PURV INTERNATIONAL SCHOOL

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SYLLABUS FOR CLASS – XII (Session 2024-25)

SUBJECT: ENGLISH CORE	
HALF YEARLY INTERNAL PROJECT Full Marks: 20	**HALF YEARLY** Full Marks: 80
ALS ● Speaking ability test ● Listening ability test	**Flamingo (Prose)** The Last Lesson Lost Spring Deep Water The Rattrap **Flamingo (Poetry)** My Mother at Sixty-Six Keeping Quiet A Thing of Beauty **Vistas** The Third Level The Tiger King Journey to the end of the Earth **Language:** Notice Writing Article and Report Writing.
ANNUAL INTERNAL PROJECT Full Marks: 20	**ANNUAL** Full Marks: 80
Assignment ALS: Speaking and Listening ability.	**Flamingo (Prose):** The Last Lesson Lost Spring Deep Water The Rattrap Indigo Poets and Pancakes The Interview Going Places **Flamingo (Poetry):** My Mother at Sixty-Six Keeping Quiet A Thing of Beauty A Roadside Stand Aunt Jennifer's Tigers **Vistas:** The Third Level The Tiger King Journey to the end of the Earth The Enemy On the Face of It Memories of Childhood The Cutting of My Long Hair We Too are Human Beings **Language:** Notice Writing Formal and Informal Invitations Letter Writing and Application for Job Article and Report Writing.

SUBJECT: Bengali	
HALF YEARLY INTERAL PROJECT Full Marks: 20	**HALF YEARLY** Full Marks: 80
ASL Speaking and listening	Report reading Advertisements writing বোধ পরীক্ষণ, ধ্বনিতত্ত্ব (অপিনিহিতি, অভিশ্রুতি, স্বরসঙ্গতি, স্বরভক্তি), প্রবাদ প্রবচন কে বাঁচায় কে বাঁচে, ভাত, ভারত বর্ষ, রূপনারানের কূলে, পড়তে জানে এমন এক মজুরের প্রশ্ন,

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	নানা রঙের দিন (নাটক), গারো পাহাড়ের নীচে (আমার বাংলা)
ANNUAL INTERNAL PROJECT Marks: 20	ANNUAL Full Marks: 80
পাঠ্যাংশ ভিন্ন যে কোন একটি গল্পের ইংরেজি থেকে বাংলায় অনুবাদ।	Report reading Advertisement writing বোধ পরীক্ষণ, প্রবাদ প্রবচন, ধ্বনিতত্ত্ব (অপিনিহিতি, অভিশ্রুতি, স্বরসঙ্গতি, স্বরভক্তি) কে বাঁচায় কে বাঁচে, ভাত , ভারত বর্ষ , রূপনারানের কূলে, পড়তে জানে এমন এক মজুরের প্রশ্ন, আমি দেখি, ক্রন্দনরতা জননীর পাশে, নানা রঙের দিন (নাটক), গারো পাহাড়ের নীচে (আমার বাংলা), ছাতির বদলে হাতি (আমার বাংলা), পাতালপুরীর রাজ্যে (আমার বাংলা), মেঘের গায়ে জেলখানা (আমার বাংলা)

SUBJECT: HINDI CORE	
HALF YEARLY INTERNAL PROJECT Full Marks: 20	HALF YEARLY Full Marks: 80
श्रवण तथा वाचन (ASL)	**पद्य --** आत्मपरिचय, दिन जल्दी-जल्दी ढलता है,पतंग, कविता के बहाने, बात सीधी थी पर, कैमरे में बंद अपाहिज। गद्य -- **भक्ति**न, बाजार दर्शन, काले मेघा पानी दे, पहलवान की ढोलक। वितान -- सिल्वर वैडिंग। **अभिव्यक्ति और मध्यम की इकाई -- जनसंचार माध्यम**, रचनात्मक लेखन।
ANNUAL INTERNAL PROJECT Full Marks: 20	ANNUAL Full Marks: 80
परियोजना कार्य -- (Project Work) जनसंचार **माध्यम**	पद्य -- आत्मपरिचय, दिन जल्दी-जल्दी ढलता है,पतंग, कविता के बहाने, बात सीधी थी पर, कैमरे में बंद अपाहिज, उषा, बादल राग, कवितावली , लक्ष्मण - मुर्छा और राम का विलाप, रूबाईयां, छोटा मेरा खेत बबलू के पंख। गद्य -- भक्तिन, बाजार दर्शन, काले मेघा पानी दे, पहलवान की ढोलक, शिरिष के फूल, श्रम विभाजन और जाति- प्रथा वितान -- सिल्वर वैडिंग, जूझ, अतित में दबे पांव। अभिव्यक्ति और मध्यम की इकाई -- जनसंचार माध्यम, रचनात्मक लेखन,कहानी, नाटक, रेडियो, उल्टा पिरामिड शैली।

SUBJECT: MATHEMATICS	
HALF YEARLY INTERNAL PROJECT Full Marks: 20	HALF YEARLY Full Marks: 80
Activities: 1.To verify that the relation R in the set L of all lines in a plane, defined by R = {(l, m) : l ⊥ m} is symmetric but neither reflexive nor transitive. 2.To verify that the relation R in the set L of all lines in a plane, defined by R = {(l, m) : l ‖ m} is an equivalence relation. 3.To demonstrate a function which is not one-one but is onto. 4.To demonstrate a function which is one-one but not onto. 5.To draw the graph of $\sin^{-1}x$, using the graph of sin x and demonstrate the concept of mirror reflection (about the line y = x).	Unit-I: Relations and Functions 1.Relations and Functions Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions. 2. Inverse Trigonometric Functions Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions. Unit-II: Algebra 1.Matrices Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operations on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Noncommutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries). 2.Determinants Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix. Unit-III: Calculus 1.Continuity and Differentiability Continuity and differentiability, chain rule, derivative of inverse trigonometric functions, like $\sin^{-1}x$, $\cos^{-1}x$ and $\tan^{-1}x$, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives. 2.Applications of DerivativesApplications of derivatives: rate of change of quantities, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given

	as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).
ANNUAL INTERNAL PROJECT Full Marks: 20	ANNUAL Full Marks: 80
Activities: 6.To explore the principal value of the function sin−1x using a unit circle. 7. To sketch the graphs of a to the power x and loga base x,a > 0, a ≠ 1 and to examine that they are mirror images of each other. 8. To establish a relationship between common logarithm (to the base 10) and natural logarithm (to the base e) of the number x. 9.To find analytically the limit of a function f (x) at x = c and also to check the continuity of the function at that point. 10.To verify that for a function f to be continuous at given point x0,∆y isarbitrarily small provided. ∆x isvsufficiently small.	Unit-I: Relations and Functions 1.Relations and Functions Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions. 2. Inverse Trigonometric Functions Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions. Unit-II: Algebra 1.Matrices Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix,symmetric and skew symmetric matrices. Operations on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Noncommutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries). 2.Determinants Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix. Unit-III: Calculus 1.Continuity and Differentiability Continuity and differentiability, chain rule, derivative of inverse trigonometric functions, like sin−1x , cos−1xand tan−1x, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.

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2. Applications of Derivatives

Applications of derivatives: rate of change of quantities, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as reallife situations).

3. Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.
Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

4. Applications of the Integrals

Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)

5. Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:
$dy/dx + py = q$, where p and q are functions of x or constants.
$dx/dy + px = q$, where p and q are functions of y or constants

Unit-IV: Vectors and Three-Dimensional Geometry
1. Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

2. Three - dimensional Geometry
Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.

Unit-V: Linear Programming
1. Linear Programming
Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

Unit-VI: Probability
1. Probability
Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.

SUBJECT: COMPUTER SCIENCE	
HALF YEARLY INTERAL PRACTICAL / PROJECT Full Marks: 30	HALF YEARLY Full Marks: 70
1. INVESTIGATORY PROJECT – 50% documentation completion (BASED ON CLASS 11 & 12 CONCEPTS) ** ONE TOPIC IS PROVIDED. 2. PRACTICAL • PRACTICAL COPY (minimum 50% programs completion) • 2 PROGRAMS IN LAB TEST • VIVA	UNIT -I COMPUTATIONAL THINKING AND PROGRAMMING 1)Working With Functions , Exception Handling(try- except- finally blocks) 2)File Handling (Different operations on Text file, Binary file, CSV file) 3)Data Structure (Stack, operations on Stack- push/pop, implementation of Stack) UNIT-II COMPUTER NETWORKS 4)Computer Networks (network topologies, network protocol, Introduction to Web services)
ANNUAL INTERNAL PRACTICAL / PROJECT Full Marks: 30	ANNUAL Full Marks: 70
1.INVESTIGATORY PROJECT (BASED ON CLASS 11 & 12 CONCEPTS) ** ONE TOPIC IS PROVIDED. 2.PRACTICAL • PRACTICAL COPY • 2 PROGRAMS IN LAB TEST	UNIT -I COMPUTATIONAL THINKING AND PROGRAMMING 1)Working With Functions, Exception Handling (try- except- finally blocks) 2)File Handling (Different operations on Text file, Binary file, CSV file) 3)Data Structure (Stack, operations on Stack- push/pop,

	implementation of Stack)
• VIVA	UNIT-II COMPUTER NETWORKS 3) Computer Networks (data communication terminologies, transmission media, network devices) 4)Computer Networks (network topologies, network protocol, Introduction to Web services) UNIT-III DATABASE MANAGEMENT 1)Database Concepts, Structured Query Language (Creation of table, different operations on table, joining of tables), Relational data model. 2) Interface of Python with an SQL database (Connecting SQL with Python)

SUBJECT: ENTREPRENEURSHIP	
HALF YEARLY INTERAL PRACTICAL / PROJECT ASSESSMENT Full Marks: 20	HALF YEARLY Full Marks: 80
Market Survey	1.Entrepreneurial Opportunities 2.Entrepreneurial Planning 3.Enterprise Marketing
ANNUAL INTERAL PRACTICAL / PROJECT ASSESSMENT Full Marks: 20	ANNUAL Full Marks: 80
Business Plan	1.Entrepreneurial Opportunities 2.Entrepreneurial Planning 3.Enterprise Marketing 4.Enterprise Growth Strategies 5.Business Arithmetic 6.Resource Mobilization

SUBJECT: ACCOUNTANCY	
HALF YEARLY INTERAL PROJECT ASSESSMENT Full Marks: 20	HALF YEARLY Full Marks: 80
One specific project based on financial statement analysis of a company covering any two aspects from the following: 1. Comparative and common size financial statements 2. Accounting Ratios 3. Segment Reports 4. Cash Flow Statements OR Part	1. Accounting for Partnership Firms- Fundamentals. 2. Change in Profit Sharing Ratio in Existing Partners 3. Admission of a Partner. 4. Retirement. 5. Accounting for Companies- issue of Shares.

ANNUAL INTERAL PROJECT ASSESSMENT Full Marks: 20/30	ANNUAL Full Marks: 80/70
B: Computerized Accounting Unit 4: Computerized Accounting Overview of Computerized Accounting System • Introduction: Application in Accounting. • Features of Computerized Accounting System. • Structure of CAS. • Software Packages: Generic; Specific; Tailored. Accounting Application of Electronic Spreadsheet. • Concept of electronic spreadsheet. • Features offered by electronic spreadsheet. • Application in generating accounting information - bank reconciliation statement; asset accounting; loan repayment of loan schedule, ratio analysis • Data representation- graphs, charts and diagrams. Using Computerized Accounting System. • Steps in installation of CAS, codification and Hierarchy of account heads, creation of accounts. • Data: Entry, validation and verification. • Adjusting entries, preparation of balance sheet, profit and loss account with closing entries and opening entries. • Need and security features of the system.	1. Accounting for Partnership Firms- Fundamentals. 2. Change in Profit Sharing Ratio in Existing Partners 3. Admission of a Partner. 4. Retirement or Death of a Partner. 5. Dissolution of a Partnership Firm. 6. Accounting for Companies- issue of Shares. 7. Accounting for Companies- issue of Debentures. 8. Financial Statements of Companies. 9. Financial Statement Analysis. 10. Accounting Ratio. 11. Cash Flow Statement.

SUBJECT: BUSINESS STUDIES	
HALF YEARLY INTERAL PROJECT ASSESSMENT Full Marks: 20	HALF YEARLY Full Marks: 80
Marketing 1. Adhesives 2. Air conditioners 3. Baby diapers 4. Bathing Soap 5. Bathroom cleaner 6. Bike 7. Blanket 8. Body Spray 9. Bread 10. Breakfast cereal 11. Butter 12. Camera 13. Car 14. Cheese spreads 15. Chocolate 16. Coffee 17. Cosmetology product 18. Crayons 19. Crockery 20. Cutlery 21. Cycle 22. DTH 23. Eraser 24. e-wash 25. Fairness cream 26. Fans 27. Fruit candy 28. Furniture 29. Hair Dye 30. Hair Oil 31. Infant dress 32. Inverter 33. Jams 34. Jeans 35. Jewellery 36. Kurti 37. Ladies bag 38. Ladies footwear 39. Learning Toys 40. Lipstick 41. Microwave oven 42. Mixers 43. Mobile 44. Moisturizer 45. Music player 46. Nail polish 47. Newspaper 48. Noodles 49. Pen 50. Pen drive 51. Pencil 52. Pickles 53. Razor 54. Ready Soups 55. Refrigerator 56. RO system 57. Roasted snacks 58. Salt 59. Sarees 60. Sauces/ Ketchup 61. Shampoo 62. Shaving cream 63. Shoe polish 64.	Ch 1. Nature and Significance of Management. Ch 2. Principles of Management. Ch 3. Business Environment. Ch 4. Planning. Ch 5. Organising. Ch 6. Staffing.

Shoes 65. Squashes 66. Suitcase/ airbag 67. Sunglasses 68. Tea 69. Tiffin Wallah 70. Toothpaste 71. Wallet 72. Washing detergent 73. Washing machine 74. Washing powder 75. Water bottle 76. Water storage tank 77.	
ANNUAL INTERAL PROJECT ASSESSMENT Full Marks: 20	ANNUAL Full Marks: 80
Must ensure that the identified product should not be items whose consumption/use is discouraged by the society and government like alcohol products/pan masala and tobacco products, etc. Identify one product/service from the above which the students may like to manufacture/provide [pre-assumption]. Now the students are required to make a project on the identified product/service keeping in mind the following: 1. Why have they selected this product/service? 2. Find out '5' competitive brands that exist in the market. 3. What permission and licences would be required to make the product? 4. What are your competitors Unique Selling Proposition.[U.S.P.]? 5. Does your product have any range give details? 6. What is the name of your product? 7. Enlist its features. 8. Draw the 'Label' of your product. 9. Draw a logo for your product. 10. Draft a tag line. 11. What is the selling price of your competitor's product? (i) Selling price to consumer (ii) Selling price to retailer (iii) Selling price to wholesaler What is the profit margin in percentage to the Manufacturer. Wholesaler. Retailer	Ch 1. Nature and Significance of Management. Ch 2. Principles of Management. Ch 3. Business Environment. Ch 4. Planning. Ch 5. Organising. Ch 6. Staffing. Ch 7. Directing. Ch 8. Controlling. Ch 9. Financial Management. Ch10. Financial Market. Ch11. Marketing Management. Ch12. Consumer Protection.

SUBJECT: BIOLOGY	
HALF YEARLY INTERAL PRACTICAL ASSESSMENT Full Marks: 30	HALF YEARLY Full Marks: 70
EXPERIMENTS 1. Prepare a temporary mount to observe pollen germination. 2. Study the plant population density by quadrat method. 3. Study the plant population frequency by quadrat method. SPOTTINGS 1. Flowers adapted to pollination by different agencies (wind, insects, birds).	Chapter 2 - Sexual reproduction in in flowering plants Chapter 3 - Human reproduction Chapter 4 - Reproductive health Chapter 5 - Principles of Inheritance and variation Chapter 6 - Molecular Basis of Inheritance Chapter 7 - Evolution Chapter 8 -Human Health and Disease

2. Pollen germination on stigma through a permanent slide or scanning electron micrograph. 3 . Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice). 4. Meiosis in onion bud cell or grasshopper testis through permanent slides. 5. T.S. of blastula through permanent slides (Mammalian). 6. Mendelian inheritance using seeds of different colour/sizes of any plant.	
ANNUAL INTERAL PRACTICAL ASSESSMENT Full Marks: 30	ANNUAL Full Marks: 70
EXPERIMENTS 4. Prepare a temporary mount of onion root tip to study mitosis. 5. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc. SPOTTINGS 7. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness. 8. Controlled pollination - emasculation, tagging and bagging. 9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause. 10. Models specimen showing symbolic association in root modules of leguminous plants, Cuscuta on host, lichens. 11. Flash cards models showing examples of homologous and analogous organs.	Chapter 2 - Sexual reproduction in in flowering plants Chapter 3 - Human reproduction Chapter 4 - Reproductive health Chapter 5 - Principles of Inheritance and variation Chapter 6 - Molecular Basis of Inheritance Chapter 7 - Evolution Chapter 8 -Human Health and Diseas Chapter 10 - Microbes in Human Welfare Chapter 11 - Biotechnology : Principles and processes Chapter 12 - Biotechnology and its application Chapter 13 - Organisms and Population Chapter 14 - Ecosystem Chapter 15 - Biodiversity and Conservation

SUBJECT: PHYSICS	
HALF YEARLY INTERAL PRACTICAL ASSESSMENT Full Marks: 30	HALF YEARLY Full Marks: 70
SECTION A - 1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current. 2. To find resistance of a given wire / standard resistor using metre bridge. 3. To verify the laws of combination (series) of resistances using a metre bridge 4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit. **SECTION B –** 1. To find the value of v for different values of u in case of a concave mirror and to find the focal length. 2. To find the focal length of a convex mirror, using a convex lens. 3. To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias. 4. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.	Ch1: Electric charges and fields Ch2: Electrostatic potential and capacitance Ch3: Current electricity Ch4: Moving charges and magnetism Ch5: Magnetism and matter Ch6: Electromagnetic induction Ch7: Alternating current
ANNUAL INTERAL PRACTICAL ASSESSMENT Full Marks: 30	ANNUAL Full Marks: 70

SECTION A - 1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current.

2. To find resistance of a given wire / standard resistor using metre bridge.

3. To verify the laws of combination (series) of resistances using a metre bridge. OR To verify the laws of combination (parallel) of resistances using a metre bridge

4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

5. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.

OR

To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.

6. To find the frequency of AC mains with a sonometer.

SECTION B - 1. To find the value of v for different values of u in case of a concave mirror and to find the focal length.

2. To find the focal length of a convex mirror, using a convex lens.

3. To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and 1/v. 4. To find the focal length of a concave lens, using a convex lens.

4. To find the focal length of a concave lens, using a convex lens..

5. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.

6. To determine refractive index of a glass slab using a travelling microscope.

7. To find the refractive index of a liquid using convex lens and plane mirror.

8. To find the refractive index of a liquid using a concave mirror and a plane mirror.

9. To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias.

Ch1: Electric charges and fields

Ch2: Electrostatic potential and capacitance

Ch3: Current electricity

Ch4: Moving charges and magnetism

Ch5: Magnetism and matter

Ch6: Electromagnetic induction

Ch7: Alternating current

Ch8: Electromagnetic waves

Ch9: Ray optics and optical instruments

Ch10: Wave optics

Ch11: Dual nature of radiation and matter

Ch12: Atoms

Ch13: Nuclei

Ch14: Semiconductor electronics: materials, devices and simple circuits

SUBJECT: CHEMISTRY	
HALF YEARLY INTERAL PRACTICAL ASSESSMENT Full Marks: 30	HALF YEARLY Full Marks: 70
1.Qualitative analysis - Determination of one cation and one anion in a given salt. 2.Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of: i) Oxalic acid, ii) Ferrous Ammonium Sulphate	Solutions Electrochemistry Haloalkanes and Haloarenes Alcohols, Phenols and Ethers Aldehydes, Ketones and Carboxylic Acids
ANNUAL INTERAL PRACTICAL ASSESSMENT Full Marks: 30	ANNUAL Full Marks: 70
1.Qualitative analysis - Determination of one cation and one anion in a given salt. 2.Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of: i) Oxalic acid, ii) Ferrous Ammonium Sulphate 3.Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs. 4.Tests for the functional groups present in organic compounds: Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups	1 Solutions 2 Electrochemistry 3 Chemical Kinetics 4 d -and f -Block Elements 5 Coordination Compounds 6 Haloalkanes and Haloarenes 7 Alcohols, Phenols and Ethers 8 Aldehydes, Ketones and Carboxylic Acids 9 Amines 10 Biomolecules

SUBJECT: ECONOMICS	
HALF YEARLY INTERAL PROJECT ASSESSMENT Full Marks:30	HALF YEARLY Full Marks: 70
MACRO ECONOMICS:- Unit 2. Money and Banking	MACRO ECONOMICS:- Unit 1: National Income and Related Aggregates What is Macroeconomics? Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation. Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method. Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP GDP Deflator, GDP and Welfare

	Unit 2: Money and Banking
	Money – meaning and functions, supply of money - Currency held by the public and net demand deposits held by commercial banks. Money creation by the commercial banking system. Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, Cash Reserve Ratio (CRR), Statutory Liquidity Ratio (SLR), Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement. INDIAN ECONOMICS:- Unit 6: Development Experience (1947-90) and Economic Reforms since 1991: A brief introduction of the state of Indian economy on the eve of independence. Indian economic system and common goals of Five Year Plans. Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade. Economic Reforms since 1991: Features and appraisals of liberalisation, globalisation and privatisation (LPG policy); Concepts of demonetization and GST
ANNUAL INTERAL PROJECT ASSESSMENT Full Marks: 30	ANNUAL Full Marks: 70
1.Government Budget and It's Component 2. New Education Policy (NEP)- 2020 - A Promice For A New Education System.	MICRO ECONOMICS:- Unit 1: National Income and Related Aggregates What is Macroeconomics? Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation. Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method. Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP GDP Deflator, GDP and Welfare Unit 2: Money and Banking Money – meaning and functions, supply of money - Currency held by the public and net demand deposits held by commercial banks. Money creation by the commercial banking system. Central bank and its

functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, Cash Reserve Ratio (CRR), Statutory Liquidity Ratio (SLR), Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Unit 3: Determination of Income and Employment

Aggregate demand and its components. Propensity to consume and propensity to save (average and marginal). Short-run equilibrium output; investment multiplier and its mechanism. Meaning of full employment and involuntary unemployment. Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply.

Unit 4: Government Budget and the Economy

Government budget - meaning, objectives and components.
Classification of receipts - revenue receipts and capital receipts;
Classification of expenditure – revenue expenditure and capital expenditure. Balanced, Surplus and Deficit Budget – measures of government deficit.

Unit 5: Balance of Payments

Balance of payments account - meaning and components; Balance of payments – Surplus and Deficit Foreign exchange rate - meaning of fixed and flexible rates and managed floating. Determination of exchange rate in a free market, Merits and demerits of flexible and fixed exchange rate. Managed Floating exchange rate system

INDIAN ECONOMICS:-

Unit 6: Development Experience (1947-90) and Economic Reforms since 1991:

A brief introduction of the state of Indian economy on the eve of independence.
Indian economic system and common goals of Five Year Plans. Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.
Economic Reforms since 1991:   Features and appraisals of liberalisation, globalisation and privatisation (LPG policy);   Concepts of demonetization and GST

Unit 7: Current challenges facing Indian Economy

Human Capital Formation: How people become resource; Role of human capital in economic

development; Growth of Education Sector in India
Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming

Unit 8: Development Experience of India: A comparison with neighbours India and Pakistan India and China Issues: economic growth, population, sectoral development and other Human Development Indicators

SUBJECT: Physical Education	
HALF YEARLY	HALF YEARLY
INTERAL PRACTICAL ASSESSMENT Full Marks: 30	Full Marks: 70
1) Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT) 2)Yogic Practices 3)Record File *****Record File shall include:** ➢ **Practical-1:** Fitness tests administration. (SAI Khelo India Test) ➢ **Practical-2:** Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease. ➢ **Practical-3:** Anyone one IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Also, mention its Rules, Terminologies & Skills.	**Unit 1, Management of Sporting Events** 1. Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling) 2. Various Committees & their Responsibilities (pre; during & post) 3. Fixtures and their Procedures – Knock- Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments. **Unit 2, Children & Women in Sports** 1. Exercise guidelines of WHO for different age groups. 2. Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs and their respective corrective measures. 3. Women's participation in Sports – Physical, Psychological, and social benefits. 4. Special consideration (menarche and menstrual dysfunction) 5. Female athlete triad (osteoporosis, amenorrhea, eating disorders.

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Unit 3, Yoga as Preventive measure for Lifestyle Disease

1. **Obesity:** Procedure, Benefits & Contraindications for Tadasana,Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha –Matsyendrasana, Dhanurasana, Ushtrasana,Suryabedhan pranayama.

2. **Diabetes:**

Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana,Bhujangasana,

Shalabhasana, Dhanurasana, Suptavajarasana,

Paschimottanasan-a, Ardha- Mastendrasana,

Mandukasana,Gomukasana,Yogmudra,

Ushtrasana,Kapalabhati.

3. **Asthma:** Procedure,Benefits &Contraindications for Tadasana, Urdhwahastottansana, UttanMandukasana, Bhujangasana, Dhanurasana,

Ushtrasana, Vakrasana, Kapalbhati,Gomukhasana

Matsyaasana,Anuloma-Viloma.

4. **Hypertension:**Procedure, Benefits & Contraindications for Tadasana, Katichakransan, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasan-a,

Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadishodhanapranayam,

Sitlipranayam.

5. **Back Pain and Arthritis:** Procedure,Benefits &ContraindicationsofTadasan,Urdhawahastootansana, Ardh-Chakrasana,Ushtrasana,Vakrasana, Sarala

Maysyendrsana,Bhujandgasana,Gomukhasana,

Bhadrasana,Makarasana, Nadi-Shodhana

pranayama.

Unit 4, Physical Educationand Sports for CWSN

(Children with SpecialNeeds - Divyang)

1. Organizationspromoting Disability Sports (Special Olympics; Paralympics;Deaflympics)

	2. Concept of Classification and Divisioning in Sports.
	3. Concept of Inclusion in sports, its need,and Implementation;
	4. Advantages ofPhysical Activities for children with special needs.
	5. Strategies to make Physical Activities assessable for children with special needs.
	Unit 5, Sports & Nutrition
	1. Concept of balanced diet and nutrition
	2. Macro and Micro Nutrients: Food sources & functions
	3. Nutritive & Non- Nutritive Components of Diet
	4. Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance, and Food Myths
	5. Importance of Diet in Sports-Pre, During and Post competition Requirements
ANNUAL INTERAL PRACTICAL ASSESSMENT Full Marks: 30	ANNUAL Full Marks: 70
1) Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT) 2)Yogic Practices 3)Record File 4)Proficiency in Games and Sports (Skill of any one IOA recognized Sport/Game of Choice) 5)Viva Voce (Health/ Games & Sports/ Yoga)	**Unit 1, Management of Sporting Events** 1. Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling) 2. Various Committees & their Responsibilities (pre; during & post) 3. Fixtures and their Procedures – Knock- Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments. **Unit 2, Children & Women in Sports** 1. Exercise guidelines of WHO for different age groups. 2. Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs and their respective corrective measures. 3. Women's participation in Sports – Physical, Psychological, and social benefits. 4. Special consideration (menarche and menstrual dysfunction) 5. Female athlete triad (osteoporosis, amenorrhea, eating disorders.

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Disease

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2. **Diabetes:**

Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana,Bhujangasana,

Shalabhasana, Dhanurasana, Suptavajarasana,

Paschimottanasan-a, Ardha- Mastendrasana,

Mandukasana,Gomukasana,Yogmudra, Ushtrasana,Kapalabhati.

3. **Asthma:** Procedure,Benefits &Contraindications for Tadasana, Urdhwahastottansana, UttanMandukasana, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalbhati,Gomukhasana Matsyaasana,Anuloma-Viloma.

4. **Hypertension:**Procedure, Benefits & Contraindications for Tadasana, Katichakransan, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasan-a,

Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadishodhanapranayam,

Sitlipranayam.

5. **Back Pain andArthritis:** Procedure,Benefits &ContraindicationsofTadasan,Urdhawahastootansana, Ardh-Chakrasana,Ushtrasana,Vakrasana, Sarala

Maysyendrsana,Bhujandgasana,Gomukhasana,

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1. Concept of balanced diet and nutrition
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4. Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance, and Food Myths
5. Importance of Diet in Sports-Pre, During and Post competition Requirements

Unit 6, Test & Measurement in Sports

1. Fitness Test – SAI Khelo India Fitness Test in school: Age group 5-8 years/ class 1-3: BMI,

Flamingo Balance Test, Plate Tapping Test

Age group 9-18yrs/ class 4-12: BMI, 50mt Speed test, 600mt Run/Walk, Sit & Reach flexibility test, Strength Test (Partial Abdominal Curl Up, Push-Ups for boys, Modified Push-Ups for girls). 2. Measurement of Cardio-Vascular Fitness – Harvard Step Test – Duration of the Exercise in

Seconds x100/5.5 X Pulse count of 1-1.5 Min after Exercise.

3. Computing Basal Metabolic Rate (BMR)

4. Rikli & Jones – Senior Citizen Fitness Test

• Chair Stand Test for lower body strength

• Arm Curl Test for upper body strength

• Chair Sit & Reach Test for lower body flexibility

• Back Scratch Test for upper body flexibility

• Eight Foot Up & Go Test for agility

• Six-Minute Walk Test for Aerobic Endurance

5. Johnsen – Methney Test of Motor Educability (Front Roll, Roll, Jumping Half-Turn, Jumping

full-turn)

Unit 7, Physiology & Injuries in Sport

1. Physiological factors determining components of

physical fitness

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2. Effect of exercise on the Muscular System

3. Effect of exercise on the Cardio- Respiratory System

4. Physiologicalchanges due to aging

5. Sports injuries:Classification (Soft Tissue Injuries - Abrasion, Contusion,Laceration, Incision,

Sprain & Strain; Bone & Joint Injuries - Dislocation, Fractures – Green Stick,Comminuted,Transverse Oblique & Impacted)

Unit 8, Biomechanics and Sports

1. Newton's Law of Motion & its application in sports

2. Types of Levers and their application in Sports.

3. Equilibrium – Dynamic & Static and Centre of Gravity and its application in sports

4. Friction & Sports

5. Projectile in Sports

Unit 9, Psychology and Sports

1. Personality; its definition & types (Jung Classification& Big Five Theory)

2. Motivation, its type & techniques.

3. Exercise Adherence: Reasons, Benefits &

Strategies for Enhancing it

4. Meaning, Concept & Types of Aggressions in

Sports

5. Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self-Talk,Goal Setting

Unit 10, Training in Sports
1. Concept of Talent Identification and Talent Development in Sports
2. Introduction to Sports Training Cycle –Micro, Meso, Macro Cycle.
3. Types & Methods to Develop – Strength, Endurance, andSpeed.
4. Types & Methods to Develop – Flexibility and Coordinative Ability.
5. Circuit Training - Introduction & its
Importance

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