

**CARMEL CONVENT HR. SEC. SCHOOL, KUNJWANI**

**SUMMER : HOLIDAY HOMEWORK (SESSION 2019-2020)**

**Class – XII**

**MATHEMATICS**

1. Prove that  $\tan^{-1} \frac{2}{11} + \tan^{-1} \frac{7}{24} = \tan^{-1} \frac{1}{2}$ .
2. Prove that  $\tan^{-1} \frac{1}{7} + \tan^{-1} \frac{1}{13} = \tan^{-1} \frac{2}{9}$ .
3. Find the principal value of  $\sin^{-1} \left( \frac{1}{2} \right)$
4. Find the domain of  $\cos^{-1} (2x - 1)$ .
5. Find the principal value of  $\tan^{-1} (1)$
6. Evaluate  $\tan^{-1} \left( \tan \frac{\pi}{3} \right)$
7. Evaluate  $\cot^{-1} \left( \cot \frac{\pi}{3} \right)$
8. Evaluate  $\sin \left( \cot^{-1} \frac{\pi}{3} \right)$
9. Prove that  $\sec^2 \left( \tan^{-1} 2 \right) + \operatorname{cosec}^2 \left( \cot^{-1} 3 \right) = 15$
10. Find the value of the expression  $\sin \left[ \cot^{-1} \left\{ \cos \left( \tan^{-1} 1 \right) \right\} \right]$

**Revise and practice :-**

Chapter No.3 and Chapter No's 2 & 4

**Revision Test** on 17/7/2019 (Chapter No. 3, 4 , )

**Revision Test** on 19/7/2019 (chapter No.1 and 2.)

**Project work** Each student is to make a PPT (Min.10 slides) on any one of the following topics:

- 1)** History of Pie
- 2)** Use of Trigonometry in daily life.
- 3)** Use of geometry in daily life.

**Note:-** Two marks to be allotted for unit test II

## ENGLISH

Read play 'BOX AND COX'

- a) Write theme of the play
- b) Write character sketch of : i) Mrs. Bouncer
- c) Discuss the relevance of the Title.
- d) 2. Every Night introspect your whole day's activities and mark a dairy entry about 1 good thing that you did for others.

**CREATIVE CORNER:** 1. In order to develop writing skills and have practical knowledge of posting letters, Write a letter to your friend telling her about your summer vacation plan and post that letter. After receiving that letter paste it in your notebook. Experience the eagerness of waiting for your reply and joy of receiving letter by post.

2. Search about SDG5 and choose any 5 topics of debate. Write any 1 topic in detail for your upcoming debate competition.

3. Write an article for your school Spectrum on topic 'Gender equality'.

4. Get up early in the morning and feel the magic of surroundings. Experience the first ray of sun and coolness of breeze, the chirping of birds and DO MEDITATION for at least 30 minutes every day.

5. Mothers don't have holidays, not even on Sundays. On holidays their work gets doubled in order to show some respect towards her dedication Help your mother in household chores and also learn to cook her signature dish.

6. Family is the first school of every child and parents can give you the best advice which Google can't. Value your relations because you are blessed with them. Switch off your mobile after 7 pm everyday and spend quality time with your family. Discuss and share your feelings and thoughts with your parents.

## CHEMISTRY

Q1. What is Hardy Schulze rule ? What modification can you suggest in it?

Q2. What is the difference between physisorption and chemisorption ?

Q3. What is catalysis ? Give atleast three examples of Homogeneous and Heterogeneous catalysis?

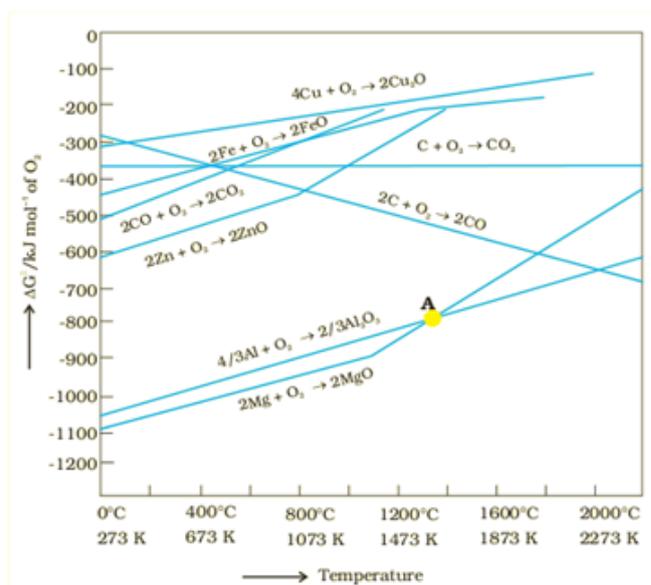
Q4. Write short notes on :-

- i) Mond Process
- ii) Van Arkel
- iii) Electrophoresis & Brownian Effect
- iv) Tyndall effect & Smelting
- v) Roasting and calcination.

Q5. What is Lyophilic and lyophobic colloids? How you prepare the colloids?

Q6. What is emulsion ? Discuss its two types with atleast three examples.

Q7. Discuss the Ellingham Diagram



Q8. What are enzymes? Write in brief the mechanism of enzyme catalysis.

*NOTE: Revise solid state and Chemical Kinetics*

## **BIOLOGY**

Q: Briefly explain the contribution of T.H. Morgan in genetics.

Q: Siblings do not resemble each other despite being born to the same parents. How and why? What conclusion do we derive from the same?

Q: What is monosporic development of female gametophyte?

Q: What are chasmogamous flowers? Can cross pollination occur in cleistogamous flowers? Give reasons for your answers.

Q: What is Gause's principle of competitive exclusion and competitive release? How would they help you to plant your carrier?

Q: Name the various types of haploid cells in mature female gametophyte of an angiosperm plant.

Q: How does floral pattern of Mediterranean orchid *Ophrys* guarantee cross pollination?

Useful links:

1) NCERT BOOK

2) TRUEMAN EXEMPLAR

3) STATE BOARD SOLVER PAPERS

Read the chapter: Ecology

Revise the chapters: 1) Reproduction

2) Principle of inheritance and variation

Revision test on 17/07/2019(Reproduction)

Revision test on 19/07/2019(Principle of inheritance and variation)

Two marks will be added for unit test second.

Regular objective questions will be sent by the concerned teacher in order to enhance your competitive skills by snap homework on weekly basis.

## PHYSICS

- Q1. What is interference of light? Derive conditions for constructive and destructive interference. Explain the statement, "light added to light can produce darkness".
- Q2. . How electromagnetic waves are produced? Write any four characteristics of EM wave.
- Q3. State and prove Gauss Law in Electrostatics.
- Q4. Three charges each equal to 'q' are placed at the three corners of a square of side 'a'. Find the electric field at the fourth corner.
- Q5. Define an electric line of force. Draw its sketch for an electric dipole. State any of its two properties.
- Q6. . Define total internal reflection. State its conditions. How do optical fibers transmit light without absorption?
- Q7. . Prove that  $\mu = \frac{1}{\sin c}$ , where c is the critical angle.
- Q8. Explain briefly the use of a junction transistor as an oscillator.
- Q9. What is wave front? Explain three types of wave front?
10. Why does the electrical conductivity of earth's atmosphere increase with altitude?
- Q11. Derive a relation between electric current and drift velocity. Hence deduce Ohm's Law. Hence obtain the expression for resistivity in terms of number density of free electrons and relaxation time.
- Q12. State the principle of a Potentiometer. Explain with a circuit diagram how it can be used to compare the emfs of two primary cells.

Prepare Project Report .

General Guidelines: The project chosen should be from any of the topics from XII class• curriculum.

Some of them are listed below: (i) Diffraction of light (ii) Light Dependent Resistor (iii) simple pendulum (iv) Logic gates (v) Rectifier (vi) Photo transistors/diode (vii) Young's modulus of elasticity.

- You can also choose any one from the suggested investigatory projects recommended by the JKBOSE.
- Report of your project should be hand written and should be according to the format mentioned below.

Name/ Title of the project

List of components used along with their specifications

Theory/ principle behind the working of project Related diagrams Working in detail /procedure

Further modifications (if any) can be done.

Bibliography

## **PUBLIC ADM.**

### **SURVEY AND REPORT WRITING**

**\*MAKE A DETAILED STUDY OF "CIVIL SERVICES IN INDIA"**

- How it began in India
- . It's growth and Role.
- The Examination system
- It's Recruitment Process
- It's Training Process
- Find out the Recruitment Agencies
- UPSC
- JKPSC

### **PROJECT WORK**

**Write** the powers and functions of -

- President
- Prime Minister
- Cabinet
- Council of Minister
- Parliament
- Supreme Court
- HIGH Court
- Governor
- Chief Minister

Make a planner, for everyday self study, and try to follow it earnestly.

**PREPARE FOR UNIT TEST II**

**SYLLABUS - L. NO 3,4,5,7,9.**

## POLITICAL SCIENCE

### 1 PROJECT WORK

\* Make a detailed study of **Election 2019**.

- Give a detailed write up of-

\* Election commission

\* No of seats per constituency

\* Seats won by various parties in each state..

\* Name of the Party and Candidate who won from each state.

\* Name of the Cabinet with their Portfolios,

Added points shall be given for pasting pictures and details of the Cabinet members, Election commission etc.

\* Write an Essay on "Election 2019, your view"

### II. SELF STUDY

\* Find out, with the help, Reference books, Wikipedia... about the working UNITED NATIONS ,

- Paste the picture of, present UNO Secretary General, and to which country he belongs

- Its Various Agencies

- Solve the questionnaire attached with it

- Frame objective type questions

- Make short notes

- \* Revise and complete exercises /questions till lesson No 9.

\* Sincerely Prepare for your UNIT TEST II, the syllabus is given below -

L. NO - 5 to 9.

(Few very short answer type questions shall also be given - therefore, prepare the previous lessons as well.)

WAKE UP EARLY IN THE MORNING, MEDITATE OR PERFORM YOGA, FOR 10-15 Min. PLAN YOUR STUDY FOR THE DAYS

### \* QUESTIONNAIRE

1) When was United Nations Organizations referred to as UNO.

2) Why are international organizations formed?

3) Why was UN formed?

4) What is the full form of IMF?

5) What work is performed by IMF?

6) When was UN founded?

7) Which day is celebrated as UN day?

8) When did India join the UN?

9) Which international organization was formed after the First World War? Why did it fail?

10) How many original members were there in UN?

11) How many members did UN have in 2006?

12) Who is the head of UN? Name the post, the present head and his country.

13) Give full forms of the following UN agencies:

WHO, UNDP, UNHRC, UNHCR, UNICEF, UNESCO

14) What are the two basic kinds of reforms needed in UN?

15) What kind of reforms are needed in UN structures and processes?

16) How has the world seen change after the cold war?

17) Why are reforms needed in UN Security Council?

18) What did UN General Assembly Resolution of 1992 say about the reform of UN Security Council?

19) What new criteria have been suggested for being a member of Security Council? What are the problems in these criteria?

20) Write short notes on the following:

1) World Bank

2) WTO

3) IAEA

4) Amnesty International

21) What is the nature of the present membership of UN Security Council?

22) What is the VETO power?

23) What can be the effects of abolition or modification of VETO power?

## ECONOMICS

NOTE: Complete the Homework Neatly and Separately

2 Marks will be awarded for the Homework and included in your Second Unit Test.

Do the Homework in a Separate NoteBook.

I.Read the Chapter – Forms of Market and Money and Supply of Money and then answer the following Questions:-

1.Pick the correct option:-

i)A specific place where buyers and sellers meet each other and buy and sell commodities is called:

a)Bazaar b)Market c)Mandi d)None of these

ii)Petrol is a product of which type of market form:

a)Monopolistic competition b)Monopoly c)Oligopoly d)Perfect Competition

iii)In Monopoly the product is:

a)Homogenous b)Unique c)Heterogeneous d)None of these

iv)Name a thing that is commonly accepted as a medium of exchange:

a)Money b)Petrol c)Metal d)Paper

v)Barter system of Exchange is also known as:

a)B-B economy b)C-C economy c)B-C economy

2.Give a comparative analysis of different forms of Market(Perfect Competition, Monopolistic Competition , Monopoly and Oligopoly)

3.Why was the need for the emergence of Monetary System of Exchange felt?

4.Do you consider money as store of wealth? Explain Why.

5.Revise Chapter –Price Elasticity of Demand and Production Function and Returns to a Factor and complete the following Questions.

i)Which kind of relationship is explained by Price elasticity of Demand?

ii)When is demand said to be inelastic?

iii)Why the demand for water is inelastic?

iv)Explain Constant returns to a factor?

v)Relate the concept of Price Elasticity of Demand and Total Expenditure.

## **BUSINESS STUDIES**

NOTE –Prepare a neat Project Report.

Marks will be awarded for the Home Work.

Think and Do:

1. Identify one product/ service and state the reason for selecting it. Also write its History, Information about Board of Directors, Brands , Company's Objectives, Features of the product, Unique Selling Proposition of the Product, SWOT analysis etc. Based on the information prepare a project report.

2. Revise the Chapter – Business Environment and Answer the following Questions:

i) Consider yourself as an entrepreneur and think about the factors that you would consider important for the smooth functioning of business. Explain with example.

ii) Do you think that New Economic Policy has prompted many companies to invest in organised retail trade in India. Write your answer relating it to Liberalisation, Privatisation and Globalisation.

## **ACCOUNTANCY**

1) Make a Comprehensive and Specific Project Report based on Financial Statements and Ratio Analysis Practice.

2) Practice and Solve the practical problems from ch 1 to 4 in a separate register and learn the theory of each chapter.

## **FUNCTIONAL ENGLISH**

1. Write a paragraph about what you feel for your brother and sister and write it neatly in your holidays homework notebook.
2. Write down any 2 folk tale stories of your state.
3. With the help of the Internet collect facts about Abraham Lincoln and prepare a project file on it.
4. Read drama 'Don't call out, or you'll be shot' and write gist of it on your holidays homework notebook.
5. Prepare a diary entry for the month of JUNE regarding your daily activities.
6. Daily meditate for 15-20 mins early in the morning and then go for a morning walk.
7. Meet any of your old friend and share your childhood memories with each other.
8. Sit with your parents every evening for at least 30-40 mins and share your daily activities with them.
9. Play with your brothers and sisters any outdoor game and share your experience in your holidays homework notebook.

**Note:- 2marks in your unit test-2 will be given for your holidays homework assignments.**

## **P.HE**

1. Read lesson 1 to 3 at home.
2. Draw any one game of your choice with rules and regulation in your notebook.
3. Read chapter 6 yoga.
4. Play at home for 30 minutes daily.

## EVS

Q: Wetlands are breeding places of mosquitoes. Even then they are very important for maintaining ecological balance. Why?

Q: Since October 2, 2014, “swachh bharat abhiyaan” has been launched.

- a) Write your views on this initiative giving justification. As a Ecologist, give two problems that you may face while implementing the programme in your locality.
- b) Suggest two remedial methods to overcome these problems.

Q: Public all over India is very much concerned about the deteriorating air quality in large parts of north India. Alarmed by this situation, the residents welfare association of your locality organized an awareness programme entitled “bury not burn”. They invited you being a biology student to participate.

- a) How would you justify your arguments that promote burying and discourage burning?
- b) With the help of flow charts, one for each practice, depict the chain of events that follow.

Q: Make a project on any one topic given below:

- 1) Waste Management
- 2) Wildlife Conservation
- 3) Sewage treatment
- 4) Energy Conservation
- 5) Wetland Management

Read the chapter - Soil Degradation

Revise the chapter - Air pollution and Water pollution