1939)[NOVEMBER]**

*The Bolshevik Revolution of 1917 - a brief account of events in 1917: March Revolution and its results; explanation of why the Provisional Government fell from power leading up to the November Revolution.*

*Lenin and his consolidation of the Bolshevik state.*

*Struggle for power between Stalin and Trotsky;Single party state under Stalin: the collectivisation of agriculture. The First and the Second Five Year Plans and the purges of 1937-1938.*

**12. Rise of Fascism: Italy (1919-39)[NOVEMBER]**

(i) Post-War discontent and the rise to power of Benito Mussolini.

*Conditions which gave rise to Fascism; abrief chronological account of the events which brought Mussolini to power from the election of 1921 to the march on Rome in October 1922.*

(ii) Main features of Mussolini's domestic policy.

*Critical appraisal of Mussolini's policiesparticularly his economic policy.*

**13. Rise of Nazism: Germany (1933-39)[DECEMBER]**

(i) Rise of Hitler to power and factors assisting his rise.

*Weaknesses of the Weimar Republic as a background to the rise of Nazism; events from 1932 onwards leading to Hitler becoming Chancellor of Germany in 1933; the reasons for his popularity among different groups should be explained.*

(ii) The Nazi State: from 1933 onwards.

*Outline of the changes made by Hitler ingovernment, the cultural life and education, army (the Night of the Long Knives), the economy and religious life. Escalation of the campaign against the Jews should be done in some detail, till the "Final Solution". Reasons why his policies were accepted among differentgroups.*

**14. Rise of Militarism: Japan (1919-37) [DECEMBER]**

Reasons for militarism in the 1930s; expansion into China. Events leading to the attack on Pearl Harbour.

*The political, economic and ideological reasons for the rise of militarism and expansion into China should be explained (emphasis should be laid on the reasons for the attack on Manchuria and a brief account of it). The subsequent developments should be studied chronologically, emphasizing the declaration of a "New Order in East Asia" and the 1937 invasion of China.*

**MIDTERM ASSIGNMENT: British Land Revenue Policy in India**

**Date of submissiom:26th June**

**MID TERM EXAMINATION: ALL THE CHAPTERS TAUGHT IN THE MID TERM**

**FINAL TERM PROJECT:Changes in the nature of warfare- late 19th and early 20th century conflicts, World War I**

**Date of submission:29 August,2023.**

**FINAL TERM EXAMINATION:ALL THE CHAPTERS TAUGHT IN THE MID TERM AND THE FINAL TERM.**

## Syllabus for Economics

| Class- XI D/E (Commerce/ Humanities) Subject - ECONOMICS (856) | | |
|---|---|---|
| **Chapter** | **Estimated Month** | **Teacher's Name** |
| **Section-A Understanding Economics** | | |
| 1. Definition of Economics | May | Ms. Ruchi Kumari / Mr. S. K. Singh |
| 2. Basic Concepts of Economics | June | |
| 3. Basic Problems of an Economy | July | |
| 4. Types of Economics | July-August | |
| 5. Solutions to the Basic Economic Problems Under Different Economic System | August | |
| **Section-B: Indian Economic Development** | | |
| 6. The State of the Indian Economy on the eve of Independence | September | |
| 7. Economic Growth and Development | September | |
| 8. Parameters of Development | October | |
| 9. Sustainable Development | November | |
| 10. Planning and Economic Development in India | November | |
| 11. Structural Changes in the Indian Economy after Liberalisation | December | |
| 12. The problem of Poverty in India | January | |
| 13. Profile of Indian Agriculture/Rural Development | December | Ms.Sukriti Bagh |
| 14. Human Capital Formation in India | December | |
| 15. Employment and Unemployment in India- Problems and Policies | January | |
| **Section-C Statistics** | | |
| 17. Definition, Scope, Importance and Limitation of Statistics | May | |
| 18. Collection, Organisation and Presentation | June-July | |
| 19. Measures of Central Value | July-August | |
| 20. Measures of Dispersion | September | |
| 21. Correlation | October | |
| 22. Index Number | October | |
| 23. Some Mathematical Tools Used in Economics | November | |

## Syllabus for  Accounts

| Class- XI D  (Commerce)   Subject - ACCOUNTS (858) | | | |
|---|---|---|---|
| S. No. | Chapter | Estimated Month/s Required | Teacher's Name |
| 1 | Introduction to Accounting | May | Ms. Ruchi |
| 2 | Journal, Ledger and Trial Balance | May-June-July | Ms.Sukriti Bagh |
| 3 | Bank Reconciliation Statement | May-June | Ms. Ruchi |
| 4 | Depreciation | August | Ms.Sukriti Bagh |
| 5 | Bills of Exchange | July-August | Ms. Ruchi |
| 6 | Accounting Concepts | September | Ms. Ruchi |
| 7 | Final Accounts and Concept of Trading, Profit and Loss and balance sheet | September-October | Ms.Sukriti Bagh |
| 8 | Rectification of Errors | October-November | Ms. Ruchi |
| 9 | Accounts from Incomplete Records | December-January | Ms. Ruchi |
| 10 | Non-Trading Organisation | November-December | Ms.Sukriti Bagh |
| 11 | Introduction to the Use of Computers in Accounting | January | Ms.Sukriti Bagh |

**Syllabus for  Commerce**

| Class- XI D  (Commerce)   Subject - COMMERCE (857) | | | |
|---|---|---|---|
| S. No. | Chapter | Estimated Month/s Required | Teacher's Name |
| 1 | Nature and Purpose of Business | May-June-July | Mr. S. K. Singh |
| 2 | Forms of Business Organisation | May-June-July-August | Ms. Ruchi |
| 3 | Social Responsibility of Business and Business Ethics | September | Ms. Ruchi |
| 4 | Emerging Modes of Business | October-November | Ms. Ruchi |
| 5 | Stock Exchange | December-January | Ms. Ruchi |
| 6 | Trade | August | Mr. S. K. Singh |
| 7 | Foreign Trade | September-October-November | Mr. S. K. Singh |
| 8 | Insurance | December-January | Mr. S. K. Singh |

Syllabus for  Chemistry

| | |
|---|---|
| MAY, JUNE & JULY | **1.** Some basic concepts of chemistry<br>**2.** Structure of atom |
| | 3. Some basic principles and techniques |
| AUGUST | 4. Classification of elements and periodicity in properties |
| | 5. Hydrocarbon |
| SEPTEMBER | 6. Chemical bonding and molecular structure |
| | Hydrocarbon |
| OCTOBER | 7. States of matter |
| | Hydrocarbon |

| | |
|---|---|
| NOVEMBER | 8. Thermodyamics |
| | 9. Equilibrium |
| | Hydrocarbon |
| DECEMBER | 10. Redox reaction |
| | 11. Hydrogen |
| | 12.  Environmental chemistry |
| JANUARY | 13. S- block elements |
| | 14. p-block elements |
| | Environmental chemistry |

**Syllabus for  Biology**

MAY-JUNE          STRUCTURAL ORGANIZATION IN ANIMALS * ANIMAL TISSUES
                          DIVERSITY  OF LIVING ORGANISM * ANIMAL KINGDOM
                           PLANT PHYSIOLOGY       *TRANSPORT IN PLANTS

| ASSIGNMENT  1: | CELL : STRUCTURE AND FUNCTION   *CELL- THE UNIT OF LIFE |
|---|---|

 JULY-AUGUST   CELL : STRUCTURE AND FUNCTION * BIOMOLECULES
                                                            *CELL CYCLE AND CELL DIVISION
                          PLANT PHYSIOLOGY * MINERAL NUTRITION
                                            * PHOTOSYNTHESIS IN HIGHER PLANTS
SEPTEMBER          HUMAN PHYSIOLOGY * DIGESTION AND ABSORPTION
                          PLANT PHYSIOLOGY       *RESPIRATION IN PLANTS
                                            * PLANT GROWTH AND DEVELOPMENT

SYLLABUS FOR FIRST TERMINAL
1 * ANIMAL TISSUES
2.* ANIMAL KINGDOM
3. *CELL- THE UNIT OF LIFE
 4.* BIOMOLECULES
5. *CELL CYCLE AND CELL DIVISION
6.* DIGESTION AND ABSORPTION
7.*TRANSPORT IN PLANTS
8.*MINERAL NUTRITION
9, * PHOTOSYNTHESIS IN HIGHER PLANTS
10.*RESPIRATION IN PLANTS
11.* PLANT GROWTH AND DEVELOPMENT

 OCTOBER -            HUMAN PHYSIOLOGY * BREATHING AND EXCHANGE OF GASES
                                            * BODY FLUIDS AND CIRCULATION
                          STRUCTURAL ORGANISATION IN PLANTS * MORPHOLOGY OF
                                            FLOWERING PLANTS
                                            *ANATOMY OF FLOWERING PLANTS
 NOVEMBER -           HUMAN PHYSIOLOGY *EXCRETORY PRODUCT AND THEIR ELIMINATION
                                            *LOCOMOTION AND MOVEMENT
                          DIVERSITY OF LIVING ORGANISMS  *PLANT KINGDOM
                                            *BIOLOGICAL CLASSIFICATION

| ASSIGNMENT  2: | DIVERSITY  OF LIVING ORGANISM * ANIMAL KINGDOM |
|---|---|

 DECEMBER -           HUMAN PHYSIOLOGY *NEURAL CONTROL AND COORDINATION
                                            *CHEMICAL COORDINATION AND INTEGRATION
                          DIVERSITY OF LIVING ORGANISMS  *PLANT KINGDOM

JANUARY -
*BIOLOGICAL CLASSIFICATION
STRUCTURAL ORGANIZATION IN ANIMALS * COCKROACH
PLANT PHYSIOLOGY  *BIOLOGICAL CLASSIFICATION
* THE LIVING WORLD

SYLLABUS FOR FINAL TERMINAL (FEBRUARY 2024)

1. ANIMAL TISSUES
2. ANIMAL KINGDOM
3. CELL- THE UNIT OF LIFE
4. CELL CYCLE AND CELL DIVISION
5. DIGESTION AND ABSORPTION
6. BREATHING AND EXCHANGE OF GASES
7. BODY FLUIDS  AND CIRCULATION
8. EXCRETORY PRODUCT AND THEIR ELIMINATION
9. LOCOMOTION AND MOVEMENT
10. NEURAL CONTROL AND COORDINATION
11. CHEMICAL COORDINATION AND INTEGRATION
12. COCKROACH
13. MORPHOLOGY OF   FLOWERING PLANTS
14. ANATOMY OF FLOWERING PLANTS
15. PLANT KINGDOM
16. BIOLOGICAL CLASSIFICATION
17. THE LIVING WORLD
18. PHOTOSYNTHESIS IN HIGHER PLANTS
19. RESPIRATION IN PLANTS
20. PLANT GROWTH AND DEVELOPMENT

**Syllabus  of Mathematics**

| Term 1 | | | |
|---|---|---|---|
| Sno. | Months | Units | Chapters |
| 1 | May | Section A | Sets |
| | | | Relations and functions |
| 2 | June | Section A | Trigonometry |
| 3 | July | Section A | Trigonometry (Contd.) |
| | | Section B | Conic Sections (Parabola, Elipse, Hyperbola) |
| 4 | August | Section A | Straight lines |
| | | | Linear Inequality |
| | | | Principle of mathmetica induction |
| | | | Statistics (Central tendency) |
| | | Section C | Statistics (Contd.) |
| | | | Corelation analysis |
| Term 2 | | | |
| 1 | September | Section A | Complex numbers |
| | | | Quadratic Equations |
| 2 | October | Section A | Permutations and combinations |

| | | | Binomial Theorem |
|---|---|---|---|
| | | | Sequence and series |
| 3 | November | Section A | Limits and Derivatives |
| | | | Differentiation |
| 4 | December | Section A | Circle |
| | | | Probablities |
| | | Section B | 3D |
| 5 | January | Section C | Measure of dispersion |
| | | Section B | Mathematical Reasoning |
| | | Section C | Index numbers and Moving average |
| **Note; Chapter of Term 1 also included** | | | |

# Mathematics Projects

Dear students,

This is to inform you that for the academic year 2023 – 2024 you have to prepare a project on the following topics. The work should not be a copy paste.

1) Using a Venn diagram, verify the De Morgan's Law and Distributive law for a given non empty sets.

<p align="center">And</p>

2) Use focal property of hyperbola to construct hyperbola.

<p align="center">Or</p>

Describe the limitations of Spearman's rank correlation coefficient and illustrate with suitable eexamples.

**Note:** There will be a Viva Voice.

## **Instructions for the project.**

Kindly, follow these along with your ideas.

Topic 1:
1. What is the objective of the project?
2. Write the prerequisites knowledge required for the project.
3. Theory
4. Examples
5. Conclusion

Topic 2:
1. What is the objective of the project?
2. Write the prerequisites knowledge required for the project.
3. Theory

4. Examples
5. Conclusion
6. Acknowledgement
7. Bibliography.


**General Instructions:**

1) Use a **practical copy** for making the project. **Draw/paste the images** (if any)
   on the plane/blank(unruled) pages **only.**

2) Draw (if any)/ paste (pictures and graphs). Make it attractive by giving a single
   line border surrounding the pictures.

3) Give the **caption** for the diagrams/ graphs/ pictures at the bottom of the
   diagrams/ graphs/pictures and **underline it.**

4) Use a **pencil** to write the caption. **Do not use the pen on the unruled (plane)
   pages.**

5) Use only a **BLUE** or a **BLACK** ball/ gel pen for writing the body of the project.
   You can use any colour pen, glitter pen, sketch pen etc. for design purpose.

6) Overwriting, scribbling and use of the whitener will result in deduction of marks.
   It may also lead you to prepare once again the project.

7) Write in your handwriting in the practical copy. **Typed work will not be
   accepted.**

8) **Cover page should contain the details such as,
   School name, Mathematics Project, Session, Submitted to, Submitted
   by: ( your details)**

9) **Cover your copy with Blue chart paper and Cellophane i.e. transparent plastic.**
   1st page: Topic 1
   2nd page: Index (**with page number**)
   3rd page: Objectives
   4th page: Prerequisites
   5th page: Introduction (Theory) + body of the project + examples (**7 pages only**)
   11th page: **Conclusion**
   12th page: Topic 2
   13th page: Objectives
   14th page: Prerequisites
   15th page: Introduction (Theory) + body of the project + examples (**7 pages only**)
   21st page: **Conclusion**
   22nd page: Acknowledgement

**23<sup>rd</sup> page: Bibliography**

24<sup>th</sup> and 25<sup>th</sup> page: **Prepare a table to mention the total no. of graphs, figs., pics added in the project.**

**Syllabus of Computer Science**

| MONTH | TOPICS |
|---|---|
| May-June | **Numbers**<br>Representation of numbers in different bases and interconversion between them (e.g. binary, octal,decimal, hexadecimal). Addition and subtraction operations for numbers in different bases.Binary encodings for integers and real numbers using a finite number of bits (sign magnitude,twos complement, mantissa exponent notation). Basic operations on integers and floating point numbers.Limitations of finite representations. |
| July | **Propositional logic, hardware implementation, arithmetic operations**<br>(a) Propositional logic, well formed formulae,truth values and interpretation of well formed formulae, truth tables.(b) Logic and hardware, basic gates (AND, NOT, OR) and their universality, other gates(NAND, NOR, XOR); inverter, half adder, full adder.<br>**Primitive values, wrapper classes, types and Casting**<br>Primitive values and types: int, short, long, float,double, boolean, char. Corresponding wrapperclasses for each primitive type. Class as type ofthe object. Class as mechanism for user definedtypes. Changing types through user definedcasting<br>**Variables, expressions**<br>Variables as names for values; expressions(arithmetic and logical) and their evaluation (operators, associativity, precedence). Assignment operation; difference between left hand side and right hand side of assignment. |
| August | **Use of Decision making statements** jumping and branching, various forms of if..else, if..else.,switch..case<br>**Loops** : Use of for loop, while loopUse of do..while in making java program both known and unknown iterations. Program based on series, Pattern, number system ,general questions. |
| September 1<sup>st</sup> Term | **Functions** : Use of functions, types, parts,<br> function parameters, passing parameters by values.(programming and theoretical examples) |
| October | **Using Library Classes**<br>Simple input/output. String, packages and import statements.libraries and illustrating their use.   The  following functions have to be covered<br>String library functions:<br>Char charAt (unti),intcompareTo(String1, String2)String concat(String str) booleanendsWith(String str)boolean equals(String str)booleanequalsIgnoreCase(String str)intindexOf(char ch)intlastIndexOf(char ch)int length( )String replace (char oldChar,charnewChar)booleanstartsWith(String str)String substring(intbeginIndex, intendIndex)String toLowerCase( )String toUpperCase( )String trim( )String valueOf(all types), toString()Mathematical Library Functions:pow(x,y), log(x), sqrt(x), ceil(x), floor(x), rint(x),abs(a), max(a, b), min(a,b), random( ), sin(x), cos(x),tan(x), asin(), acos(), atan(). |
| November | **Constructors**<br>Constructor and its types. Default constructor, parameterized constructor, constructor with default parameter and constructor overloading |

| | |
|---|---|
| December | **Arrays**<br>Arrays storing, retrieving and arranging data, Arrays and their uses, sorting algorithms - selection sort and bubble sort; Search algorithms œ linear search and binary search    Example of a composite type. Array creation. Sorting and searching algorithms should be discussed |
| January | **Ethical Issues in computing** : intellectual property rights, protection of individual rights to privacy, data protection on the internet, protection against spam, software piracy, cyber crime, hacking, protection against malicious intent and malicious code. |
| February | Final Term |