SUMMER ASSIGNMENT AND PROJECT WORK
SESSION 2024-25
CLASS – XII

Subject	Project/ Assignment
Eng. Lang.	Write a composition of about 500 words, on any ONE of the following topics: 1.Describe how did you spend your time at the railway station waiting for your train that was delayed by four hours. 2.Description of a process-how to bake a chocolate/ fruit cake. 3.Write a review for a local newspaper of a cultural programme Organised by an NGO on the occasion of Republic Day. Note: 1. Handwriting should be neat and legible. 2. File cover yellow and Blue for English language and English literature respectively. 3. Relevant pictures and quotations . 4. Proper heading/ sub headings should be written. 5. Significant lines and phrases should be highlighted.
Eng. Lit.	Attempt any one of the questions following the guidelines given below: You are required to undertake one written assignment of 1000-1500 words, on any ONE of the following topics: 1. Tithonus is a dramatic monologue. Explain the characteristic elements of monologue in the poem. Explain briefly the discomfort suffered by the Tithonus because of immortal age beside immortal youth? 2. Does the restlessness of the youth portrayed in the short story 'Atithi' by Rabindranath Tagore convey any significance? Do you think Tarapada was doing right by not staying long at one place? What would have you done in his place? 3. Critically examine Macbeth as a tragedy of inordinate ambition. Consider the theme of conflict between ambition and conscience as presented in Macbeth.

	4. Critically examine the manner in which Shakespeare delineates the decline of conscience in Macbeth. How does he relate it to the theme of evil in the play? Guidelines for the project work: Students are required to undertake one written assignment of 1000-1500 words, which should be structured as given below: A. The written assignment must be given a title in the form of a question which should allow the candidate to explore the drama or the chosen short stories/poems in depth. B. The written assignment must follow the structure given below: • Introduction: - Explanation of the question that has been framed - Reason for choosing the text - Brief explanation of how the candidate intends to interpret the chosen text and literary materials used in the process • Main Body – organised and well-structured treatment of the question using appropriate sub-headings. • Conclusion
Hindi	**हिंदी भाषा :** 1 निम्नलिखित विषय पर लगभग 1000 शब्दों में एक परियोजना तैयार कीजिए : **निम्न राज्यों में से किसी एक राज्य की भौगोलिक स्थिति ,वेशभूषा ,नृत्य ,पर्व ,दर्शनीय स्थल तथा व्यंजन आदि पर चित्र सहित एक परियोजना तैयार कीजिए |** **(कर्णाटक ,केरल ,आसाम ,उत्तराखंड)** **हिंदी साहित्य :** **2 कबीरदास –साहित्यिक परिचय (चित्र सहित ,शब्द संख्या 300)** **3 'भारतीय संस्कृति विश्व की महान संस्कृति है |' इस विषय पर पाठ 'संस्कृति क्या है ?' के आधार पर चित्र सहित अपने विचार लिखिए |(चित्र सहित ,शब्द संख्या 300)** **4 मोहन राकेश का जीवन परिचय लिखते हुए नाटक 'आषाढ़ का एक दिन' की समीक्षा कीजिए |(चित्र सहित ,शब्द संख्या 300)**

Mathematics	PAPER II – PROJECT WORK – 20 Marks Candidates will be expected to have completed two projects, one from Section A and one from either Section B or Section List of suggested assignments for Project Work: Section A 1. Using a graph, demonstrate a function which is one-one but not onto. 2. Using a graph demonstrate a function which is invertible. 3. Construct a composition table using a binary function addition/multiplication modulo upto 5 and verify the existence of the properties of binary operation. 4. Draw the graph of $y = \sin^{-1} x$ (or any other inverse trigonometric function), using the graph of $y = \sin x$ (or any other relevant trigonometric function). Demonstrate the concept of mirror line (about $y = x$) and find its domain and range. 5. Explore the principal value of the function $\sin^{-1} x$ (or any other inverse trigonometric function) using a unit circle. 6. Find the derivatives of a determinant of the order of 3 x 3 and verify the same by other methods. 7. Verify the consistency of the system of three linear equations of two variables and verify the same graphically. Give its geometrical interpretation. 8. For a dependent system (non-homogeneous) of three linear equations of three variables, identify infinite number of solutions. 9. For a given function, give the geometrical interpretation of Mean Value theorems. Explain the significance of closed and open intervals for continuity and differentiability properties of the theorems. 10. Explain the concepts of increasing and decreasing functions, using geometrical significance of dy/dx. Illustrate with proper examples. 11. Explain the geometrical significance of point of inflexion with examples and illustrate it using graphs. 12. Explain and illustrate (with suitable examples) the concept of local maxima and local minima using graph. 13. Explain and illustrate (with suitable examples) the concept of absolute maxima and absolute minima using graph. 14. Illustrate the concept of definite integral, expressing as the limit of a sum and verify it by actual integration. 15. Demonstrate application of differential equations to solve a given problem (example, population increase or decrease, bacteria count in a culture, etc.). 16. Explain the conditional probability, the theorem of total probability and the concept of Bayes' theorem with suitable examples.

17. Explain the types of probability distributions and derive mean and variance of binomial probability distribution for a given function.

Section B

18. Using Vector algebra, find the area of a parallelogram/triangle. Also, derive the area analytically and verify the same.

19. Using Vector algebra, prove the formulae of properties of triangles (sine/cosine rule, etc.)

20. Using Vector algebra, prove the formulae of compound angles, e.g. sin $(A + B) = \text{Sin } A \text{ Cos } B + \text{Sin } B \text{ Cos } A$, etc.

21. Describe the geometrical interpretation of scalar triple product and for a given data, find the scalar triple product.

22. Find the image of a line with respect to a given plane.

23. Find the distance of a point from a given plane measured parallel to a given line.

24. Find the distance of a point from a line measured parallel to a given plane.

25. Find the area bounded by a parabola and an oblique line.

26. Find the area bounded by a circle and an oblique line.

27. Find the area bounded by an ellipse and an oblique line.

28. Find the area bounded by a circle and a circle.

29. Find the area bounded by a parabola and a parabola.

30. Find the area bounded by a circle and a parabola. (Any other pair of curves which are specified in the syllabus may also be taken.)

Section C

31. Draw a rough sketch of Cost (C), Average Cost (AC) and Marginal Cost (MC)

Or

Revenue (R), Average Revenue (AR) and Marginal Revenue (MR).
Give their mathematical interpretation using the concept of increasing - decreasing functions and maxima-minima.

32. For a given data, find regression equations by the method of least squares. Also find angles between regression lines.

33. Draw the scatter diagram for a given data. Use it to draw the lines of best fit and estimate the value of Y when X is given and vice-versa.

34. Using any suitable data, find the minimum cost by applying the concept of Transportation problem.

35. Using any suitable data, find the minimum cost and maximum nutritional value by applying the concept of Diet problem.

36. Using any suitable data, find the Optimum cost in the manufacturing problem by formulating a linear programming problem (LPP).

Physics	Prepare a project report on any one of the following topics relevant to Class XII syllabus: - 1. Capacitor & Dielectric 2. Current Electricity 3. Magnetic Effect of Current 4. Alternating Current 5. Semi-Conductor Devices 6. Photoelectric Effect 7. Structure of Atom & Bohr's Atomic Theory 8. Interference & Diffraction of Light 9. Optical Instruments 10. Electromagnetic Spectrum 11. Electromagnetic Induction 12. Nuclear Physics 13. Magnetism & Magnetic Classification of Substances Guidelines for making the project are as follows: - 1. Project report should be approximately 25 to 30 pages covering the topic chosen by you. 2. Project report should contain relevant diagrams and figures wherever required. 3. The useful information can be collected from your prescribed book, reference books or from the internet. 4. Project report should have: - (a). Acknowledgement, (b). Introduction, (c). Content, and (d). Bibliography.

Chemistry	Make a project on any one of the topics suggested below: 1. Amino acids: Peptides, structure and classification, protein's structure and their role in the growth of living beings. 2. Nucleic Acid: DNA and RNA – their structure. Unique nature. Importance in evolution and their characteristic features. 3. Carbohydrates and their metabolism, Blood - hemoglobin and respiration. 4. Vitamins and hormones 5. Simple idea of chemical evolution. 6. Natural polymers (any five) - structure, characteristics, uses. Synthetic polymers (any five) - method of preparation, structure, characteristics and uses. 7. Types of Dyes - methods of preparation, characteristics and uses. 8. Chemicals in medicines: antiseptics, antibiotics, antacids, etc. and their uses. 9. Preparation of soap, nail polish, boot polish, varnish, nail polish remover, shampoo and perfumes. 10. Chemicals and chemical processes in forensic studies. 11. Insecticides, pesticides and chemical fertilizers. 12. Ancient Indian medicines and medicinal plants. 13. Organic Chemistry in Nutrition, Food Science and Biotechnology. 14. Effect of Green House Gases. 15. How Plastics have changed the world, both socially and economically.
Biology	Make a project on any one of the topics given below. The suggested evaluation criteria for project work will be Introduction/ Purpose Contents Bibliography The suggested list for the projects is: - 1.Mendelian Genetics 2.Drug addiction 3.Cancer 4.Hepatitis 5.Population interactions 6.Genetic disorders 7.D.N.A fingerprinting 8.Microbes in industrial use 9.Biotechnology 10.Ecological services

History/Civics	Prepare one project of 2000 words (approx.) on any one of the following topics: 1)A case study. 2)A field Visit. 3)A local History. 4)Book review or a film review.
Computer Application / Science	https://acrobat.adobe.com/id/urn:aaid:sc:ap:e9e1061e-1fda-4e38-85ee-908dfb3e7878
Accounts	Students will be expected to have completed two projects from any topic covered in Theory. A list of suggested Projects is given below: 1. Preparation of Journal / sub-division of journal, Ledger, Trial balance and Financial Statements of a partnership form of business on the basis of a case study. • Develop a case study showing how two or more friends decide to come together and start a business with a certain amount of capital. • Prepare their Partnership Deed including interest on capital, partner's salary, commission, interest on drawings, interest on partner's loan and rent paid to a partner. • Write in detail, their transactions during the year: purchases - cash and credit, sales - cash and credit, expenses, purchase of fixed assets and depreciation charged on them, any outstanding expenses, prepaid expenses, accrued income, drawing bills of exchange, accepting bills payable etc. • From this case study developed (which should have at least 15 transactions), pass the journal entries, post them into the ledger, prepare a Trial Balance and the Trading and Profit and Loss Account, Profit and Loss Appropriation Account and Balance Sheet. • The various expenses, for comparison purposes, could be depicted in the form of bar diagrams and pie charts. • Calculate relevant accounting ratios like liquidity, solvency, activity and profitability giving their formulae and computation (all this could be part of the viva-voce). • The ratios could also be shown graphically and/ or pictorially (bar diagrams and pie charts) and if possible, could be compared with the ratios of the industry. 2. Preparation of a Cash Flow Statement with the help of audited / unaudited / imaginary Balance Sheets of a company for two consecutive accounting years or two consecutive quarters of an accounting year could be taken along with at

	least five additional information (depreciation, purchase/ sale of fixed assets, dividend paid/ proposed, tax paid/ proposed, amortization of intangible assets, profit or loss on sale of fixed assets including provision for depreciation on them and profit or loss on sale of investment). • The results of the operating, investing and financing activities could be shown graphically and/ or pictorially (bar diagrams and pie charts). 3. Preparation of Common Size and Comparative Income Statement and Balance Sheet of a company by taking into account its audited, unaudited / imaginary financial results of two consecutive quarters of an accounting year or of two consecutive accounting years. • The comparison has to be made in the form of Common Size and Comparative Income Statement and Balance Sheet. • The comparison could also be shown graphically and/ or pictorially (bar diagrams and pie charts). 4. Taking the audited/ unaudited / imaginary financial results of any leading company, its liquidity, solvency, activity and profitability ratios of two consecutive accounting years or of two consecutive quarters of an accounting year should be calculated and the comparison of the ratios of both the years or quarters should be shown graphically and/ or pictorially (bar diagrams and pie charts). GENERAL INSTRUCTIONS: 1) Both the projects to be done in the same project file. 2) The project work have to be supported with recent data and pictures 3) The project should be done independently. 4) The project should be neatly done on Interleaf project papers and in good handwriting. Each project should be of around 20-30 pages, which means the whole project work should be of 40-50 pages. 5) Follow the given sequence for the project- i) Acknowledgement, ii) Certificate, iii)Index, iv) Content and v) Bibliography
Commerce	Prepare a Commerce project file covering any two topics: list of suggested Projects is given below: 1. Compare marketing strategies adopted by two different companies of the same industry (FMCG / Telecommunication / media / education the following: industry etc.) keeping in mind − Product mix − Price Mix − Place Mix

− Promotion Mix

2. Collect newspaper/magazine clippings of five cases filed by consumers in the Consumer Court.
Find out the rights violated, and the redressal mechanism used.
What was the outcome of each case?

3. Visit a commercial Bank. Find out the procedure to open a savings account.
Find out the details of various Agency & General utility services provided by the bank.

4. Compare the interest rates offered by five different commercial banks on fixed deposits under various categories (general and senior citizens) and various time durations.
Find out the procedure and formalities for opening a fixed deposit account.
What is the procedure for closing the account on maturity and before maturity period?

5. Select five different companies across varying industries such as I.T., textiles, FMCG, Health Care, etc., included in the SENSEX. Keeping a hypothetical base money of Rupees One Lakh, invest in the shares of the selected companies. The movement of share prices selected by you should be monitored over a period of one month on a daily basis. A uniform / standard practice of either using the opening price or the closing price on a particular day of the week should be used by all students in the class.
At the end of the month, analyse your investment in a spread sheet and give reasons for your choice of scripts.

6. Find out the names of companies under various sectors (FMCG, Pharma, automobile, etc) included in the NIFTY and the SENSEX.
Make a chart of the same and track its movements over a period of one week.

7. (a) Study the sources of recruitment and steps involved in the selection procedure adopted by two companies of the same industry.
(b) Compare and evaluate the sources of recruitment and the selection process adopted by the selected companies.

8. Formulate a capital plan for a hypothetical business organization.
Justify your formulated plan.

9. Choose two companies of the same industry. Study their organizational structure. Also give information with regard to:
(i) Hierarchy
(ii) Centralization and delegation of authority (iii) Flow of information (scalar chain)
(iv) Span of control
(v) Channel of communication.

	10. Select any business undertaking. Study the selected business in terms of ownership, capital and profitability. Make a S.W.O.T. analysis and present it in a tabular form.
Economics / Eco Applications	A list of suggested Projects is given below, make project on any two topics 1. Study a Public Sector Enterprise with reference to its relevance to the Indian Economy and its future prospects. Analyse the trend of its growth for the last ten years. 2 Money 3 Banking 4 Government Budget 5 Demand and Elasticity of demand 6 Balance of payments 7 Forms of Market 8 Prepare a trend Analysis of Growth and Productivity of any one industry such as: Textile Automobiles / Electronic and Tele-communication, etc. in India for the past ten years.
Political Science	Holiday homework Political science 1 Revise all the chapters covered in the class. 2 Make a project work on the topics discussed in the class.
Home Science	Home science project Select any three states in India and study their traditional weaves, prints and costumes. Prepare a report on the same.
Physical Education	Make a project file on any two games and sports.
Psychology	Attitude : To study attitudinal differences regarding Marriage. Groups: Two generations (parents and students) Tools: To construct a simple 5-point scale (10-15 items) with positively and negatively worded statements. Raw Data: Summated scores on all the statements for each respondent. Analysis: (i) Calculate mean attitudinal scores for each group and make inter-group comparisons.

	(ii) Short, structured interview schedule constructed and administered to 8-10 students in each group. The responses elicited can be used to draw inferences to explain the inter-group differences, if any. Stress: To study the causes and effects of stress among school students. Group: Class X or Class XI students. Tools: To construct two checklists - one indicating the potential stressors along with a 5-point rating scale indicating their frequency of occurrence (very often, often, sometimes, rarely, very rarely). The stressors should include dispositional/internal variables (personality attributes, cognitive appraisal) and situational/external variables (life events, environmental pressures- physical, social, cultural and academic stressors). The second checklist should indicate the effects of stress (strain)- physical, psychological and behavioral along with their frequency of occurrence (on a 5-point rating scale). Analysis: To determine the stressors and the effects that occur with the most to the least frequency and understand/explain each.
Art	Prepare 10 practice sheets each of the 3 Papers for Assessment work 10 Still life studies 10 Nature studies 10 Original composition
Community Service	Students have to paste 4- 5 pictures of themselves doing community service with a short write up of what they did for the community.