



SLS DAV PUBLIC SCHOOL, MAUSMA VIHAR, DELHI-110051
HOLIDAY HOME WORK 2015-2016
CLASS XI - SCIENCE

MATHEMATICS

(I) Revise Ist credit syllabus

Topic – Sets

MM - 30

Date :- 23.07.2015

(II) Do the following assignment in your class note - book Also paste the HHW assignment before doing it.

Q1. Write the following sets in the builder form :

- (i) the counting numbers which are multiples of 6 and less than 50.
- (ii) the fractions whose numerator is 1 and whose denominator is a counting number less than 10.
- (iii) the set of all positive integers whose cube is odd .
- (iv) $A = \left\{ \frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \dots, \frac{9}{10} \right\}$.
- (v) $B = \left\{ 1, \frac{1}{4}, \frac{1}{9}, \frac{1}{16}, \frac{1}{25}, \dots \right\}$.

Q2. Use the roster method to represent the following sets :

- (i) $\{ t : t^3 = t, t \in \mathbf{R} \}$
- (ii) $\{ x : \frac{x-2}{x+3} = 3, x \in \mathbf{R} \}$
- (iii) $\{ x : x^4 - 5x^2 + 6 = 0, x \in \mathbf{R} \}$
- (iv) $\{ x : x \in \mathbf{I}, -\frac{1}{2} < x < \frac{9}{2} \}$
- (v) $\{ x : x \in \mathbf{N} \text{ and } 4x - 3 \leq 15 \}$.
- (vi) $\{ x : x \in \mathbf{N}, x^2 < 40 \}$
- (vii) $\{ x : x \in \mathbf{Z} \text{ and } x^2 < 16 \}$

Q3. Two finite sets have m and k elements . If the total number of subsets of first set is 56 more than the total number of subsets of second set , then find the values of m and k .

Q4. Find the power set of A where

- (i) $A = \{ 0, \{ 0 \} \}$
- (ii) $A = \{ 1, \{ 2, 3 \} \}$.

Q5. Let $A = \{ x : x \text{ is a positive prime less than } 10 \}$ and $B = \{ x : x \in \mathbf{N} \text{ and } 0 < x - 2 \leq 6 \}$, then find

- (i) $A \cup B$
- (ii) $A \cap B$
- (iii) $A - B$
- (iv) $B - A$

Also verify that

(a) $n (A \cup B) = n (A) + n (B) - n (A \cap B)$

- (b) $n(A - B) = n(A \cup B) - n(B)$
 (c) $n(B - A) = n(B) - n(A \cap B)$.

Q6. On the real axis, if $A = [0, 3]$ and $B = [2, 6]$, then find the following :

- (i) A'
 (ii) B'
 (iii) $A \cup B$
 (iv) $A \cap B$
 (v) $A - B$
 (vi) $B - A$

Q7. In a class XI of a certain school, there are 20 students in a chemistry class and 30 students in a physics class. Find the number of students which are either in chemistry class or in physics class in the following cases :

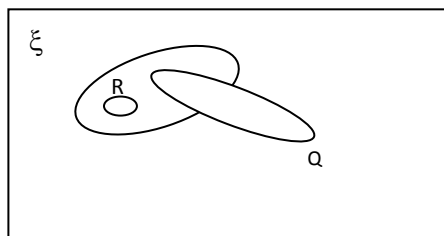
- (i) the two classes meet at the same hour.
 (ii) the two classes meet at different hours and 10 students study both the subjects .

Q8. In the adjacent Venn diagram, if $n(\xi) = 80$, $n(P) = 40$, $n(Q) = 28$, $n(P \cap Q) = 12$ and $n(P \cap R) = 10$,

(i) Mark the number of elements in each region.

(ii) determine the value of

$$n(P \cup Q) \text{ and } n((Q \cup R)')$$



Q9. There are 240 students in class XI of a school, 130 play cricket, 100 play football, 75 play volleyball, 30 of these play cricket and football, 25 play volleyball and cricket, 15 play football and volleyball. Also each student plays atleast one of the three games. How many students play all the three games ?

Q10. From 50 students taking examination in Mathematics, Physics and Chemistry, each of the student has passed in atleast one of the subjects, 37 passed Mathematics, 24 Physics and 43 Chemistry. Atmost 19 passed Mathematics and Physics, atmost 29 Mathematics and Chemistry and atmost 20 Physics and Chemistry. What is the largest possible number that could have passed in all the three subjects ?

(III) PROJECT WORK :-

Make a power point presentation on a Mathematics topic for project “DISCOVERY LEARNING”. Keep the following Points in mind while doing it .

1. Ppt. must be subject based (topic of XI, XII) or any Mathematics topic
2. “DISCOVERY LEARNING “ is in an initiative to discuss innovations in Mathematics / too take care of conceptual knowledge through peer teaching . You may select only a part of the chapter where children make errors or find difficult to understand.
3. The presentation shall be judged by subject teachers at class level in phase I
4. In phase II it would be judged by Panel of experts on the basis of content, Presentation, innovation, creativity, concept clarity.
5. Presentation must not exceed 4 – 5 min.
6. You may choose any other topic you wish to eg. Fibonacci series, Golden ratio etc

PHYSICS

- Prepare any five hands on activities based on any topic from physics and also prepare a report on it (word limit - 250)
 1. Energy and conservation
 2. Light
 3. Mechanics
 4. Simple harmonics and resonance

5. Heat and thermodynamics
6. Properties of matter

- Make a movie/presentation based on topic mention below

(In a group of 5 students)

1. Light (international year of light)
2. Energy
3. Universe
4. Big bang theory

*Watch any one movie/documentary based on physics and submit a report on your analysis/review on it within word limit of 250

*Revise 2nd chapter unit and measurement

CHEMISTRY

1. Complete the assignment given on “Environment Chemistry” in chemistry notebook.
2. Solve NCERT questions on “Some basic concepts in chemistry” in your chemistry note book

COMPUTER SCIENCE

Q1 Complete the C++ assignment in your notebook .

Q2 Make a beautiful and colourful chart on a full size thick cartridge sheet on one of the following topics:-

- a) Cyber security
- b) Impact of Social Media in Everyday life - Advantages and Disadvantages
- c) Internet Ethics
- d) E-business(e-reservation , e-banking , e-shopping) , E-learning , E-governance
- e) Various Wireless technologies (Bluetooth , Wifi , WIMAX etc)

BIOTECHNOLOGY

* Revise all the topics taught uptill now.

* Write brief notes on any 2 of the following. You can collect information and pictures from magazines and newspapers.

- (a) Stem cells give life
- (b) Fermentation—Technology of past and future.
- (c) Recombinant DNA Technology --- A boon to mankind.

* Activity:

Take 200 ml of boiled milk in 3 bowls A, B and C. Put a teaspoonful of curd in all of them. Stirr the contents of bowl A. Cover and keep it aside at room temp. for about 4-5 hours. Do not stir the contents of bowl B. Cover and keep it also aside at room temp. for about 4-5 hours. Stirr the contents of bowl C and keep it in refrigerator for about 4-5 hours. Record your observation for formation of curd in all the bowls. Why was curd not formed in bowl C ? Also observe the formation of whey after 2 hours in the bowl A. Write the importance of whey.

ENGLISH

Q. 1 A village pradhan is going to host a debate on “Honour Killing “. Considering yourself the pradhan motivate villagers to stop this and also highlight the factors responsible for such heinous crime

Q.2 Write an article for your school magazine on “ Drug Abuse and Its Prevention “ in 150-200 words .

Q.3 Write an article on “Waste Management and Disposal :The Need “ in 150-200 words .

Q. 4 Read News Paper daily and paste 10 advertisements of vacancy ,to-let ,sale –purchase from classified column in your note –book .

PSYCHOLOGY

Q1. Surf an internet or go the library and obtain names and pictures of famous psychologists those have worked in various areas. Prepare a brief outline of their field of work and contribution to the society. Few names for your reference are:

- 1) Sigmund Freud
- 2) Ivan Pavlov
- 3) John Watson
- 4) Alfred Binet
- 5) Abraham Maslow
- 6) Carl Roger or any other renowned psychologist

BIOLOGY

1. Prepare a Project on any latest topic related to Biology .It should include Case studies or pictures from news papers or Magazines or Reports from hospitals etc Some of the Topics are:-
 - (1) Ayurveda and its healing power.
 - (2) Any viral Disease its causal agent, symptoms and treatment available.
 - (3) G.I tract related Diseases, Diagnostic techniques and cure.Any other topic related to recent biological developments and advances can also be taken.
2. Project report should be preferably Hand written. it will be evaluated for 10 marks in Final Examinations and Viva in Half yearly will be based on your Projects.
Complete the given Assignment on Human Physiology (ch 16 to 18) in Biology note book.

ECONOMICS

- Watch Business news daily or read Business / Economic section of any newspaper and collect two business news on daily basis.
- Find out any two companies who are contributing in the development of society. Write a report and support it with pictures from newspaper.
- Draw a poster on any socio – economic challenge (i. e. Poverty , Unemployment etc)

MASS MEDIA

As Films play an important role in our lives and holds responsibility for a better society so as per syllabus students will do a movie review. They can select movie on their own and will do the review in detail as per the syllabus.

Also students have done how media functions and is important in Journalism and Screen Entertainment so they will file a report on the current issue will full format as per their syllabus.

FASHION STUDIES

ACTIVITY:1

1. Identify any one Indian and one International Designer who has both a main label and a prêt label.
2. Collect pictures from Fashion Magazines/ Internet of the designs under the respective labels.
3. Paste them on an A3 sheet. Write about 10 points of difference between the main label and Pret Label

ACTIVITY: 2

1. Visit the Shopping Malls around your area. Compare the window display of any two brands of similar merchandise. Report the same on A4 ruled sheets. Also paste pictures of your visit

DAV HAAT

Collect information and suitable pictures on the following topics on the country according to your roll number:

- (1) Geography and topography(1-5)
- (2) Major industries (6-10)
- (3)Climate and Living practices (11-15)
- (4) Music, dance and literature (16-20)
- (5) Foreign policies and relations (21- 25)
- (6) Culinary practices (25 onwards)