Ch-6 Topic (Rocks)

Home Assignments.....

1) What is a rock? How is it formed?
2) What are minerals?
3) Distinguish between Rocks and Minerals.
4) Name and define the chief types of rocks.
5) What is meant by igneous rocks? How are they formed?

(To be continued next class....)

Ch-5 Topic (Maritime zones)

Home Assignments...

1) What are the maritime zones?
2) How do you determine maritime boundaries?
3) What do you mean by EEZ?
4) Why is EEZ important?
5) What is contiguous zone?

.....(To be continued next class....)

Class9 (History)

Class : Friday

(Chapter-Fundamental Rights)

The fundamental rights are divided into six groups & have distinct features. They are as follows:

a) Rights are available to all whereas some rights are available to citizens alone.(personal liberty to all, freedom of speech to citizens only)
b) The rights protect individuals against State action as well as against the actions of some Private Citizens-(persons practicing untouchability)
c) Rights are not absolute necessary restrictions are being provided.
d) Rights during the time of emergencies remains suspended
e) The term 'State'(in relation to Fundamental Rights)includes all authorities within the territory of India.
f) The rights can be curtailed or changed through constitutional amendments.

Questions:

a) Discuss the features of fundamental rights
b) State any three fundamental rights enjoyed by us.

Class IX

তোমার আপনার
চিত্তভূতি দূরণ প্রশ্নাবলী-
(চলচ্চিত্র)

* "মতাদের জীবনেও একটা একটি সময়া সময়ের অনুসারিতাকার
আছে বলে"—

i) মতাদ কে ?

ii) তোমা কোখাই প্রবলাই- কাজ হয়েছে?

iii) অনুসারিত আলাদা বিষয়ন দাও ।

iv) মতাদ রায়মত মুখ্যেম কাজ থেকে যে চিঠি লোখিলা,তা
তি লোখা হইল ?

(উত্তর)

i) চিত্তভূতি দূরণ প্রশ্নাপনের লেখক 'তোমার আপনার' উপন্যাসের
মুখ্য চরিত্র হল মতাদ। সে সময়ে পাশ লোখে, মতাদ
অন্য আপনার সাথ অন্ত, রূপরে আপনাতে মুখ, বিভাগ
দাগতে তাদ হয়তে মাঝে হয়গতিবি বইল তা তা।

ii) মতাদের জীবনেও কোনো একটা সময়- এমন এমেলা যা
তার দেখে বিভাগ এতে তার লা বেসেই- উঠিয়ে দায়,
সেই প্রেমে এর উত্তির।

iii) অনুসারিত আলাদাই হল তোমারাকুর অরিলোন কারীর দাস
সুবেদম, তার- রায়মত মুখ্যোর জানাই- কারীর মিদা
আমিরীর তুলাতামতে তাদের লেখে। এমাপ যে রায়মিতি
যে মতাদে অরিছানাস দিলা দেত আপা। সেই রায়মত
মুখ্যোর জানাই-রা লয় মোদ আমিহন পরম আপুনান
আপা যা মতাদে লেখ অনুসারিত বিল। এইতু, দিয়ে
মতাদ সংলা বিভাগদা তিত এজনই আমিহন পরম পাতা
লোম মতাদ পলকাতাই আসামিত হয় ।

iv) চিটিটা আমিহনত উদ্দেশমা লেখে লেখা, মতাদ রায়মত
মুখ্যোর তারাদেতের লয় তেদে যে চিঠি লোখিলা তার্ত
লেখা বিল যে তিনি মতাদ রেলোন লেখা চিত দোসায়োধ, মতাদের
তার যুগ- আর আপা, এখনই তোমা মতাদ লাগে দেখেয়দোধ
দেখো তোমাদিগা, মতাদের আমিহন সামা মধুবে তিনি
আপাত- কালযেয়ন, তা মাল বিলাতমইই হোলোদাই তা
দারিতে তা যায় লয় মত তারদাতী আপা যা কোন
আমিহানে তালা আপা, তাত তাত তুমিয়া দেখা লা
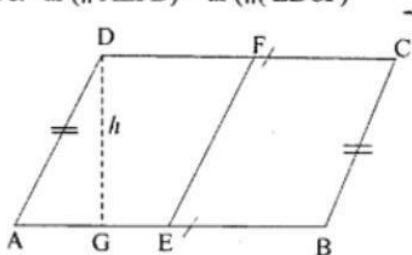আমহানা বাহুলালিতাম।

Question 1.
Prove that the line segment joining the mid-points of a pair of opposite sides of a parallelogram divides it into two equal parallelograms.
Solution:

Given. ABCD is a parallelogram in which E and F are mid-points of AB and CD respectively. Joining EF.

To prove. ar ($\parallel$ AEFD) = ar ($\parallel$(EBCF)

Construction. DG $\perp$ AG and let DG = h i.e. h is the Altitude on side AB.

Proof. ar ($\parallel$ ABCD) = AB $\times$ h

ar ($\parallel$ AEFD) = AE $\times$ h = $\dfrac{1}{2}$ AB $\times$ h ..... (1)

$\qquad\qquad$ ($\because$ E is the mid-point of AB)

ar ($\parallel$ EBCF) = EF $\times$ h = $\dfrac{1}{2}$ AB $\times$ h ..... (2)

$\qquad\qquad$ ($\because$ E is the mid-point of AB)

From (1) and (2)
ar ($\parallel$ gm ABFD) = ar ($\parallel$ EBCF)

Hence, the line segment joining the mid-points of a pair of opposite sides of a parallelogram divides it into two equal parallelograms.   **(Q.E.D.)**
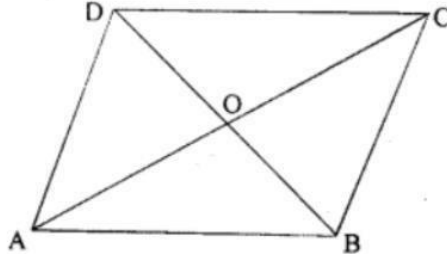
Question 2.
Prove that the diagonals of a parallelogram divide it into four triangles of equal area.
Solution:

Given. In parallelogram ABCD the diagonals AC and BD are cut at point O.

To prove. $ar\,(\triangle AOB) = ar\,(\triangle BOC) = ar\,(\triangle COD) = ar\,(\triangle AOD)$

Proof. We know that

In parallelogram ABCD the diagonals are bisecting each other.

$\therefore$ $AO = OC$

In $\triangle ACD$, O is the mid-point of AC.

$\therefore$ DO is median

$\therefore$ $ar\,(\triangle AOD) = ar\,(COD)$ ..... (1)

[Median of a triangle divides it into two triangles of equal areas]

Similarly, in $\triangle ABC$

$ar\,(\triangle AOB) = ar\,(\triangle COB)$ ..... (2)

In $\triangle ADB$

$ar\,(\triangle AOD) = ar\,(\triangle AOB)$ ..... (3)

and in $\triangle CDB$

$ar\,(\triangle COD) = ar\,(\triangle COB)$ ..... (4)

From (1) , (2), (3) and (4)

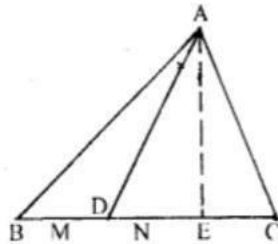$ar\,(\triangle AOB) = ar\,(\triangle BOC) = ar\,(\triangle COD) = ar\,(\triangle AOD)$

Hence, diagonals of a parallelogram divide it into four triangles of equal Area.   **(Q.E.D.)**

Any point D is taken on the side BC of, a △ ABC and AD is produced to E such that AD=DE, prove that area of △ BCE = area of △ ABC.

Solution:

    Given. In △ ABC, D is taken on the side BC.
AD produced to E such that AD = DE.

To prove. Area of △ BCE = area of △ ABC

Proof. In △ ABE,

AD = DE   (Given)

∴   BD is a median of △ ABE

⇒ $ar(\triangle ABD) = ar(\triangle BED)$ .....(1)

[median divides a triangle into two triangles of equal area]

Similarly, in △ ACE

CD is median of △ ACE.

⇒ $ar(\triangle ACD) = ar(\triangle CED)$ ..... (2)

Adding (1) and (2),

$ar(\triangle ABD) + ar(\triangle ACD) = ar(BED) + ar(\triangle CED)$

or, $ar(\triangle ABC) = ar(\triangle BCE)$

Hence, area of △ BCE = area of △ ABC. **(Q.E.D.)**

Home work Q1.

(a) In the figure (1) given below, the point D divides the side BC of △ABC in the ratio m : n. Prove that area of △ ABD: area of △ ADC = m : n.

(b) In the figure (2) given below, P is a point on the sidoBC of △ABC such that PC = 2BP, and Q is a point on AP such that QA = 5 PQ, find area of △AQC : area of △ABC.

(c) In the figure (3) given below, AD is a median of △ABC and P is a point in AC such that area of △ADP : area of AABD = 2:3. Find

(i) AP : PC (ii) area of △PDC : area of △ABC.

Q2.

(a) In the figure (1) given below, the perimeter of parallelogram is 42 cm. Calculate the lengths of the sides of the parallelogram.

(b) In the figure (2) given below, the perimeter of △ ABC is 37 cm. If the lengths of the altitudes AM, BN and CL are 5x, 6x, and 4x respectively, Calculate the lengths of the sides of △ABC.

(c) In the fig. (3) given below, ABCD is a parallelogram. P is a point on DC such that area of △DAP = 25 cm² and area of △BCP = 15 cm². Find

(i) area of ‖ gm ABCD

(ii) DP : PC.

Class --- 9   assign. 2.5.2020

पाठ ---   काकी

Q 2) " श्यामू गम्भीर हो गया । मतलब यह कि बात लाख रुपये की सुझाई गई है । "

क)   श्यामू को किसने कब और क्या बात सुझाई ?

उत्तर- श्यामू और भोला हमउम्र साथी है ।जब श्यामू ने पतंग को आसमान में उड़ाकर अपनी काकी को नीचे लाने की योजना भोला को बताई तब उसने उसे सुझाव दिया कि पतंग में मोटी रस्सी होती ठीक होता नही तो डोर के टूट जाने का डर है ।

ख)   उसकी बात सुनकर श्यामू क्यो गंभीर हो गया ?

उत्तर -   श्यामू को भोला का सुझाव अच्छा लगा लेकिन उसे चिन्ता थी कि मोटी रस्सी कैसे मंगवाई जाय, पतंग के लिए मोटी डोर मंगवाने के लिए पैसे नही थे और उसे अपने घरवालों से कोई उम्मीद नही थी इसलिए वह भोला की बात सुनकर गम्भीर हो गया ।

ग)   भोला श्यामू से अधिक समझदार था स्पष्ट करें ।

उत्तर-   भोला सुखिया दासी का पुत्र था और श्यामू का समवयस्क साथी था ।एक दिन जब श्यामू आसमान में उड़ती पतंग देखा तो उसके मन मे विचार आया कि क्यों न वो भी एक पतंग ऊपर भेज कर अपनी काकी को नीचे बुला ले ।यह बात जब उसने अपने मित्र भोला से बोला तो उसने सुझाव देते हुए कहा कि यह डोर तो बहुत पतली है ,इसके सहारे काकी नीचे कैसे आ पाएगी ? डोर टूटने का खतरा है। यदि पतंग मर मोटी रस्सी की डोर बांध दी जाय तो काकी मोटी रस्सी को पकड़ कर आसानी से राम के यहाँ से नीचे आ जाएगी।भोला के इस कथन से ज्ञात होता है कि वह श्यामू से अधिक समझदार है ।

घ)   इस प्रसंग के आधार पर बालमनोविज्ञान का
   विश्लेषण करें ।

उत्तर -   काकी कहानी के माध्यम से यह दर्शाया गया है कि बालको के जीवन मे उनकी माँ का महत्वपूर्ण स्थान होता है ।बच्चे बहुत भोले - भाले तथा नासमझ होते है वे मातृ वियोग की पीड़ा सहन करने में असमर्थ होते है । वे किसी भी बात को गहराई से नही समझ पाते है ,इसलिए जब श्यामू आसमान में उड़ती पतंग देखता है तो अपने बालमन में कल्पना कर लेता है कि वह भी तो एक पतंग के सहारे अपनी काकी (माँ) को नीचे उतार सकता है ।वह अपनी बाल- सुलभ प्रवृत्ति के कारण पैसे के लिये चिंतित हो जाता है और दूसरे दिन अपने पिता के कोट की जेब से पैसे निकाल कर पतंग मंगवाता है । इससे स्पष्ट होता है कि बच्चे कोमल हृदयी और सर्वेंदनशील होते है ।

Date:2nd May,2020

Chemistry Class 9

Chapter 3: water(soft and hard water)

- Water is said to be hard if it do not readily forms lather with soap.Hardness of water is caused by dissolved bicarbonate,chlorides or sulphates of calcium or magnesium.

- In some limestone caves some conical pillar like objects are seen hanging from the roof and some riding from the floor.These are formed by water dropping from the cracks in the rocks containing dissolved bicarbonate.Release of pressure inside caves causes conversion of bicarbonates into carbonate.This carbonate little by little gets deposited to form stalactites(ones which grows upwards)and stalagmites(once growing from the floor)
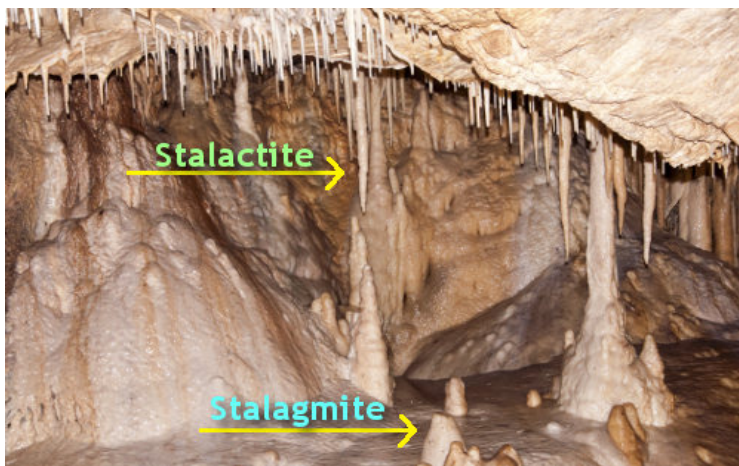

- .**Softwater** easily forms lather with soap.Pure water containing sodium salts easily form lather thus they are soft water.

- Types of Hardness:temporary Hardness wherein water contains only bicarbonates of calcium and magnesium as Hardness can be removed by boiling.Water containing sulphates and chlorides of Mg and Ca is permanent hard water.

- **Advantages of hard water:Dis**solved salts provide taste to water and is also used for the preparation of beverages and wines.Ca and Mg present in water is essential for the growth of our bones and teeth.Hard water checks the poisoning of water by lead pipes. $CaSO_4$ present in hard water forms insoluble lead sulphate in the form of layer in pipes and thus checks lead poisoning.

- **Disadvantage of hard water:H**ard water not suitable for producing steam.S team is made in boilers which contain narrow Cu tubes,dissoved minerals forms a layer in them thus damaging machines.The furring of tea kettle is also caused by sediment formed on

the walls from boiling hard water.Hard water is also unfit for washing purposes.For washing soap is used which are basically sodium salt of stearic acid.If water is hard Ca and Mg ions of water combine with negative ions of soap to form slimy precipitate of insoluble Ca and Mg,known as soapy curd.So synthetic detergent are used with hard water in place of soap.They ate made by sulphonating some higher alkenes with sulphuric acid and then converting them into sodium salts.Detergents ate more soluble in hardwater than soaps and are unaffected by Ca and Mg salts in it.

- **Cleansing action of soap and detergents:**When these are dissolved in water the molecules cluster as micelles.Their tail stick inward and head outwards.In cleansing hydrocarbon tail attached with the dirt.When water is stirred oily dirt lifts off to dissociate into fragments.The solution now contain small globules of oil surrounded by detergent molecules.The negative charged head present in water prevent the globule to form aggregates and coming together.Thus oily dirt id removed.

Representation of a soap molecule.

Cleansing action of soap

-

- **Removal of Hardness:**Hardness can be removed by. I) boiling which help in the release of CO2 and conversion of bicarbonates into insoluble carbonates which can be removed by filtration.ii) Clark's process where lime is added into hard water due to which most of the calcium carbonates settles down.iii) By addition of washing soda.When it is added the corresponding insoluble carbonates settles down which is removed by filtration.iv) I

- If Hardness is both permanent and temporary then permutit process is used.Permutit is an artificial zeolite.A tall cylinder is fitted with lumpsvof permutit and hard water passes through it which removes the bicarbonates to release soft water.

NaCl solution inlet → ... ← Hard water

Zeolite

Waste line → ... ← Soft water
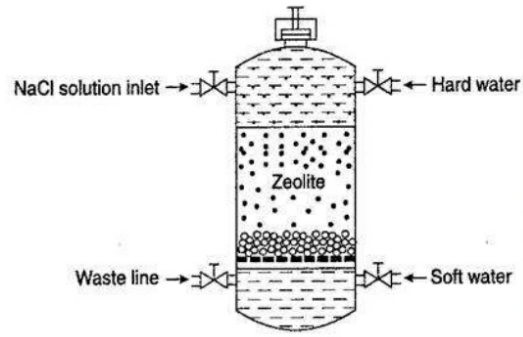
ASSIGNMENT

1. Differentiate between hard and soft water

2. Give 2 advantages of hard water

3. What is the disadvantage of hard water

4. Why soaps cannot be used with hard water.Why is detergent preferred

5. Describe the cleansing action of soaps with diagram

6. Give 2 methods of removal of Hardness

DATE-2nd May 2020

TRANSFORMATION OF SENTENCE
REPORTED SPEECH- NARRATION CHANGE

The art of reporting a speech is called 'Narration'
There are two ways of reporting the words of a speaker.

1. Direct speech.

2. Indirect speech.

In term of direct speech, the rules of grammar are as follows.

There are four basic things that have to be changed while converting a Direct speech to an Indirect speech.

- To change the reporting verb according to the reported speech.

- To remove the inverted comma's from the direct speech and replace them with an appropriate conjunction.

- To change the pronoun of reported speech accordingly.

- Change the adverbs of the Direct Speech.

Active - Rajiv said to me," I shall go to the picture today"

Passive - Rajiv told me that he would go to the picture that day.

- ❖ In the above example

Reporting verb *said to* is changed into *told.*

Inverted Commas are replaced by the conjunction *that*

Reported speech's pronoun *I* is changed into *He.*

Reported speech's verb *shall go* is changed into *would go.*

As another change *today* is changed with the word *that day.*
    There are few exceptions while changing the narration from direct to indirect.

- ❖ If the reporting speech has got a universal truth or scientific fact or habitual truth, then there is no change in the tense.

- ❖ If the reporting speech has a past historical fact, then there is no change in the tense.

- ❖ If the reported speech has two actions to be happening at a time with the use of adverb 'when', then there is no change in the tense.

- ❖ If Reporting speech has some Imagined Condition then there is no change in the Tense.

❖ If Reporting speech contains had third form, to-infinitive and would, could, should, must, might, ought to etc. then there is no change in the Tense.

1. Change the following sentences from direct to indirect speech.
    i.   He said, "I like this song." (B: He said that…)
    ii.   "Where is your sister?", she asked me. (B: She asked me…)
    iii.   "I don't speak Italian," she said. (B: She said…)
    iv.   "Say hello to Jim", they said. (B: They asked me…)
    v.   "The film began at seven o' clock", he said. (B: He said that…)
    vi.   She said to me, "Obey your elders." (B: She told me…)
    vii.   She said, "If I were rich, I would help him." (B: She said that…)
    viii. He said, "My mother was making lunch, when I was studying." (B: He said that…)
    ix.   Our teacher said, "Ashoka left war after he had conquered Kalinga." (B: Our teacher)
    x.   Rajiv said to me, "He plays with the right hand." (B: Rajiv told me…)