

MBPMPL, P.O. Jaithari, District: Anuppur (M.P.) - 484330

Holiday Homework: Class-XII A (2023-24)

Important Instructions:

The holiday homework is a part of an internal assessment. So, it has to be done diligently and must be produced when asked for submission.

BIOLOGY

A. Prepare records of all Spotting based Practical in your practical file: -

1. Flowers adapted to pollination by different agencies (wind, insects, birds).

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 color/sizes of any plant.

7. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and color 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. Model specimens showing symbolic association in root modules of leguminous plants, Cucuta on host, lichens.

11.Flash cards models showing examples of homologous and analogous organs.

B. Learn Chapter 2,3 & 4 and solve the MCQs from the given link: <u>https://www.clearjee.xyz/mtg-33-years-neet-pdf/</u>

C. Prepare record of the projects in any one of the following topics:

You must include Acknowledgement, index, Preface, title, objective, introduction, process, conclusion, reference, thanks note

- 1. Cancer
- 2. STP(Sewage treatment plant)
- 3. AIDS
- 4. Malaria
- 5. PCR Reaction
- 6. High Yield Variety Seeds
- 7. Drugs, its types and effects.

- 8. Diabetes
- 9. IVF Treatment
- 10. Gene Therapy
- 11. Evolution of multicellular organism from inorganic to organic.
- 12. Heart Attack
- 13. Transgenic Animal
- 14. Fetal evolution
- 15. Contraceptive Methods
- 16. Tissue Culture
- 17. DNA fingerprinting technique and its application
- 18. Method of Gene Transfer into Plant
- 19. Antibiotics
- 20. Immunity
- 21. Human genome Project
- 22. Stem Cell Therapy and its application.

Students Can go through the link for their reference: https://byjus.com/cbse/biology-practical-class-12/

CHEMISTRY

- > The holiday homework will be assessed as internal assessment.
- > All the home assignments must be completed.
- > All the practicals should be done by using O Lab and students need to maintain records.

FORMULA DIARY & MIND MAPS:

1.Write all the formulas of chapters - Solution and electrochemistry of the N.C.E.R.T. Textbook in your note book/diary and memorize all these formulas. As soon as the school resumes there will be a formula test and the marks you obtain in this test will be taken into account while doing the internal assessment.

2. Prepare the mind maps of chapters -1, 2, 3 and 4.

A. Preparation of Inorganic Compounds

Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum. Preparation of Potassium Ferric Oxalate.

B. Tests for the functional groups present in organic compounds:

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

C. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.

D. Determination of concentration/ molarity of KMnO4 solution by titrating it against a standard solution of:

(i) Oxalic Acid,

(ii) Ferrous Ammonium Sulphate

(Students will be required to prepare standard solutions by weighing themselves).

E. Qualitative analysis

Determination of one cation and one anion in a given salt.

Cation : Pb2+, Cu2+ As3+, Aℓ3+, Fe3+, Mn2+, Zn2+, Cu2+, Ni2+, Ca2+, Sr2+, Ba2+, Mg2+, NH4 Anions: (CO3)2-, S2-, (SO3)2-, (NO2)-, (SO4)2-, Cℓ-, Br-, I-, PO3- 4, (C2O4)2-, CH3COO-, NO3 (Note: Insoluble salts excluded)

Project work (any five) Adulteration is compulsory

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested Projects.

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soyabean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper. Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

ENGLISH

1. Draft the following ADVERTISEMENTS in your fair notebook:

- a. You are Manisha of 10, Rajaji Nagar, Bangalore. You want a Maths teacher for your son who is a class 10 student. Draft a suitable advertisement in not more than 50 words stating your requirements.
- b. You want to sell your newly built flat. Draft a suitable advertisement in not more than 50 words to be inserted in the classified columns of 'The Hindu' giving all necessary details. You are Niranjan, 247, J.P. Nagar, Bengaluru.

2. Draft the following NOTICES in your fair notebook:

- a. You are Secretary of the History Club of Vidya Mandir School. Draft a notice in not more than 50 words informing students of a proposed visit to some important historical sites in your city.
- b. As Sports Secretary of G.D.G. Public School, Pune, draft notice in not more than 50 words for your school notice board informing the students about the sale of old sports goods of your school. You are Rohini/Rohit.

3. Draft the following POSTERS in your fair notebook:

- a. Your school, Kendriya Vidyalaya, Burdwan is going to organise a Diwali Mela. Design a poster to inform the students about various activities connected with it. Ask them to participate in the Mela. You are Divya/Dewan.
- b. As President of the Residents Welfare Association of Mayur Colony, Delhi, design a poster in not more than 50 words for promoting cleanliness in the surroundings of your colony.

4. MEET THE LITTERATEUR:

a) Read and explore about ANY FIVE of the given writers -

- Alphonse Daudet
- > Anees Jung
- William Douglas
- Selma Lagerlof
- Louis Fischer
- Asokamitran
- Christopher Silvester
- A. R. Barton

- Kamala Das
- Stephen Spender
- Pablo Neruda
- John Keats
- Robert Frost
- Adrienne Rich
- Jack Finney

- ➤ Kalki
- Tishani Doshi
- ➢ Pearl S. Buck
- > John Updike
- Susan Hill
- > Colin Dexter
- > Zitkala-Sa and Bama

Use A4 Sheets & colours. On the sheets, provide the following information about the author-

• Date of birth, name of parents & education•Popular literary works• Awards received.

Also draw or paste pictures. It shall be explained by you in the class as a part of **internal assessment** when the school reopens.

5. BOOK MARK MAKING ACTIVITY: Make a beautiful bookmark for your English Book. Decorate it and write an inspirational quotation which inspires you. Get the bookmark laminated.

Note: It's a part of internal assessment. So, it has to be done diligently and must be produced when asked for submission.

MATHEMATICS

PROJECT WORK

1. Watch the movie "The Man Who Knew Infinity" based on the life of Srinivasa Ramanujan and write down the incident from his life that inspired you the most. (200-250 words) <u>https://www.youtube.com/watch?v=cceTAztEWiQ</u>

2. Write the biography of Srinivasa Ramanujan, describing about his mathematical achievements. Also paste his photographs. (Post card size).

https://en.wikipedia.org/wiki/Srinivasa_Ramanujan

LAB MANUAL ACTIVITY (TO BE DONE IN MATH LAB ACTIVITY NOTE BOOK ONLY)

1) To verify that the relation R in the set L of all lines in a plane, defined by

 $R = \{(l, m): l \perp m\}$ is symmetric but neither reflexive nor transitive.

2) To demonstrate a function which is not one-one but is onto.

3) 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.

4) To demonstrate a function which is one-one but not onto.

WORKSHEET

(Inverse Trigonometric Functions & Matrices)

(TO BE DONE IN MATHS CLASS WORK NOTE BOOK)

Q.1: Determine the principal value of $\cos^{-1}(-1/2)$.

Q.2: Find the value of cot $(\tan^{-1} \alpha + \cot^{-1} \alpha)$.

Q.3: Prove that $\sin^{-1}(3/5) - \sin^{-1}(8/17) = \cos^{-1}(84/85)$.

Q4: Find the value of $\cos^{-1}(1/2) + 2\sin^{-1}(1/2)$.

- Q.5: Solve the problems given below:
- Q.6: Find the principal value of $\tan^{-1}(1)$.

Q.7: If $\tan^{-1}(x-1)/(x-2) + \tan^{-1}(x+1)/(x+2) = \pi/4$, then find the value of x.

Q.8: Solve: $\tan^{-1} 2x + \tan^{-1} 3x = \pi/4$

Q.9: Express the matrix as the sum of a symmetric and a skew symmetric matrix.

$$\mathbf{B} = \begin{bmatrix} 2 & -2 & -4 \\ -1 & 3 & 4 \\ 1 & -2 & -3 \end{bmatrix}$$

Q.10:

If
$$A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$$
, show that $A^2 - 5A + 7I = 0$.

FORMULA DIARY& MIND MAPS:

1. Write all the formulas of chapters -1,2,3 and 4of the N.C.E.R.T. Textbook in your note book/diary and memorize all these formulas. As soon as the school resumes there will be a formula test and the marks you obtain in this test will be taken into account while doing the internal assessment.

2. Using the given link, prepare the mind maps of chapters-1, 2, 3 and 4: <u>https://tinyurl.com/evhaeyrs</u>

REFERENCES: -1) N.C.E.R.T. TEXT BOOK 2) R.D. SHARMA TEXT BOOK

PHYSICS

A. Prepare record of these 6 Activities in an activity file: -

- 1. To study various factors on which the internal resistance/EMF of a cell depends.
- 2. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
- 3. To assemble the components of a given electrical circuit.
- 4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.

5. To study the nature and size of the image formed by a (i) convex lens, or (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror)

6. To observe diffraction of light due to a thin slit.

B. Write down following practicals on your practical records (keep all result and observation table BLANK).

For writing practical refer:

https://ncert.nic.in/pdf/publication/sciencelaboratorymanuals/classXII/physics

Perform practical virtually using olabs: http://www.olabs.edu.in/?pg=topMenu&id=40

- 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 meter bridge.
- 3. To verify the laws of combination (series) of resistances using a meter bridge.
- 4. To verify the laws of combination (parallel) of resistances using a meter bridge.
- 5. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
- C. The Report of the project need to be prepared in a project file: -

1. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle.

PHYSICAL EDUCATION

- 1. Make a chart of Components of Diet. (Nutrition, Minerals, Balanced-Diet). To be prepared on a chart paper.
- 2. Make a height and weight chart of BMI of 10 persons (from your friends and relatives).
- 3. Define Combination Tournament. Draw a fixture of 47 teams using Knock-Out cum League method.
- 4. Mention all calculations and steps involved to draw a Knock-Out fixture of 31 teams, where 4 teams are to be specially seeded.
- 5. Practice Yogas to cure the following ailments / disorders:
 - Hypertension
 - Diabetes
 - Asthma

Note: Assignment 2 to 5 to be made on a project file.