



Little Flower School

(AFFILIATED TO THE COUNCIL FOR THE INDIAN SCHOOL CERTIFICATE EXAMINATION, NEW DELHI - UP235)

CLASS XII PROJECT WORKS 2021-2022

(Date of Submission – 10 December 2021)

ENGLISH I

Question 1

Write a composition in approximately 500 words on:

“Old – age homes have come to stay in India as in the Western countries.” Express your views in the given statement.

Question 2

Write an article to be published in a local newspaper expressing your concern at the rising number of cases of students suffering from stress and depression.

The cases of students suffering from anxiety, stress and depression are increasing day by day – the alarming increase in the number of incidents are found among students, especially those who are studying for their Board Exams or for admission into Engineering and Medical Colleges – **Causes** – (i) fear of failure; (ii) pressure from parents; (iii) peer pressure; (iv) societal pressure; (v) financial constraints; (vi) worry about future – **Remedies** (i) parental guidance and support; (ii) making students aware that every individual is unique; (iii) choosing subjects and career options according to one’s aptitude; (iv) always keeping a positive attitude in life. **(Word limit 500)**

ENGLISH II

Question 1

How far do you agree with the view that forgiveness and reconciliation comprise a major theme of the play ‘*The Tempest*’? **(Your answer should not exceed 750 words)**

Question 2

Compare the character of Caliban with that of Ariel. **(Your answer should not exceed 750 words)**

HINDI

निम्नलिखित विषयों में से किसी एक विषय पर अपने विचार व्यक्त कीजिए ।

(शब्द संख्या 1000–1500)

1. ‘दासी’ कहानी का सारांश लिखते हुए स्पष्ट कीजिए कि भारतीय सभ्यता–संस्कृति में प्रेमभाव का क्या तात्पर्य है ।
2. ‘क्या निराश हुआ जाए?’ अध्याय के आधार पर स्पष्ट कीजिए कि जीवन में निराश होने की आवश्यकता नहीं है ।

निर्देश– शिक्षार्थी उपरोक्त परियोजना कार्य Project File में लिखें ।



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MATHEMATICS

Candidates will be expected to have completed **two** projects, one from Section A and one from *either* Section B or Section C.

The project work will be assessed by the subject teacher and a Visiting Examiner appointed locally and approved by the Council.

Mark allocation for **each** Project [10 marks]:

Overall format	1 mark
Content	4 marks
Findings	2 marks
Viva-voce based on the Project	3 marks
Total	10 marks

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 3×3 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.



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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. $\sin(A + B) = \sin A \cos B + \sin B \cos A$, 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.



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

NOTE: No question paper for Project Work will be set by the Council.

PHYSICS

Describe Electro Magnetic Spectrum. Describe Range (wave length and frequency), Production and Uses of each electromagnetic wave.

CHEMISTRY

Topic: Organic chemistry in Nutrition, Food science and Biotechnology

The project should be in the pattern mentioned below.

- a) Preface
- b) Index
- c) Topic {one full page can be used for writing the topic in a neat and artistic manner}
- d) Introduction of the topic
- e) Explanation/ Content [use topic related diagrams and charts, graphs, pie charts etc. Explanation should be of minimum 15 pages. Devote one side of the paper for diagrams and charts and the other side for writing]
- f) Conclusion
- g) Bibliography

BIOLOGY

Prepare and Write a project report with the help of datas, pictures and diagrams on Any one of the following topics:

1) Role of agrochemicals in increasing food production.

OR

2) Drug Addiction and Community.

OR

3) Gene therapy and its significance in human life.

ACCOUNTANCY

Project 1

The project work is:

- 1) To make accounting record of all the transactions from the very start of the business of Progressive Computers which having two partners;



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- 2) To Prepare Trading and Profit and Loss account and Profit and Loss Appropriation account of the firm;
- 3) To prepare the Balance Sheet of the firm to ascertain the financial position;
- 4) To assess the profitability on the basis of profitability ratios.

The necessary data is taken and is used for the purpose of project work (take at least 15 transactions)

Project 2

The project work is to make observations on the performance and financial position of the company on the basis of information for two years. And the project work is planned and executed by calculating the following ratios. (Figures for two years are taken and are used for the purpose for the Project)

- 1) Liquidity Ratio
- 2) Solvency Ratio
- 3) Activity Ratio
- 4) Profitability Ratio

COMMERCE

Project 1

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.

Project 2

Study the sources of recruitment and steps involved In the selection procedure adopted by two companies of the same industries. Also compare and evaluate the source of recruitment and the selection process adopted by the selected companies.

ECONOMICS

- 1) Explain a comparative study of central Bank and Commercial Bank with its functions. Mention at least five commercial banks.
- 2) Explain the various forms of Market along with three features of each market.
(Use diagrams, data, pictures, newspaper cutting etc. wherever required in both the questions)

SUPW

Discuss on the right for equality and social justice based on Indian constitution.