

# ST ALOYSIUS GONZAGA SCHOOL, MANGALURU

## ANNUAL SYLLABUS PLAN 2023-24

CLASS: XII

TEACHER: Ms Tanuja Domber

SUBJECT: English

Month	No. of Periods	Lesson No.	Title of the Lesson	Teaching Methods	Activities	Learning Objectives
April	3	1	The Last Lesson	Traditional method	* Values of freedom and individual identity. * Students should value what their teachers teach	The students will be able to: *know the importance of mother tongue. *understand the wastefulness of war. *understand linguistic chauvinism.
	5	2	Lost Spring	Traditional method	Classroom discussion on Dreams of the poor and the reality	The students will be able to: *analyse that there are millions of children experience no spring in their lives, for their childhood is consumed in making a living.
	2	Poetry 1	My Mother at Sixty-Six	Moral approach	* Poetic Devices * Poetry structure and rhymes	The students will be able to: *understand and share the loneliness of aged. *understand the importance of our duties towards the elderly people.
	4	Vistas 1	The Third Level	Traditional method	* Students should value reality. * Learning human psychology	The students will be able to: *understand the contrast between the fantasy world and real world.
June	2	Poetry 3	Keeping Quiet	Moral approach	* Importance of meditation Students will be asked to remain completely silent in	The students will be able to: *understand that introspection makes us find our flaws and give us the opportunity to rectify them.

					meditation Then they will be asked how exotic this stillness was and were they able to do.	*think critically, understand not to harm others, remain quiet and still be productive and active.
	4	3	Deep Water	Information based	* Name different types of phobias - Presentation * A clipping on water sports will be shown for understanding the lesson.	The students will be able to: *understand that most challenging situations could be overcome with immense courage and determination.
<b>Periodic Test 1: 19-06-2023 to 24-06-2023</b>						
<b>July</b>	5	Vistas 2	The Tiger King	Moral approach	* Video on Royal Bengal Tiger * Discussion about wild life and extinction of tigers	The students will be able to: *understand that there is a need of a new system for the age of ecology i.e., a system which is embedded in the care of all people and also in the care of the Earth and all life upon it.
	4	4	The Rattrap	Discussion method	* How many of you watch Tom and Jerry show? – Group Discussion	The students will be able to: *become compassionate and helpingdevelop a flair for reading different genre. *understand everybody must get a chance to undo the wrong he did.
	2	Poetry 4	A Thing of Beauty	Moral-philosophical approach	* Do we experience things of beauty only for short moments or do they make a lasting impression on us? – Debate	The students will be able to: *to understand that beauty dwells inside us and gives us happiness. *to appreciate and admire the beauty of nature.

	3	Vistas 3	Journey to the end of the Earth	Information based	* Why do people go for expedition? – Think, Pair, Share * Video Presentation on Antarctica’.	The students will be able to: *understand that to study the Earth’s past, present and future, Antarctica is the place – the World’s geological history is in Antarctica. *analyse and evaluate the effect of human population and climate change.
<b>August</b>	5	5	Indigo	Information based	* Investigatory Project	The students will be able to: *understand the role of a leader. *understand the importance of rights. *know the sufferings and contributions of freedom fighters.
	4	6	Poets and Pancakes	Information based	* A class room discussion based on – Today’s film technology compared with that of the early days of Indian cinema.	The students will be able to: *analyse the working conditions and people involved in the studios. *understand the use of talent and creativity at its best.
	3	Poetry 5	A Roadside Stand	Information based	* The economic wellbeing of a country depends on a balanced development of the villages and the cities – Group Discussion	The students will be able to: *understand the contrast between the lives of rich and poor. *understand that the economic well-being of a country depends on a balanced development of the villages and the cities.
<b>September</b>	7	Vistas 4	The Enemy	Moral approach	* Debate on-Should we hate our enemy if he is in the death trap or should we save?	The students will be able to: *realize that war and narrow – nationalism can shuffle human feeling of love and compassion and turn friends and fellow human beings into enemies.
<b>Periodic Test 2: 16-08-2023 to 26-08-2023</b>						
	4	7	The Interview	Information based	* Warm up activity How should one prepare for the interview? * Excerpts from the interviews of famous personalities	The students will be able to: *understand that the interview holds a position of unprecedented power and influence. *learn the Analytical skills, Thinking skills, Observatory skills, Interviewing skills.



# ANNUAL SYLLABUS PLAN 2023-24

**CLASS: XII**

**TEACHER: Ms Ashwini Shaina Lewis**

**SUBJECT: Mathematics**

Month	No. of Periods	Lesson No.	Title of the Lesson	Teaching Methods	Activities	Learning Outcomes
April	13	03	Matrices	Discussion method Problem Solving	*Concept Map - To apply the properties of addition and multiplication on matrices. *Identify the different types of matrices.	The students will be able to: *differentiate between diagonal and scalar matrices. *perform the operations on matrices.
	09	04	Determinants	Demonstration method Problem Solving	*To find out the determinant of a matrix. *Worksheet - To solve the inverse of a matrix using its determinant and adjoint of a matrix.	The students will be able to: *differentiate between the minors and co-factors of a matrix. *solve linear equations in the form of matrices.
June	15	01	Relations and Functions	Activity based Problem Solving	*Group Discussion - To know the difference between the relations and functions with the help of arrow diagrams.	The students will be able to: *identify reflexive, transitive, symmetric and equivalence relations.
	03	02	Inverse Trigonometric Functions	Demonstration Problem solving	*Quiz	The students will be able to: *define the range and domain of inverse trigonometric function. *draw the graph of a inverse trigonometric functions.
Periodic Test 1: 19-06-2023 to 24-06-2023						

<b>July</b>	12	02	Inverse Trigonometric Functions	Demonstration Problem solving	*Investigatory Project on trigonometric identities	The students will be able to: *define the range and domain of inverse trigonometric function. *draw the graph of a inverse trigonometric functions.
	10	05	Continuity and differentiability	Discussion method Demonstration Problem Solving	*To write the derivative of inverse trigonometric functions like $\sin^{-1}x$ , $\cos^{-1}x$ and $\tan^{-1}x$	The students will be able to: *explain the chain rule. *solve for the logarithmic functions and exponential functions.
<b>August</b>	10	06	Applications of Derivatives	Activity based method Problem Solving method	*To find out the maxima and minima of an inverse function.	The students will be able to: *compares the rate of change of quantities *perform on increasing and decreasing inverse function.
	05	07	Integrals	Demonstration Problem solving	*List down all the formulae related to integrals.	The students will be able to: *solve the properties on integrals. *calculate on the evaluation of definite integrals.
	15	07	Integrals	Problem solving Discussion method	*List down all the formulae related to integrals.	The students will be able to: *solve the properties on integrals. *perform on the evaluation of definite integrals.
<b>Periodic Test 2: 16-08-2023 to 26-08-2023</b>						
<b>September</b>	06 + 04	08	Applications of integrals	Problem Solving Discussion Method	*Find out the area using integrals.	The students will be able to: *solve for the area under simple curves and between two curves.
	09	09	Differential Equations	Discussion Method	*List out all the formulae under differentiation.	The students will be able to: *differentiate between differentiation and



**ANNUAL SYLLABUS PLAN 2023-24****CLASS: XII****TEACHER: Ms. Shruthi S****SUBJECT: Physics**

Month	No. of Periods	Lesson No.	Title of the Lesson	Teaching Methods	Activities	Learning Outcomes
<b>April</b>	14	01	Electric Charges and Fields	Lecture cum Discussion method  Power Point Presentation	Brainstorming activity for the topic of electric charges and fields.  Lab Activity	The students will be able to: * develop the idea of electric charges and its importance. *explain the properties of electric charge and fields. *recognize the applications of Gauss law in electrostatics.
	10	02	Electrostatic Potential and Capacitance	Power point presentation  Problem solving  Group discussion	Lab activity  Quiz  Concept map of capacitors in series and parallel.	The students will be able to: *demonstrate the importance of potential and capacitance using experiments. *compare the series and parallel combinations of capacitors. *define dielectric polarization, polar and non-polar molecules.
<b>June</b>	06	02	Electrostatic Potential and Capacitance (continued)	Power point presentation Problem solving	Lab activity  Reciprocal questioning	The students will be able to: *differentiate between electric potential and electric potential energy.
	12	03	Current Electricity	Activity Based  Problem	Group discussion method  Finger signals	The students will be able to: *define current, drift velocity, mobility and resistance etc., *list the limitations of Ohm's law.



				solving	Clarification pauses Lab activity	*demonstrate experiments on series and parallel connections.
<b>Periodic Test 1: 19-06-2023 to 24-06-2023</b>						
<b>July</b>	05	03	Current Electricity (Continued)	Discussion Method  Problem solving	Group discussion method	The students will be able to: *explain Whetstones network using circuit diagram.
	15	04	Moving Charges and Magnetism	Discussion method  Activity Based  Problem Solving	Think pair share  Debate	The students will be able to: * learn about the concepts of magnetic field and its related experiments. *differentiate between BiotSavart and Ampere's Circuital law. *explain about current sensitivity with respect to moving coil galvanometer.
	02	05	Magnetism and Matter	Activity based  Discussion method  Demonstration method	Muddiest/clearest point	The students will be able to: *list out different types of magnetic materials. *identify the properties of magnetic materials.
<b>August</b>	08	05	Magnetism and Matter (Continued)	Discussion method  Demonstration method	Concept Map	The students will be able to: *identify the properties of magnetic field lines.

	12	06	Electromagnetic Induction	Power point presentation  Discussion method  Activity based	Panel discussion  Work at the blackboard  One minute paper	The students will be able to: *recognize the importance of Faraday's laws and Lenz's law. *summarize the concept of mutual and self-induction.
	06	07	Alternating Current	Lab Activity	Muddiest Point	The students will be able to: *demonstrate experiments on LCR circuits.
<b>Periodic Test 2: 16-08-2023 to 26-08-2023</b>						
<b>September</b>	06	07	Alternating Current (Continued)	Power point presentation  Discussion method  Activity based	Group discussion method  Debate	The students will be able to: *explain AC generator and transformer through its principles. *define rms value ac current etc., *solve problems on impedance.
	04	08	Electromagnetic Waves	Demonstration method  Activity based  Power point presentation  Problem solving	Quiz  Clarification pauses	The students will be able to: * list out the properties of Electromagnetic waves. *prepare concept map for types of electromagnetic waves. *define displacement current.
	06	09	Ray Optics	Lab Activity	Demonstration method	The students will be able to: *construct ray diagrams using concepts of optics.
<b>October</b>			Ray Optics	Power point	Quiz	The students will be able to: *learn about types of mirrors and lenses and its

	04	09	(Continued)	presentation Problem solving	One minute paper Lab Activity	importance.
	06	10	Wave Optics	Lab activity Activity based Problem Solving	Muddiest point Reading quiz Reciprocal questioning	The students will be able to: * learn about Huygens's principle on reflection and refraction. *explain concepts of interference and diffraction.
<b>Periodic Test 3: 07-10-2023 to 13-10-2023</b>						
<b>November</b>	08	11	Dual nature of matter and Radiation	Activity based Problem solving	Think pair share	The students will be able to: *identify observations of photoelectric effect by different scientists. *judge de-Broglie's relation.
	07	12	Atoms	Discussion method Activity based Problem Solving Lab activity	Quiz One minute paper Pros and cons grid	The students will be able to: *explain alpha scattering and Rutherford's experiment. *solve problems on hydrogen line spectra. *choose right formulas for the energy relation.
	08	13	Nuclei	Discussion method Power point presentation	Muddiest and clearest point Evaluation	The students will be able to: *explain mass-energy relationship. *distinguish between nuclear fusion and nuclear fission.

	10	14	Semiconductor Electronics	Demonstration method  Activity based  Problem Solving  Lab activity  Problem solving	Quiz  Projects  Panel discussion	The students will be able to: *list out the different materials of semiconductors. *analyze the importance of energy band in conductors, insulators and semiconductors.
Revision Classes						
Annual Examination						

**ANNUAL SYLLABUS PLAN 2023-24****CLASS: XII****SUBJECT TEACHER: Ms Sonia Neeta Rodrigues****SUBJECT: Chemistry**

<b>MONTH</b>	<b>No. of periods</b>	<b>Lesson No.</b>	<b>Title of the chapter</b>	<b>Teaching methodology</b>	<b>Activities</b>	<b>Learning outcomes</b>
<b>April</b>	13	2	Solutions	*Discussion method  *Activity method	*Preparation of solution of given concentration  *Concept map	The student will be able to: *distinguish between ideal and non-ideal solutions. *explain deviations of real solutions from Raoult's law.
	9	3	Electrochemistry	*Analytical method  *Problem solving *Power point presentation	*Quiz  *Think pair share  *Blackboard work	The student will be able to: *describe an electrochemical cell and differentiate between galvanic and electrolytic cells. *justify the variation of conductivity and molar conductivity of solutions with change in concentration.
<b>Periodic Test 1: 19-06-2023 to 24-06-2023</b>						
<b>June</b>	08	10	Haloalkanes and Haloarenes	*Lecture method  *Power point presentation	*One minute paper  *Write the structures of different compounds	The student will be able to: *describe the reactions involved in the preparation of haloalkanes and Haloarenes. *name haloalkanes and haloarenes according to IUPAC nomenclature.
	10	4	Chemical Kinetics	*Inductive method	*Plotting of the graph for first order reaction	The student will be able to: *express the rate of reaction in terms of change

						in concentration of either of the reactants or products with time. *differentiate between molecularity and order of the reaction.
<b>July</b>	06	4	Chemical Kinetics (Continued	*Problem solving method  * Power Point Presentation	*Concept map  * Black board work	The student will be able to: *describe collision theory.
	16	11	Alcohols ,phenols and ethers	*Learning by teaching others method	*Exit card	The student will be able to: *correlate physical properties of alcohols, phenols and ethers with their structures. *develop chemical reactions of the three classes of compounds on the basis of their functional groups.
<b>Periodic Test 2: 16-08-2023 to 26-08-2023</b>						
<b>August</b>	10	8	The d and f block Elements	*Discussion Method *Experimentation method	*Investigation project  *Brainstorming activity	The student will be able to: *understand the general characteristics of the d and f block elements and their group trends. *compare the properties of lanthanoids and actinoids.
	05	9	Coordination compounds	*Questionnaire method *Illustration Method	*Buzz session	The student will be able to: *define different types of isomerism in coordination compounds. *understand valence bond and crystal field theories in coordination compounds.
<b>September</b>	06	9	Coordination Compounds (continued)	*Power Point presentation *Discussion method	*Quiz  *Think pair share	The student will be able to: *appreciate the importance and applications of coordination compounds in our daily life.



## ANNUAL SYLLABUS PLAN 2023-24

**CLASS: XII**

**TEACHERS: Ms. Shamitha Shetty**

**SUBJECT: Computer Science**

Month	No. of Periods	Lesson No	Title of the Lesson	Teaching Methods	Activities	Learning Outcome
April	01	1	Review of Python-I	*Discussion method  *PowerPoint Presentation	Group Discussion	The student will be able to:  *understand the features of Python and its execution modes.  *know about the character set, tokens, operators, punctuators , delimiters and comments in Python.  *acquire knowledge about various data types used in Python and know how to do typecasting.
	2	2	Review of Python-II	*Discussion method  *PowerPoint Presentation  *Inductive method	Group Discussion	The student will be able to:  *revise the concept of lists, tuples, dictionaries and modules in Python.  *perform operations on lists, tuples, dictionaries and modules.
	12	3	Working with Functions	*Power point presentation	Solving worksheets  Practical Laboratory	The student will be able to:



				*Inductive method	work  Brainstorming Activity	*define and write functions.  *understand the four different function input parameters.  *define and create local and global variables and examine the results of different function parameters.
	6	6	Recursion	*Discussion method  *PowerPoint Presentation  *Inductive method	Solving worksheets  Practical Laboratory work	The student will be able to: *define and write Recursive functions. *understand the purpose of using base case and recursive cases. *differentiate normal functions from Recursive functions.
	5	4	Using Python Libraries	*Discussion method  *PowerPoint Presentation	Group Discussion  Think, Pair and Share Activity	The student will be able to: *compare the functions of different functions that are categorized in different Python Libraries.
<b>June</b>	6	8	Data Structures I: Linear Lists	*Illustration method  *PowerPoint Presentation  *Inductive method	Quiz  Computer Lab Activities	The student will be able to: *know about different basic data structures. *understand about Linear List Data Structure in Python and perform searching and sorting techniques.
	8	9	Data Structures II : Stacks and Queues using Lists	*Discussion  *PowerPoint Presentation	Group Discussion  Computer Lab Activities	The student will be able to: *identify different data structures. *understand about Stacks in Python and perform operations on stacks and implement stack with the help of list.

	10	5	File Handling In Python	*Blackboard *Discussion *Illustration method	Brainstorming activity  Computer Lab Activities	The student will be able to: *use the read(), readline(), write(), writeline(), seek() and tell() functions. *analyse with binary files and implement different operations on binary files. *use modules with load() and dump() functions.
<b>July</b>	15	10	Communication and Network Concepts	*Discussion * PowerPoint Presentation *Inductive method	Quiz on Computer Networks.  Group Discussion	The student will be able to: *understand the basics of Computer Networks. *explain inter-space and Internet. * understand network protocols and their function. *differentiate between various network devices and explain their function.
<b>Periodic Test – 1: 19-06-2023 to 23-06-2023</b>						
<b>August</b>	8	11	Relational Databases	*Discussion *Practical	Computer Lab Activities	The student will be able to: *describe a database as a persistent, well organized collection of data. *create tables, relationships and queries on data model. *explain the use of data handling software to create, maintain and manipulate a database.
<b>August</b>	8	12	Simple Queries in SQL	*Discussion *Practical	Concept Map  Computer Lab Activities	The student will be able to: *understand the process of creating tables. *learn the method of inserting records into the table. *define the meaning and usage of

						various constraints applied on the table during the creation process.
<b>Periodic Test 2: 16-08-2023 to 26-08-2023</b>						
<b>September</b>	8	13	Table creation and Data Manipulation Commands.	*Discussion method *Practical	Computer Lab Activities	The student will be able to: *apply commands and queries to retrieve the necessary records. *use the Select, Update and Modify and Alter commands.
	8	14	Grouping Records, Joins in SQL	*Discussion method *Inductive method	Group Presentation Lab Activity	The student will be able to: *understand the meaning and need of grouping the records. *learn the importance of joins and types of joins in SQL.
<b>Periodic Test-3 :07-10-2023 to 13-10-2023</b>						
<b>October</b>	7	15	Interface of Python with SQL Database	*Discussion method *Practical	Computer Lab Activities	The student will be able to: *set up Python Environment and MySQL server. Student is able connect to MySQL server in Python. *create a new database, create tables and table relationships, retrieve, update and delete records.
<b>November</b>	5	7	Exception Handling	*Discussion method	Group Discussion Pair and Share Laboratory Activity	The student will be able to: *analyze the types of errors that occur during execution of programs. *handle exceptions in Python.
<b>Revision Classes</b>						
<b>ANNUAL EXAMINATION</b>						

## ANNUAL SYLLABUS PLAN 2023-24

**CLASS: XII**

**TEACHER: Ms Deepa Karkada**

**SUBJECT: Biology**

Month	No. of Periods	Lesson No.	Title of the Lesson	Teaching Methods	Activities	Learning Outcomes
April	08	02	Sexual Reproduction in Flowering plants	Inductive Method  Power Point Presentation	Think Pair Share  Quiz	The students will be able to: *identify the structures of embryo and post-fertilization events. *explain the importance of artificial hybridization.
	12	03	Human Reproduction	Discussion Method  Laboratory Method  Power Point Presentation	Lab activity  Debate  Article writing	The students will be able to: *differentiate the male and female reproductive organs. *compare the process involved in gametogenesis and spermatogenesis.
	06	04	Reproductive Health	Lecture Method  Inductive method	Quiz  Case based questionnaire	The students will be able to: *analysis the strategies involved in population stabilization and birth control. *classify the methods followed in Medical termination of pregnancy. *explains the different methods that help to overcome infertility.

<b>June</b>	12	05	Principles of Inheritance and Variation	Activity Based Method  Laboratory Method  Discussion Method cum	Investigatory Project	The students will be able to: *explain Mendel's Laws of Inheritance. *compares the contrasting characters studies by Mendel in Pea. *analyse the Law of Segregation using examples. .
	12	06	Molecular basis of Inheritance	Analytical Method  Laboratory Method  Discussion Method cum Lecture Method	Concept Map  Muddiest and Clearest Point activity	The students will be able to: *explain the structure of polynucleotide chain. *analyse the salient features of the Double-helix structure of DNA. *compare the genetic material of DNA and RNA.
<b>Periodic Test 1: 19-06-2023 to 24-06-2023</b>						
<b>July</b>	10	07	Evolution	Powerpoint Presentation  Discussion Method	Finger Signals  Reciprocal Questioning	The students will be able to: *categorise the organisms based on homologous and analogous organs. *explain the mechanism of evolution.
	08	08	Human Health and Disease	Experimental Method  Laboratory Method  Discussion Method	Project Work  Case Study	The students will be able to: *distinguish between innate and acquired immunity. *identify the bacterial and viral diseases in plants and humans. *inter-relate between Addiction and Dependence.

	08	10	Microbes in Human Welfare	Discussion method Demonstration method	Role Play Round Robin	The students will be able to: *compare the role of microbes in household products, Industrial products and sewage treatment. *explains the importance of microbes as Biofertilisers.
August	08	11	Biotechnology: Principles and Processes	Discussion method Demonstration method	Reciprocal Questioning Quiz	The students will be able to: *identify the tools of recombinant DNA Technology. *analyse the features required to facilitate cloning into a vector.
	08	12	Biotechnology and its Applications	Power point presentation Lecture method	One minute paper Concept Map	The students will be able to: *illustrate the Biotechnological applications in Agriculture. *identify the pest resistant plants. *identify the benefits of transgenic animals.
Periodic Test 2: 16-08-2023 to 26-08-2023						
September	10	13	Organisms and Population	Inductive Method Discussion method	Think, Pair and share	The students will be able to *analyse the biotic factors responding to abiotic factors. *inter-relates the different defence mechanism in plants against herbivory.
October	04	14	Ecosystem	Inductive Method Discussion method	Investigation Project Debate	The students will be able to: *illustrate the decomposition cycle in terrestrial ecosystem *categorise the organisms in the various levels of Ecological pyramid.
Periodic Test 3: 07-10-2023 to 13-10-2023						

<b>November</b>	8	14	Ecosystem (Contd)	Discussion method  Analytical Method	Quiz  Collaborative learning activity	The students will be able to: *explain the nutrient cycling. *differentiate between Production and decomposition. .
	10	15	Biodiversity and Conservation	Power point presentation  Illustration method	Role Play  Concept Map	The students will be able to: *identify the patterns of Biodiversity. *analyse the causes of biodiversity losses in nature. *distinguish between In situ conservation and Ex situ conservation.
<b>February</b>	<b>Revision Classes</b>					