LOYOLA CONVENT SCHOOL
Vidyalaya Marg, Dumardaga, Booty, Ranchi
Session: 2022-23

HOLIDAY HOMEWORK OF WINTER VACATION
CLASS – IX

ENGLISH
Viva Smart score:
1. Module 1: Practice assignment no. 4 & 5
2. Module 4: Practice assignment 5 & 6
3. Module 7: Practice assignment 4 & 5.

MATHEMATICS

21. Does Euclid's fifth postulate imply the existence of parallel lines ? Explain. [2]

22. How would you rewrite Euclid's fifth postulate so that it would be easier to understand? [2]

23. Name the quadrants in which the following points lie : [2]
    (i) p(4, 4)
    (ii) Q(–4, 4)
    (iii) R(–4, –4)
    (iv) S(4, –4)

24. Show that: [2]

$$\left(\frac{x^{a^2+b^2}}{x^{ab}}\right)^{a+b} \left(\frac{x^{b^2+c^2}}{x^{bc}}\right)^{b+c} \left(\frac{x^{c^2+a^2}}{x^{ca}}\right)^{a+c} = x^{2(a^3+b^3+c^3)}$$

OR

Rationalise the denominator of: $\frac{1}{5+3\sqrt{2}}$.

25. How many metres of cloth, 2.5 m wide, will be required to make a conical tent whose base radius is 7 m and height 24 m? [2]
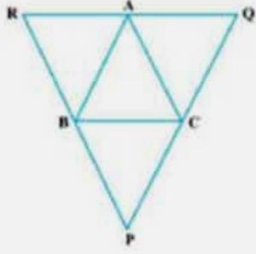
OR

A 5m wide cloth is used to make a conical tent of base diameter 14 m and height 24 m. Find the cost of cloth used at the rate of ₹ 25 per metre.

Section C

26. Draw a histogram to represent the following grouped frequency distribution: [3]

Ages (in years)	Number of teacher
20 - 24	10
25 - 29	28
30 - 34	32
35 - 39	48
40 - 44	50
45 - 49	35
50 - 54	12

27. Through A, B and C, lines RQ, PR and QP have been drawn, respectively parallel [3] to sides BC, CA and AB of a $\triangle ABC$ as shown in Fig., Show that $BC = \frac{1}{2}QR$

28. Simplify $3\sqrt[3]{250} + 7\sqrt[3]{16} - 4\sqrt[3]{54}$ [3]

29. The following table gives the marks scored by 100 students in an entrance examination. [3]

Mark:	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Students (Frequency):	4	10	16	22	20	18	8	2

Represent this data in the form of a histogram.

OR

The population of Delhi State in different census years is as given below:

Census year	1961	1971	1981	1991	2001
Population in Lakhs	30	55	70	110	150

Represent the above information with the help of a bar graph.

30. Find at least 3 solutions for the following linear equation in two variables: $5x + 3y = 4$. [3]

31. Check whether the polynomial $q(t) = 4t^3 + 4t^2 - t - 1$ is a multiple of $2t + 1$ or not. [3]

HINDI

1. किसी एक विषय पर दिए गए संकेत बिन्दुओं के आधार पर लगभग 100 से 125 शब्दों में अनुच्छेद लिखें।

   क. करत करत अभ्यास से जड़मति होत सुजान

   संकेत बिंदु ● सफलता का मूल मंत्र   ● अभ्यास की आवश्यकता और महत्व   ● महापुरुषों के जीवन का आधार

   ख. मधुर वचन है औषधि कटु वचन है तीर

   संकेत बिंदु ● मधुर वचन वशीकरण मंत्र के समान   ● वाणी का व्यक्तित्व पर प्रभाव   ● मीठे वचन उन्नति का आधार

2. दो मित्रों के बीच पिकनिक पर चलने की योजना बनाने संबंधित बात चीत को संवाद के रुप में लिखें।

3. अपने क्षेत्र में कानून व्यवस्था की बिगड़ती स्थिति के बारे में जानकारी देते हुए किसी समाचार पत्र के संपादक को पत्र लिखें।

SANSKRIT

- Sanskrit Grammar Book: Page No.- 309 – 312

SCIENCE
Physics
1) Write the SI unit of energy and power. Also name the physicist in honour of whom the SI unit of these quantities have been kept and write the life sketch of both the physicists.
2) Write an activity to show sound requires a medium to travel.
Chemistry
1) Write down Rutherford alpha scattering experiment.
2) Write down the improvement done by Neil Bohr in Rutherford atomic model.
3) What are radio-Isotopes? Write three applications of radio-Isotopes.
Biology
1) EXERCISE Q.NO 1, 3, 6, 9 of CHAPTER 15 IMPROVEMENT IN FOOD RESOURCES.
2) Prepare a project on different types of pollution describing its causes, effects and solution. (Page limit- 6-7 pages)

ARTIFICIAL INTELLIGENCE

1. On a chart paper draw and label the different Sustainable Developments Goals (SDG's).
2. Visit the above site https://sdgs.un.org/goals for your reference.

SOCIAL SCIENCE

History
1) Complete map workbook up to page 45.
2) Why did pastoral nomads of Jammu and Kashmir migrates?
3) Discuss how the life of pastoralistic changed dramatically under the Colonial rule.

Geography
1) Complete map workbook up to page 45.
2) On the political outline map of India show the distribution of population.

Civics
1) Write a note on the National Human Rights Commission.
2) Suggest some constitutional basis to oppose the construction of any Dam which may displace the resident of that area.

Economics
1) Describe current government strategy of poverty alleviation.
2) Unemployment has a determined impact on the overall growth of an economy." justify the statement.