



# CLASS XI B HOLIDAY HOMEWORK

“A Vacation is having  
nothing to do and all  
day to do it in”





·SUBJECTIVE: 1. Read Poem "The Tale of the Melon City" and analyse the literary devices used in the poem.


2. Read the play "Mother's Day". After reading the play, frame your own questions and find the answers with the help of the text.

3. 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.

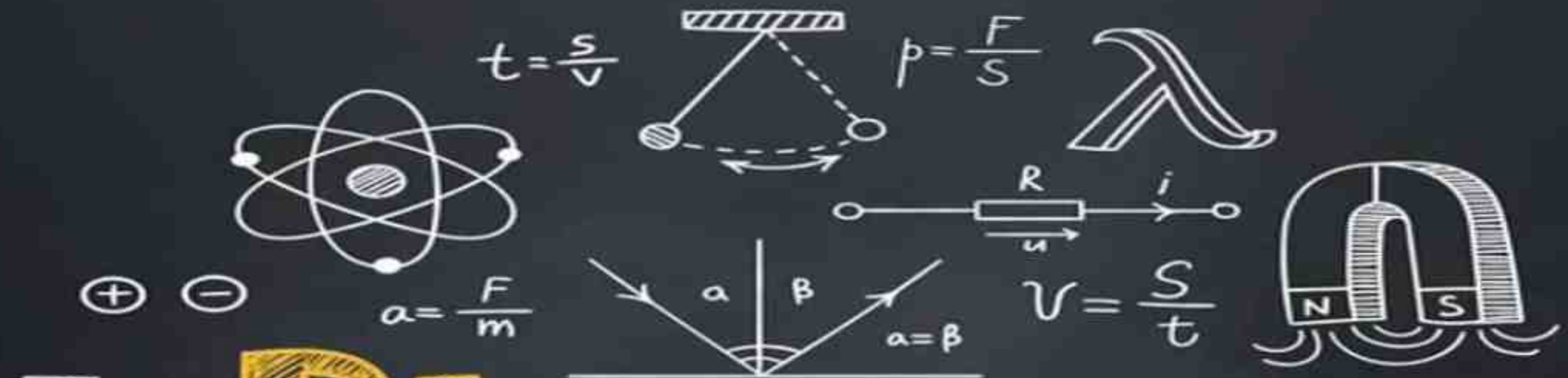
2. Watch a documentary on the life history of a great leader 'APJ Abdul Kalam'. We will enact role play in the upcoming event of our class.

ASTHETIC CORNER: 3. 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.

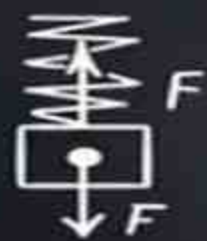


4. Mothers don't have holidays, not even on Sundays. On holidays their work gets doubled, in order to show some respect towards her dedication Help your mother in household chores and also learn to cook her signature dish.

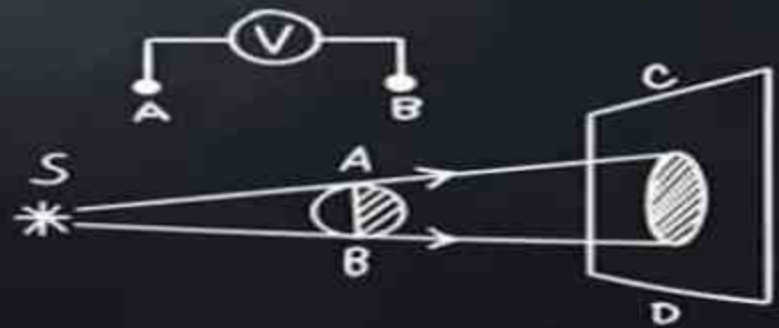
5. Family is the first school of every child and parents can give you the best advice which Google can't. Value your relations because you are blessed with them. Switch off your mobile after 7 pm everyday and spend quality time with your family. Discuss and share your feelings and thoughts with your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



# Physics



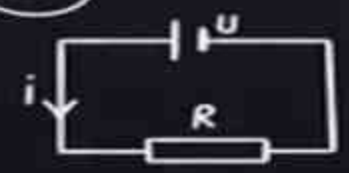
$$I = \frac{\mathcal{E}}{R+r}$$



$$I = \frac{U}{R}$$

$$E = mc^2$$

$$\lambda = vT$$



$$T = 2 \times \pi \sqrt{\frac{l}{g}}$$

1. Draw position-time graphs for two objects having zero relative velocity.
2. A ball is thrown vertically upwards. Draw its velocity-time curve.
3. A body traveling along a straight line traversed one total of the total distance with a total velocity  $4 \text{ ms}^{-1}$ . The remaining part of the total distance was covered with a velocity  $2 \text{ ms}^{-1}$  for half the time and with velocity  $6 \text{ ms}^{-1}$  for the other half of time. What is the mean velocity averaged over the whole time of motion? ( $4 \text{ ms}^{-1}$ )
4. A car traveled the first third of a distance  $x$  at a speed of  $10 \text{ km/h}$ , the second third at a speed of  $20 \text{ km/h}$  and the last third at a speed of  $60 \text{ km/h}$ . Determine the average speed of the car over the entire distance  $x$ . ( $18 \text{ km h}^{-1}$ )
5. A stone is dropped from a balloon at an altitude of  $300 \text{ m}$ . How long will the stone take to reach the ground if (i) the balloon is ascending with a velocity of  $5 \text{ ms}^{-1}$   
(ii) the balloon is descending with a velocity of  $5 \text{ ms}^{-1}$   
(iii) the balloon is stationary? ( $8.36\text{s}$  ;  $7.33\text{s}$  ;  $7.82\text{s}$ )
6. A particle moves along a straight line such that its displacement  $s$  at any time  $t$  is

given by  $s = t^3 - 6t^2 + 3t + 4$  meters. Find the velocity, when the acceleration is zero.  
(-9 ms<sup>-1</sup>)

7. A police jeep is chasing a culprit going on a motorbike. The motorbike crosses a turning at a speed of 72 kmh<sup>-1</sup>. The jeep follows it at a speed of 108 kmh<sup>-1</sup>, crossing the turning ten seconds later than the bike. Assuming that they travel at constant speeds, how far from the turning will the jeep catch up with the bike. (600m)

8. A body travels a distance of 20 m in the 7th second and 24 m in 9th second. How much distance shall it travel in the 15th second? (36 m)

9. A body falling from rest was observed to fall through 78.4 m in 2 seconds. Find how long had it been falling before it was observed? (3 sec)

10. A bird flies for 4s with a velocity of  $|t-2|$  m/s in a straight line, where  $t$  = time in second. What is the total distance covered by the bird? (4 m)

11. Two cars are moving in the same direction with the same speed of 30 km/h. They are separated by a distance of 4 km. What is the speed of a car moving in the



opposite direction if it meets these two cars at an interval of 5 minutes. (18km/h)

12. The relation between time  $t$  and distance  $x$  is  $t = \alpha x^2 + \beta x$  where  $\alpha$  and  $\beta$  are constants. Show that retardation is  $2\alpha v^3$ , where  $v$  is the instantaneous velocity.

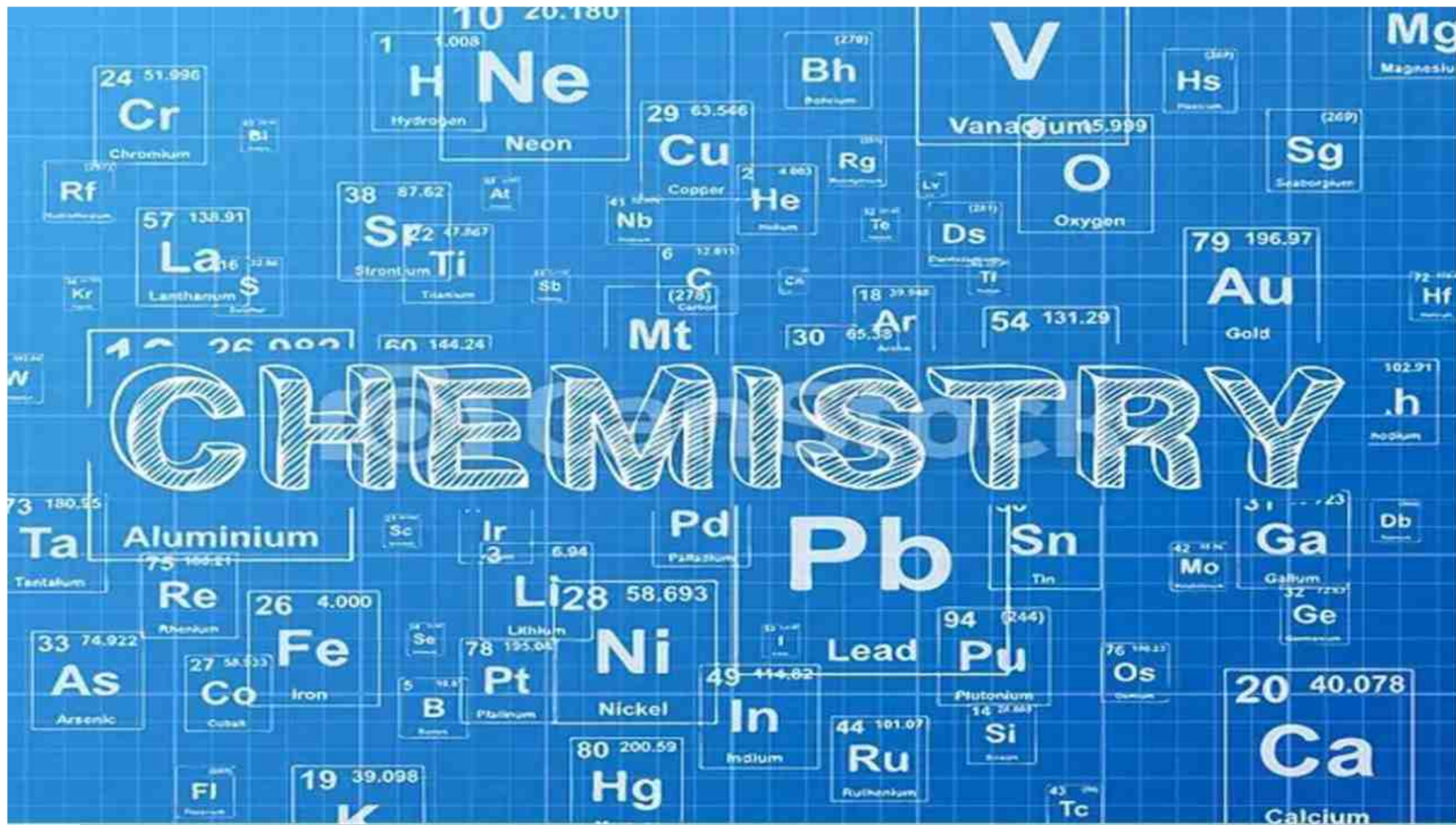
Prepare Practical files.

Write the experiments in practical notebook.

### SPECIAL INSTRUCTIONS

- Do not mention experiment number and date neither in the index page nor in the experiment page.
- Do not draw any diagram on the backside white page of last page of each experiment.
  - Draw well labelled diagrams, labelling should be on right hand side only.
- Submit the completed record and notebook soon after the school re-opens (on the day you have practical class).

# CHEMISTRY



## Chemistry (Assignment A)

Some basic concepts in Chemistry

Q1. What is meant by one gram atom of silver?

Q2. Which of these solutions have same molar concentration?

- a) 49g  $\text{H}_2\text{SO}_4$  per liter of solution
- b) 49g  $\text{H}_3\text{PO}_4$  per liter of solution
- c) 73g  $\text{HCl}$  per liter of solution
- d) 63g  $\text{HNO}_3$  per liter of solution

Q3. Write down the empirical formula of acetic acid ( $\text{CH}_3\text{COOH}$ )

Q4. How many moles of methane are required to produce 22g  $\text{CO}_2$  after combustion? Q5. A solution is prepared by adding 2g of a substance A to 18g of water. Calculate the mass percentage of the solute.

Q6. Calculate the mass of Sodium acetate ( $\text{CH}_3\text{COONa}$ ) required to make 500ml of

- a)  $\text{C}_9\text{H}_{18}\text{O}_9$
- b)  $\text{CH}_2\text{O}$
- c)  $\text{C}_6\text{H}_{12}\text{O}_6$
- d)  $\text{C}_2\text{H}_4\text{O}_2$

Q10. The reactant which is entirely consumed in reaction is known as limiting reagent.

In reaction  $2\text{A} + 4\text{B} \rightarrow 3\text{C} + 4\text{D}$ , when 5 moles of A react with 6 moles of B,  
then:

- a) Which is the limiting reagent?
- b) Calculate the amount of C formed.

(Assignment B)

Structure of atom

Q1 Calculate the total number of electrons present in one mole of methane.

Q2 What is the number of photons of light with a wavelength of 4000pm that provide 1J of energy?

Q4 Define the following terms:

- I. Black body radiation
- II. Photo electric effect
- III. Threshold frequency
- IV. Work function

(Assignment C) Project based

To inculcate scientific temperament and for understanding the conceptual knowledge of chemistry, students have to prepare a GLOSSARY OF CHEMISTRY. Add relevant pictures,

diagrams and related to these discoveries. Use A-4 size sheets and write in neat handwriting.

Glossary must comprise of 10 Chemistry terms (with their definitions) of each alphabet including Laws, formulas, principles and micro scale chemistry apparatus. Follow the given headings in the project:

a) INTRODUCTORY PAGE

b) CERTIFICATE

c) ACKNOWLEDGEMENT

d) INDEX/CONTENTS

e) INTRODUCTION

f) AIM g) OBSERVATIONS

h) RESULT

i) CONCLUSION

The image features a dark, almost black, wavy shape that dominates the lower two-thirds of the frame. Above this shape, there is a horizontal band with a color gradient from yellow on the left to cyan on the right. The text 'j) BIBLIOGRAPHY' is positioned in the upper left area, overlapping the dark shape and the gradient band.

j) BIBLIOGRAPHY

Biology





Q1. Make a short presentation on biological Classification.

Q2. International Code of Botanical Nomenclature (ICBN) has provided a code for classification of plants. Give hierarchy of units of classification botanists follow while classifying plants and mention different "Suffixes" used for the units.

Q3: Learn and write 10 Botanical names and 10 Zoological names of plants and animals found in your surroundings along with their common name.

Q4: Draw well labeled diagram of

a) Female phallus of liverworts.

b) Male phallus of liverworts.

Q5: Give the summarized account of photosynthetic pigments, storage material and complexity of structure in different groups of algae.

Q6: Draw a neat and clean well-labeled life cycle of an angiosperm, using innovative methods.

Q7: Justify that Lichens are the pioneer organisms?


**Q8:** Which alga is popularly called “devils apron” and why? Give a detailed account of the alga in support to your answer.

**Q9:** Give reason for the followings:

- a) Growth & Reproduction cannot be the defining property of the living organisms.
- b) Organisms belonging to same 'class' will have more features in common in comparison to organisms belonging to same order but two different classes.
- c) Museum cannot be the taxonomical aid to study the habitat of the organism.
- d) Two kingdom classification was replaced by the five kingdom classification.
- e) Arachae bacteria are able to survive in extreme environmental conditions like hot sulphur springs.

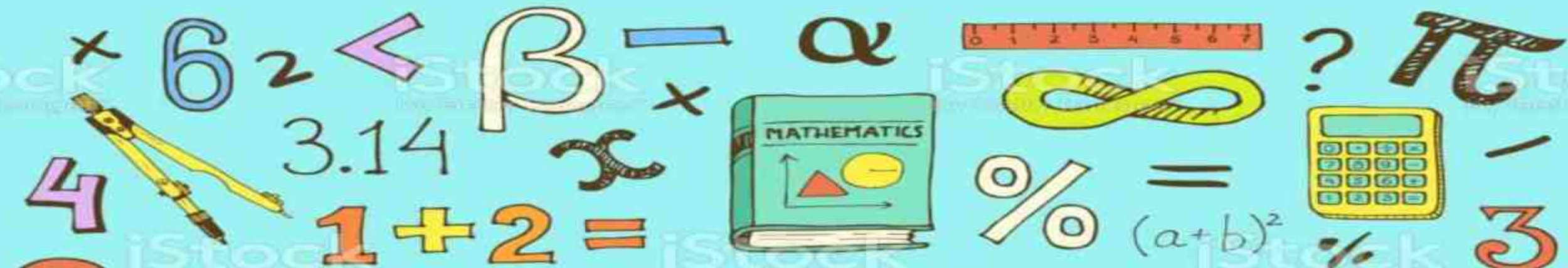
**Q10:** Differentiate between the followings:

- a) Photosynthetic autotrophs and chemosynthetic autotrophs.
- d) Spirilla&Cocci

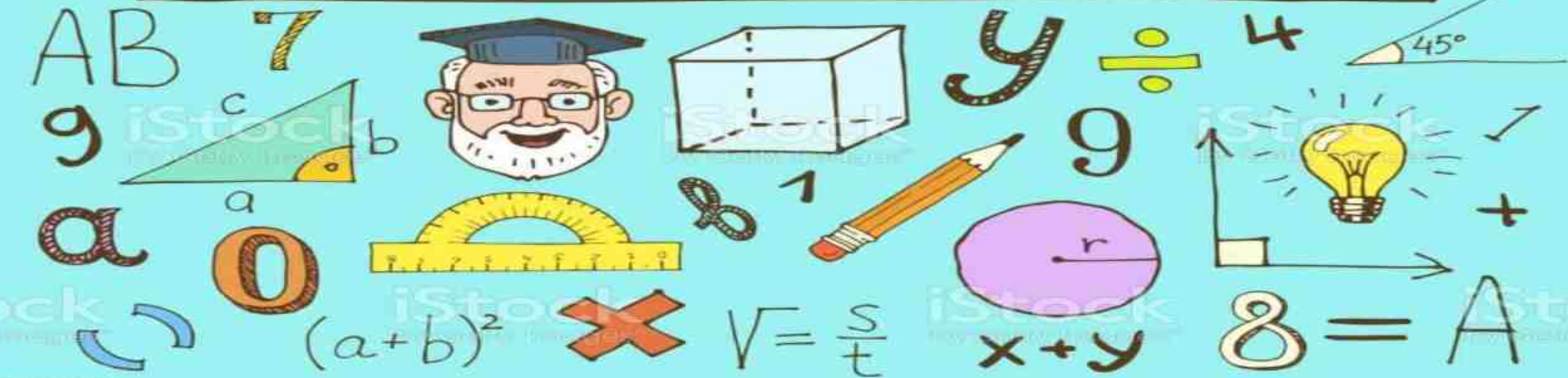


❖ Do self study of the chapters “Morphology of flowering plants”. Consult your text book for this chapter.

Study material for these chapters will also be provided to you. Test of this chapter will be conducted after summer vacations.



# MATHS



Subject- Mathematics

Chapter -1 (set Theory)

1. Which of the following are sets? Justify your answer.

The collection of all the months of a year beginning with letter M

2. Write the set  $B = \{3, 9, 27, 81\}$  in set-builder form.

3. Write down all the subsets of the set  $\{1, 2, 3\}$ .

4. Are the following pair of sets equal? Give reasons

A, the set of letters in "ALLOY" and B, the set of letters in "LOYAL".

5. Given,  $X = \{a, b, c, d\}$  and  $Y = \{f, b, d, g\}$ , determine the final value of  $X - Y$  and  $Y - X$ .

6. Given sets are  $A = \{a, b\}$ , and  $B = \{a, b, c\}$ . Is  $A \subset B$ ? Find  $A \cup B$ .

7. If  $U = \{x : x \in \mathbb{N}, x \leq 9\}$ ,  $A = \{x : x \text{ is an even number}, 0 < x < 10\}$ , and  $B = \{2, 3, 5, 7\}$ , what will be the Set  $(A \cup B)$ ?

8. If  $A = \{3, 5, 7, 9, 10\}$ ,  $B = \{7, 9, 10, 13\}$ , and  $C = \{10, 13, 15\}$ . Find  $(A \cap B) \cap (B \cup C)$ .

9. Represent the given sets in the Roster Form.

(i)  $A = \{x \mid x \text{ is a positive integer which is less than } 10 \text{ and } 2^x - 1 \text{ is an odd number}\}$

(ii)  $B = \{x : x^2 + 7x - 8 = 0, x \in \mathbb{R}\}$

### Chapter -2 (Relation and Functions)

1. Express the function  $f: A \rightarrow \mathbb{R}$ ,  $f(x) = x^2 - 1$ , where  $A = \{-4, 0, 1, 4\}$  as a set of ordered pairs.

2. Assume that  $A = \{1, 2, 3, \dots, 14\}$ . Define a relation  $R$  from  $A$  to  $A$  by  $R = \{(x, y) : 3x - y = 0, \text{ such that } x, y \in A\}$ . Determine and write down its range, domain, and codomain.

3. Let  $f(x) = x^2$  and  $g(x) = 2x + 1$  be two real functions. Find

$(f + g)(x)$ ,  $(f - g)(x)$ ,  $(fg)(x)$ ,  $(f/g)(x)$

4. Redefine the function:  $f(x) = |x - 1| - |x + 6|$ . Write its domain also.

5. Find the domain and range of the real function  $f(x) = x/1+x^2$ .

6. Let  $A = \{1, 2, 3\}$ ,  $B = \{4\}$  and  $C = \{5\}$

o (i) Verify that:  $A \times (B - C) = (A \times B) - (A \times C)$

o (ii) Find  $(A \times B) \cap (A \times C)$ .

Find  $x$  and  $y$  if: (i)  $(4x + 3, y) = (3x + 5, -2)$  (ii)  $(x - y, x + y) = (6, 10)$

7. Find the domain for which the functions  $f(x) = 2x^2 - 1$  and  $g(x) = 1 - 3x$  and check whether they are equal.

8. Find the domain and range of the real function  $f(x) = 1/(1 - x^2)$ .

9. A relation  $R$  is defined from a set  $A = \{2, 3, 4, 7\}$  to a set  $B = \{3, 6, 9, 0\}$  as follows  $R = \{(x, y) \in R : x \text{ is relatively prime to } y; x \in A, y \in B\}$ . Express  $R$  as a set of ordered pairs and determine the domain and range.

10. Draw the graph of the function  $f: R \rightarrow R$  defined by  $f(x) = x^3, x \in R$

11. If  $R_3 = \{(x, x) \mid x \text{ is a real number}\}$  is a relation, then find the domain and range of  $R_3$ .

12. Redefine the function  $f(x) = |x - 2| + |2 + x|, -3 \leq x \leq 3$ .

13. In each of the following cases, find  $a$  and  $b$ .

(i)  $(2a + b, a - b) = (8, 3)$

(ii)  $\{a/4, a - 2b\} = (0, 6 + b)$

14. If  $R_1 = \{(x, y) \mid y = 2x + 7, \text{ where } x \in R \text{ and } -5 \leq x \leq 5\}$  is a relation. Then find the domain and range of  $R_1$ .

15. Let  $f$  and  $g$  be real functions defined by  $f(x) = 2x + 1$  and  $g(x) = 4x - 7$ .

(i) For what real numbers  $x$ ,  $f(x) = g(x)$ ?

(ii) For what real numbers  $x$ ,  $f(x) < g(x)$ ?

16. The ordered pair  $(5, 2)$  belongs to the relation  $R = \{(x, y): y = x - 5, x, y \in \mathbb{Z}\}$

### CHAPTER 3 TRIGONOMETRIC FUNCTIONS

1. If  $\theta$  lies in the first quadrant and  $\cos \theta = 8/17$ , then find the value of  $\cos(30^\circ + \theta) + \cos(45^\circ - \theta) + \cos(120^\circ - \theta)$ .

2. Prove that:

$$(\cos x + \cos y)^2 + (\sin x - \sin y)^2 = 4 \cos^2 \frac{x+y}{2}$$

3. Prove that  $\cot 4x (\sin 5x + \sin 3x) = \cot x (\sin 5x - \sin 3x)$ .

4. In triangle ABC, prove that:

$$\tan \frac{B-C}{2} = \frac{b-c}{b+c} \cot \frac{A}{2}$$



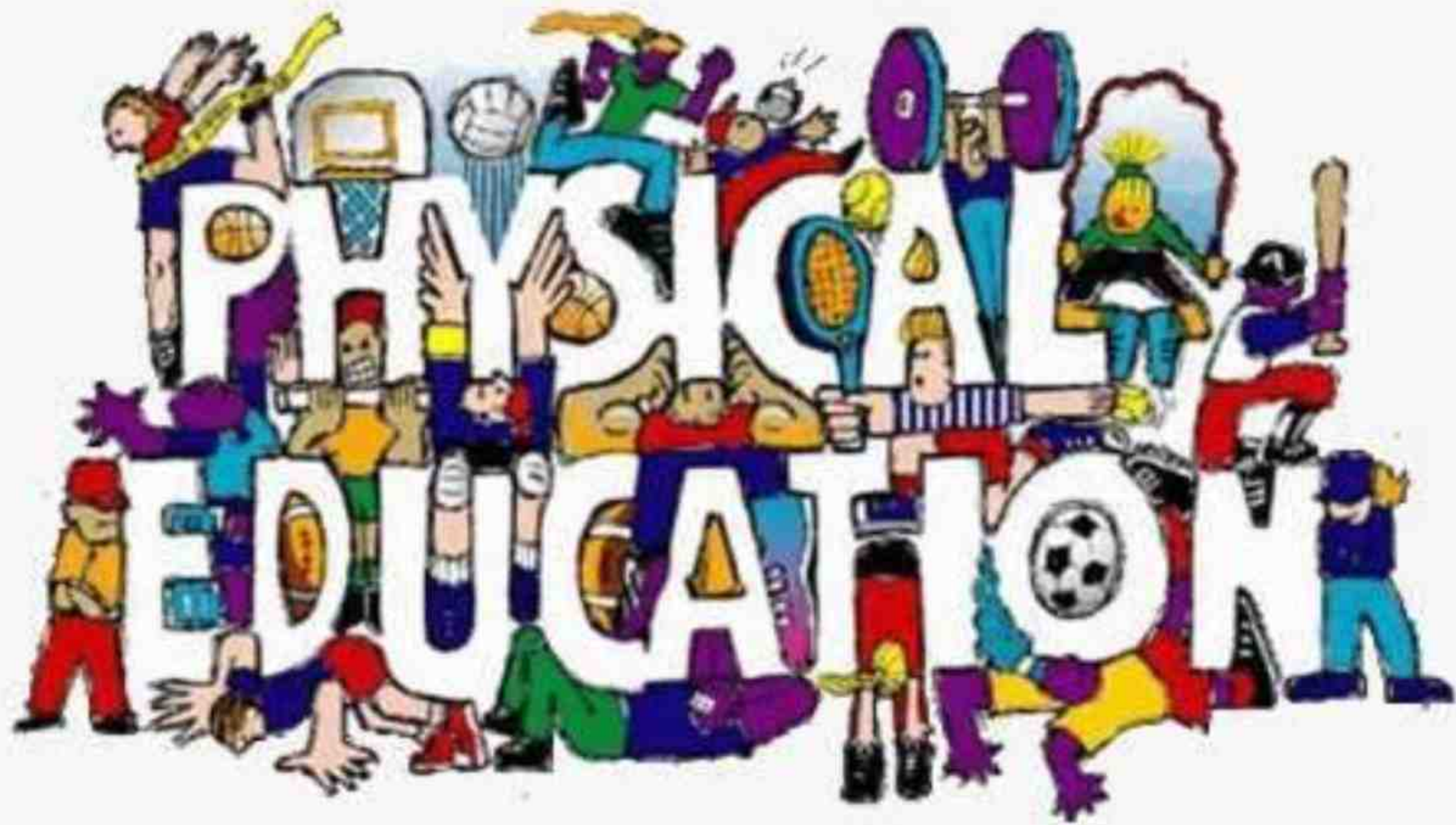
5. In any triangle, ABC, show that:

$$\sin^2 \frac{A}{2} + \sin^2 \frac{B}{2} + \sin^2 \frac{C}{2} = 1 - 2\sin \frac{A}{2} \sin \frac{B}{2} \sin \frac{C}{2}$$

6. Find the value of  $\tan 225^\circ \cot 405^\circ + \tan 765^\circ \cot 675^\circ$ .

7. If  $a \cos 2\theta + b \sin 2\theta = c$  has  $\alpha$  and  $\beta$  as its roots, then prove that  $\tan \alpha + \tan \beta = 2b/(a + c)$ .

8. Find the most general value of  $\theta$  satisfying the equation  $\tan \theta = -1$  and  $\cos \theta = 1/\sqrt{2}$





1. Revise the chapter 1 to 3rd.

2. Make note book of different asanas and write their benefits (project for internal marks).

3. Do yoga and exercise daily at home at least 30 min. Daily to stay fit and healthy.

**psychology**

behavior cognition mental health health emotions psychological depression neuroimaging managing cognitive neurons central nervous system cases therapeutic systems behavioural problems factors insufficient diagnosis problem solving genetic origin primary rigidity psychological personality doctor pills advanced stages slowness biology environment treatment people different pathological clinical clinical protein mood separate represent complex dementia affected abnormal classified generally dopamine drugs inclusions clinical philosophies ineffective psychology expression well-being mental social diet movement-related related cope emotional brain degenerative disorder tests mind effective pathological positive attribute cognitive difficulties surgery movements severe cases families wellness absence rehabilitation treatment evidence motor symptoms increased risk awareness directions characterized subtypes clinical symptoms instability acquired against neurons defined course individual syndrome disease clinical

### Project Work (30Marks)

Conduct a study in which you see the effect of recitation on learning of poetry take the six or seven years old children and divide them into two groups

1.GroupA

2.Group B

\*Give Group A new poem to learn and instruct them to read it loudly for 15 minutes.

\*Give Group B the same poem to learn but instruct them not to read it loudly for 15 minutes.

\* After 15 minutes ask two groups to recall. Take care to see that both the groups are dealt with separately. After the recall has taken place, note down the observation.

Now identify

1.what method of research you used?

2. The hypothesis ,the variables and kind of experimental design that were there .

**Note:** Make a proper file of research work with photographs and details of your research and submit it after summer vacations for the practical evaluation of **Term one**.



Lippan Art: A traditional mural craft of Kutch, Gujarat, India.

Pot Painting: Traditional folklore design flower pot painting

## COMPUTER

Prepare a seminar on Emerging Trends i.e. Artificial Intelligence, Big data, Internet of Things, Cloud Computing and Block chains.



# Happy Summer Holidays.

Enjoy the summer  
with your close ones.

