Holiday Homework: Class-XII (Science)

Important Instructions:

- The holiday homework will be assessed as internal assessment.
- All the home assignments provided through WhatsApp must be completed.

Children are reservoirs of potential which needs to be tapped and channelized in diverse ways. We at BBPS Anuppur feel that it is very important to fire their imagination and foster an outlook that helps them explore, discover and rediscover. Children should be encouraged to develop intellectually and physically. Summer Vacation is the best and fruitful time for learning and for nurturing creativity. It is the time when you can connect with your child in many ways. The Holiday Homework designed would not only enhance achievements of your children but also help to enhance family relationships. It would teach your child to work independently and would improve their basic academic skills, such as reading, writing, and spellings and would help them develop personal skills and time management.

SUBJECT: ENGLISH

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.

1. 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.

2. 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.

3. Draft the following LETTERS in your fair notebook:

a. You are Nitu/Nihal. You bought a Microwave oven from Algrawal Electronics and electricals, Anuppur. It does not function properly. Write a letter to the Sales Manager of the shop, complaining about the defect and asking for immediate replacement or repair, as necessary. (120-150 words)

b. Write a letter to the editor of a national newspaper expressing your concern about the careless behaviour of the people of not following the lockdown properly. Also suggest ways how to remain safe and protected from this deadly disease. (120-150 words)

c. Write a letter to the Editor of The Hindu on the fear that is spreading among people due to their anxiety over the pandemic in the world. Give suggestions to overcome this global crisis. You are Vikram/Varsha. (120-150 words)

d. You are a resident of Mahalakshmi Apartments, Patparganj, Delhi. Your residential area is flooded with roadside dwellers who are deprived of the basic civic amenities like light, public toilets and bathrooms. Write a letter to the Editor of The Hindustan Times, highlighting the problems of these roadside dwellers, and also the problems posed by them to the public. Give suggestions for improvement. (120-150 words)

e. Simmi, a student of class XII and resident of 12, Commissioner lane, New Delhi, wants to be a choreographer. She writes to the National Institute of Choreography, Mumbai, seeking information about their course, admission procedure, eligibility criteria and other necessary details. (120-150 words)

f. Write a letter to M/s. H.M.T. Corporation Chandigarh, complaining that the wristwatch you recently bought from them does not function properly and ask for a replacement. You are Dipti/ Deepak Gupta, 450, Sector 20, Chandigarh.

2. Make a small notebook/a diary your personal diary. Cover it and decorate it as well as you do to the most favourite thing of yours. Give your diary a cute/funny name as you name your friend/pets. Write a page of the everyday events of your daily life in the diary. Draw/paste pictures to make the entry memorable. Follow the format.

3. Learn the given topics from the links provided and practice them in your English notebook:

a. Determiners: https://www.learncbse.in/cbse-class-10-english-grammar-determiners/

https://youtu.be/paZmDFwYB58

b. Tense: https://www.learncbse.in/cbse-class-10-english-grammar-tenses/

https://youtu.be/cYAaGmICm3U

https://youtu.be/pXZtRXpGNck

c. Clauses: https://www.learncbse.in/cbse-class-10-english-grammar-clauses/

https://youtu.be/_jTydlA2Nno

d. Modals: https://www.learncbse.in/cbse-class-10-english-grammar-modals/

https://youtu.be/tkgaFERmSCM

https://youtu.be/1o9twUvY7Qo

e. Voice: https://www.learncbse.in/cbse-class-10-english-grammar-active-passive-voice/

https://youtu.be/My7XX_IzH4U

https://youtu.be/VT5kM7Ugpwg

f. Reported Speech: https://www.learncbse.in/cbse-class-10-english-grammar-direct-indirect-speech/

https://youtu.be/RMlexWdwTuM

https://youtu.be/yML5gg26MUA?list=RDCMUCayJSRMRgQEQo71zBySi-RQ

g. Preposition: https://www.learncbse.in/cbse-class-10-english-grammar-prepositions/

https://www.cbsetuts.com/cbse-class-6-english-grammar-correct-uses-prepositions/

https://youtu.be/acTcYV9fLCs

h. Subject – Verb Concord (Agreement): https://www.learncbse.in/cbse-class-10-english-grammar-subject-verb-concord/

https://www.toppr.com/guides/english/verb/subject-verb-concord/

https://youtu.be/Hi4F7USqWAY, https://youtu.be/5_1BRq9iil0

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

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SUBJECT: PHYSICS

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I. **Prepare an investigatory project on any of the following topics OR topic related to your syllabus.**
    1. To study various factors on which the internal resistance/EMF of a cell depends.
    2. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equi convex
       lens (made from a glass of known refractive index) and an adjustable object needle.
    3. To design an appropriate logic gate combination for a given truth table.
    4. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in
       the secondary coil and primary coil of a self-designed transformer.
    5. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow
       prism filled one by one, with different transparent fluids.
    6. To estimate the charge induced on each one of the two identical styrofoam (or pith) balls suspended in
       a vertical plane by making use of Coulomb's law.
    7. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil,
       when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency.

II. **Write down following practicals on your practical records (do not write readings). (for writing practicals refer:)**

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

    Perform practicals virtually using O labs 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 metre bridge.
3. To verify the laws of combination (series) of resistances using a metre bridge.

    OR

4. To verify the laws of combination (parallel) of resistances using a metre bridge.
5. To compare the EMF of two given primary cells using potentiometer.
6. To determine the internal resistance of given primary cell using potentiometer.
7. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.

    OR

8. To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.
9. 7. To find the value of v for different values of u in case of a concave mirror and to find the focal length.
10. To find the focal length of a convex mirror, using a convex lens.
11. To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and 1/v. 4. To find the focal length of a concave lens, using a convex lens.
12. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
13. To draw the I-V characteristic curve for a p-n junction diode in forward bias and reverse bias.
14. To draw the characteristic curve of a zener diode and to determine its reverse breaks down voltage.

SUBJECT: MATHEMATICS

ACTIVITY/PROJECTWORK

(ACTIVITY TO BE DONE IN THE LAB MANAUAL OR PREPARE A SEPARATE ACTIVITY NOTE BOOK)

ACTIVITY 1: To verify that the relation R in the set L of all lines in a plane, defined by   R = {(l, m): l ⊥ m} is symmetric but neither reflexive nor transitive.

ACTIVITY 2: 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.

ACTIVITY 3: To demonstrate a function which is not one-one but is onto.

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

PROJECT: Project on history of Mathematicians: It may include history of Indian mathematicians (any one) such as Aryabhata, Brahmgupta, Varahamihir, Sridhara, Bhaskaracharya, Ramanujan etc. Prepare a project file using a-4 size plane paper along with photo of Mathematician.

WORK SHEET (RELATIONS AND FUNCTIONS)
ASSIGNMENT (TO BE DONE IN MATHS NOTE BOOK)

Q1. Determine whether each of the following relations are reflexive, symmetric and transitive:

(i) Relation R in the set A = {1, 2, 3, ..., 13, 14} defined as

R = {(x, y) : 3x – y = 0}

(ii) Relation R in the set N of natural numbers defined as

R = {(x, y) : y = x + 5 and x < 4}

(iii) Relation R in the set A = {1, 2, 3, 4, 5, 6} as

R = {(x, y) : y is divisible by x}

(iv) Relation R in the set Z of all integers defined as

R = {(x, y) : x – y is an integer}

Q2. Check whether the relation R defined in the set {1, 2, 3, 4, 5, 6} as

R = {(a, b) : b = a + 1} is reflexive, symmetric or transitive.

Q3. Show that the relation R in R defined as R = {(a, b) : a $\leq$ b}, is reflexive and transitive but not symmetric.

Q4. Show that the Modulus Function f : R→R, given by f (x) = | x |, is neither one one nor onto, where | x | is x, if x is positive or 0 and | x | is – x, if x is negative.

FORMULA DIARY:

Purchase a pocket diary and write all the various formulas from all the chapters of the N.C.E.R.T. Textbook in this 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. Your performance in this test will significantly affect your final results.

HYPER LINKS FOR ONLINE RESOURCES: (CONTROL+ CLICK: TO FOLLOW THE LINK)
https://www.vedantu.com/cbse/important-questions-class-12-maths-chapter-1

https://www.topperlearning.com/cbse-class-12-science-mathematics/relations-and-functions

<div align="center">**SUBJECT: PHYSICAL EDUCATION**</div>

Prepare a Record File of any one game of your choice out of the list given below. Make a labeled diagram of the field and the equipments (Rules, Terminologies and Skills)

- Basketball
- Football
- Kabaddi
- Kho-Kho
- Volleyball
- Handball

- Hockey
- Cricket
- Bocce
- Unified Basketball [CWSN(Children with special Needs-Divyang)]

<div align="center">**SUBJECT: CHEMISTRY**</div>

➢ **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.**

Chromatography
(i) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of Rf values.
(ii) Separation of constituents present in an inorganic mixture containing two cations only. (constituents having large differences in Rf values to be provided).

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 $KMnO_4$ 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 : Pb^{2+}, Cu^{2+} As^{3+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Zn^{2+}, Cu^{2+}, Ni^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4
Anions: $(CO_3)^{2-}$, S^{2-}, $(SO_3)^{2-}$, $(NO_2)^-$, $(SO_4)^{2-}$, Cl^-, Br^-, I^-, $PO_3^- 4$, $(C_2O_4)^{2-}$, CH_3COO^-, NO_3
(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 onit.
- 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.