

ASSIGNMENT 3

SUBJECT : ENGLISH: CLASS VIII

UNIT 1-LESSON 1 : FOOTLOOSE IN AGRA

Section 1
Footloose in Agra ▶

A travelogue is a piece of writing about travel. Ruskin Bond, who needs no introduction to young readers, describes his visit to the historically-famed city of Agra in the following text. 'Footloose in Agra' is an excerpt from a journal that Bond maintained in the mid-1960s, when he travelled extensively across north India. Read it and savour his experience of the city and the marvellous Taj Mahal, which is its star attraction.

The cycle rickshaw is the best way of getting about Agra. Its smooth gliding motion and leisurely rate of progress are in keeping with the pace of life in this old-world city. The rickshaw-boy juggles his way through the crowded bazaars, exchanging insults with tonga-drivers, pedestrians and other cyclists, but once on the broad Mall or Taj Road, his curses change to carefree song and he freewheels¹ along the tree-lined avenues. Old colonial-style bungalows still stand in large compounds shaded by peepul, banyan and jamun trees.

Looking up, I notice a number of bright paper kites that flutter, dip and swerve in the cloudless sky. I cannot recall seeing so many kites before.

'Is it a festival today?' I ask.

'No, sahib,' says the rickshaw boy, 'not even a holiday.'

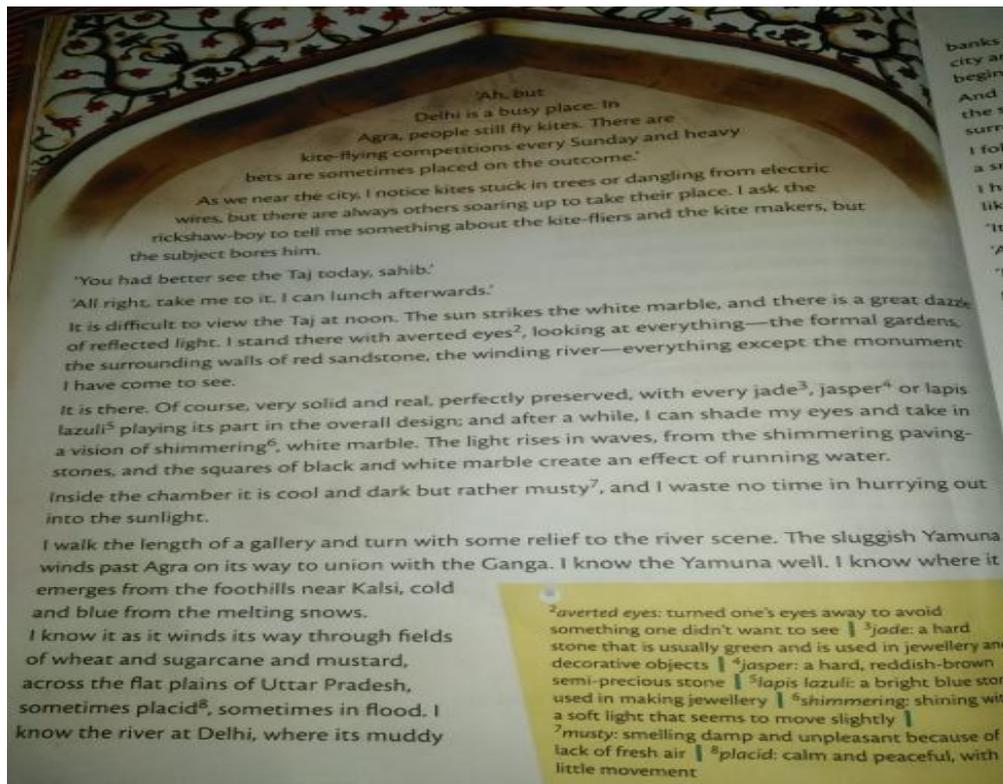
'Then why so many kites?'

He does not even bother to look up. 'You can see kites every day, sahib.'

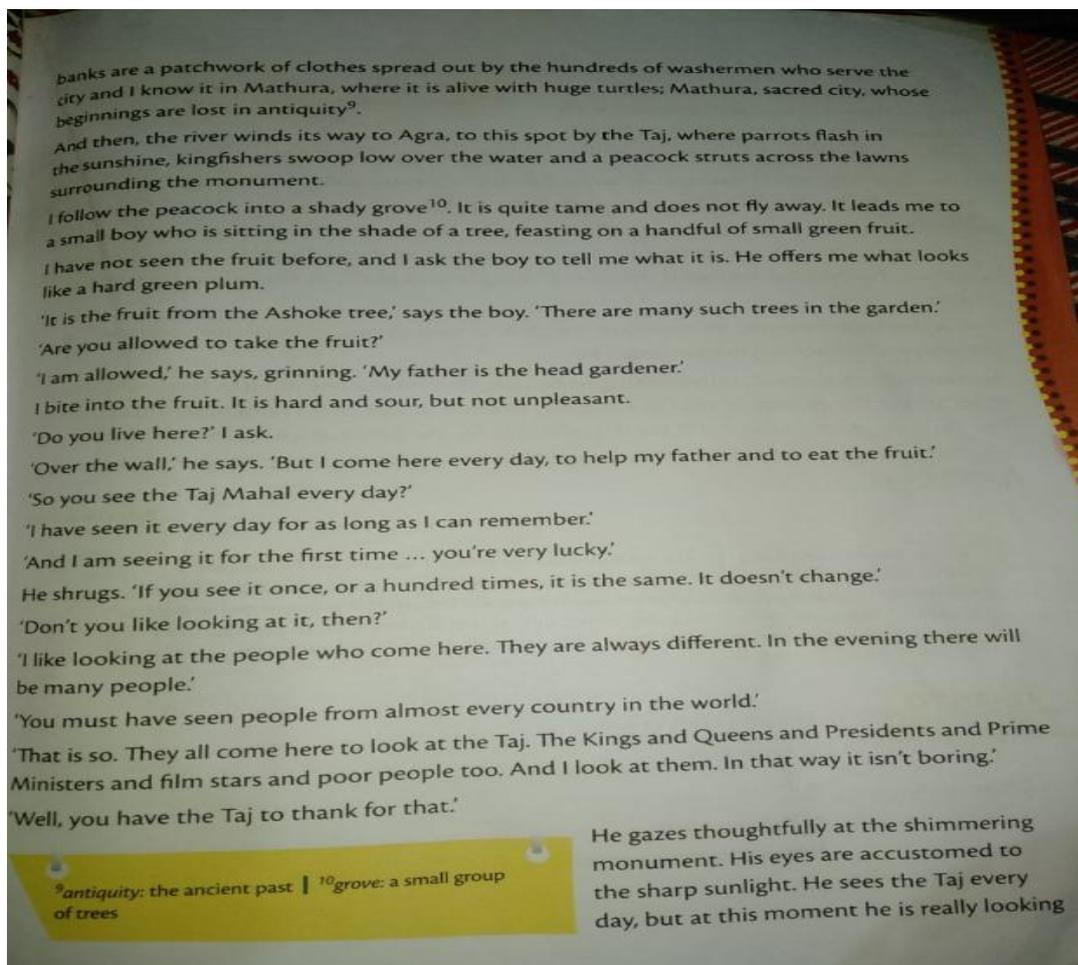
'I don't see them in Delhi.'

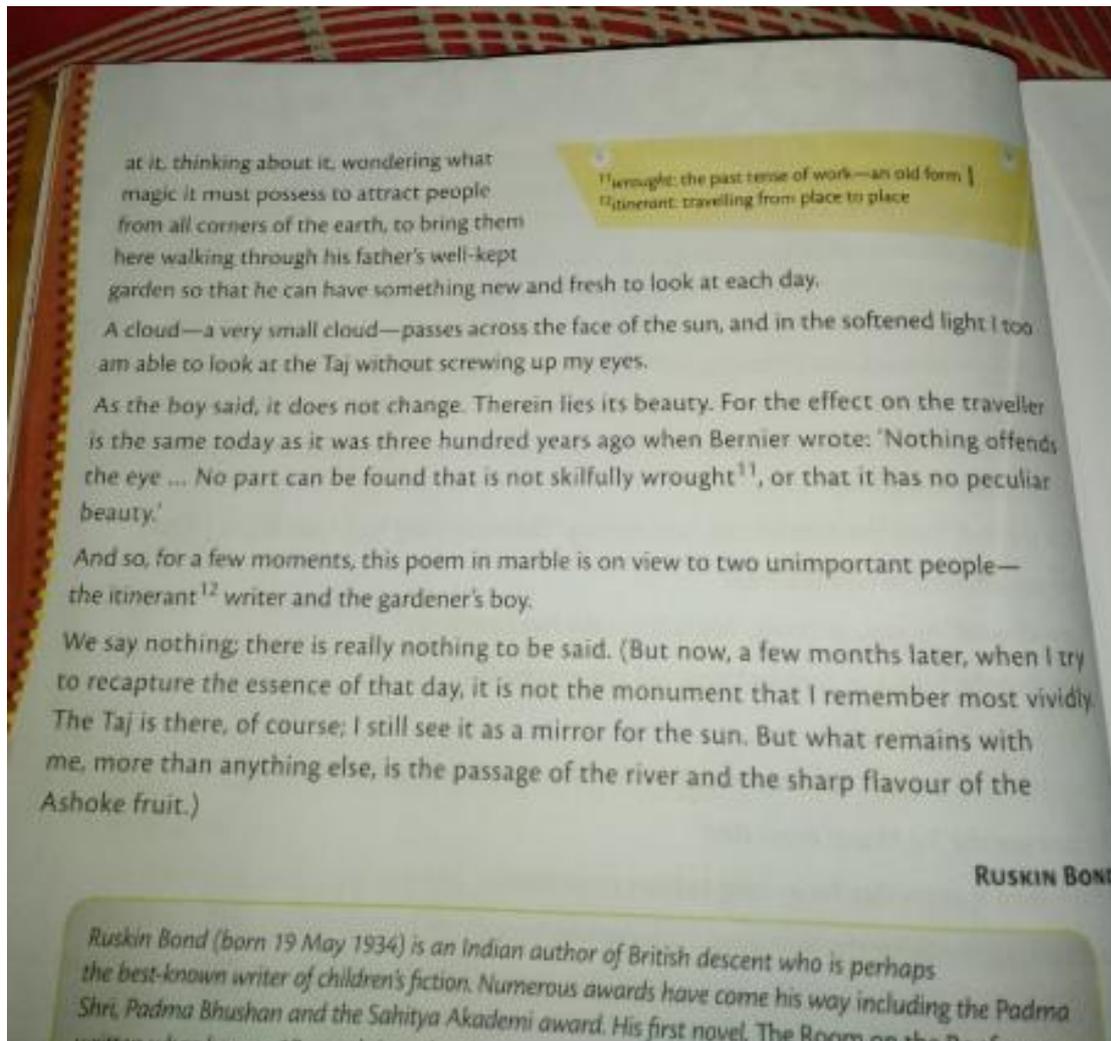


¹freewheels: rides (the cycle rickshaw) freely without worrying about traffic



Pg 2





SUMMARY

This extract is a travelogue. The writer is famous Indian author, Ruskin Bond. He describes his visit to the historical city of Agra. This travelogue is the experience of his city and the world famous attractive monument, The TajMahal.

The writer visited Agra city in cycle rickshaw. He enjoyed the ride and viewed the bright, colourful paper kites in the sky. He reached the TajMahal at noon. The monument was marvellous and eye catching. The surrounding garden, the wall of red sand stone and shining river added the beauty of the monument; He saw the parrots, king fisher and peacock across the lawn surrounding the monument. There he saw a small boy eating small green fruit of Ashok tree. He was the son of the head gardener. The small and innocent boy had no interest

in the TajMahal or its surrounding. He was only interest in the fruits and the variety of visitors who came to see the place. The narrator also realised that the beauty of the place was the same as it was three hundred years ago. He returned with the memories of that day. He could only capture the flavour of the Ashok fruit and the gardener boy.

Answer the following questions:

Q.1.What does the author learn about the kite flying in Agra?

Answer:

Kite flying in Agra is quite common. There arekite-flying competition every Sunday and heavy bets are also placed on this game.

Q.2.What is that the gardener's son finds interesting when he sees the TajMahal every day?

Answer:

The gardener's son had no interest in the TajMahal. He was only eating the fruits of the garden and looking at the variety of visitors and tourists who came there.

Assignment:

1)Describe the TajMahal briefly based on your understanding of the lesson.

2)Fill in the blanks suitably-

- a) The cycle rickshaw is the best way of _____.
- b) The subject of the kite fliers and _____ bores the rickshaw boy.
- c) The gardener's son ate the fruit of _____.
- d) The Kings and Queens, _____ to look at the Taj.
- e) Bernier in his description of the Taj said, "_____".

GRAMMAR:

TOPIC NOUN:

NOUN:

A noun is a part of speech used to name people, animals, places, things, events, feelings or ideas. There are different kinds of noun such as common, proper, abstract, concrete, material, collective and countable/uncountable.

1. **CONCRETE NOUN:**

Nouns that we can touch, see, hear or smell and that occupy space are known as Concrete Nouns. Concrete Nouns use the name of persons, places, animals, things, materials and collection of things. Concrete Nouns are of 4 kinds:

- a) Proper Noun
- b) Common Noun
- c) Collective Noun
- d) Material Noun

2. PROPER NOUN:

It is a name given to a particular person, place or thing.

Examples

- a) We live in Delhi.
- b) The Ramayana is a great epic.
- c) Ashoka was a great king.
- d) The Geeta is a holy book.

3. COMMON NOUN:

It is the name given to all the things or person of the same kind, class or category

Example

- a) Boys play cricket.
- b) The cow is grazing in the field.
- c) Teacher teaches in a school.
- d) Doctor cures his patient.

4. COLLECTIVE NOUN:

It is the name given to the group of similar things, persons, places.

Examples

- a) Our team plays well.
- b) She presented him a bouquet of flowers.
- c) The army marched ahead.
- d) The audience enjoyed the concert.

5. MATERIAL NOUN:

It is the name used for a material substance used for making something.

Examples

- a) We use diamond to make rings..
- b) Buildings are made of bricks.
- c) This ornament is made of gold.

6. ABSTRACT NOUN:

It is the name of thing, action, quality, feeling that cannot be touched or occupy space.

Examples

- a) We must do a good deed daily.
- b) Slavery is a great curse.
- c) Happiness comes from true player.
- d) Mahatma Gandhi was freedom fighter.

7. COUNTABLE NOUN:

Nouns that can be quantified or counted with a number. They have singular and plural forms. A, an can be used for countable noun. Words like several, many or a few can also be used before countable nouns.

Examples: boy, building, family, state, idea etc

8. UNCOUNTABLE NOUN:

Nouns which cannot be counted and can only be used in singular form are known as uncountable nouns.

Example : cotton, salt, oil, smoke, English, sugar, etc

EXERCISE 1

Underline the noun and mention their kinds:

- 1) The ship along with the crew has drowned

. a)noun-, Kind-

b)noun-, Kind-

- 2) The height of the Mount Everest is 8850 metres.

a)noun-, Kind-

b)noun-, Kind-

- 3) This museum has good collection of scripts.

a)noun- , Kind-

b)noun- , Kind-

- 4) The doctor correctly diagnosed his sickness.

a)noun- , Kind-

b)noun- , Kind-

EXERCISE 2

Fill in the blanks with suitable kinds of nouns as directed:-

1. _____ is the capital of India. (Proper)

2. The bangle is made from _____. (Material)

3. The Indian cricket _____ won the match. (collective)
4. She presented him a _____ of flowers. (Collective)
5. The soldiers are rewarded for their _____. (Abstract)
6. My dog is sleeping under the _____. (Common)
7. He is remembered for his _____. (Abstract)
8. The _____ is the sacred river. (Proper)

EXERCISE 3:

Make abstract noun from the following:

1. Reduce
2. Wise
3. Instruct
4. Flatter
5. Generous

TOPIC –PRONOUNS:

A pronoun is a word that is used instead of a noun which has already been mentioned or is already known. A pronoun helps us to avoid repeating the noun.

Example: Kartik comes home late. He does overtime at office.

KINDS OF PRONOUN:

1. Personal Pronoun:

There are three types of personal pronouns- First person, second person and third person.

Example: I am playing.

You are playing.

They are playing.

2. Possessive pronoun:

There are the pronouns that indicate possession or relationship.

Examples: This pen is mine.

That ball is hers.

This book is yours.

3. Demonstrative Pronouns:

They are the pronouns that point out something.

Examples: This is my pencil.

These are my books.

Those are his pens.

That is my house.

4. Interrogative Pronouns:

They are the pronouns that are used for asking a question.

Example: Who made that noise?

Which is your book?

What is the matter?

5. Reflexive Pronouns:

They are the pronouns that refer back to the subject.

Examples: I blame myself for it.

He punished himself.

The horse has hurt itself.

6. Emphatic Pronouns:

These kinds of pronouns are used for putting emphasis on the subject.

Examples: I myself was there.

You must do it yourself.

They themselves went there.

7. Relative Pronouns:

These pronouns refer to noun or pronouns mentioned before. They join two sentences and refer back to nouns going before them.

Examples: This is the man who stole my purse.

This is the horse which won the race.

8. Distributive Pronoun:

These pronouns refer to the persons or things taken as a single or in groups. It is always singular and is followed by a singular verb.

Examples: Each of them worked hard.

Either of you can do this job.

Neither of the statements is true.

EXERCISE 1:

Fill in the blanks with suitable words.

1. _____ was Sunday morning when a stranger had to come to my place. (It/His)
2. The student _____ finishes first will get a reward. (Who/Which)
3. _____ is the better than what I bought yesterday. (These/This)
4. Shruti got the first prize, so _____ was happy. (He/She)
5. Rony and I lost _____ chance. (Our/Your)
6. We _____ will have to make effort for progress. (herself/ourselves)

EXERCISE 2:

Identify the type of underlined pronouns. The first one is done for you.

1. What is the best way to show love?
Answer: Interrogative
2. Nobody knows who will win today in the race.
Answer:
3. This is the dog that barked whole night.
Answer:
4. This is the toy that Jimmy had broken.
Answer:
5. "Is this car yours?" asked Ramesh.
Answer:

WRITING:

TOPIC –DIARY ENTRY

1. Last month, you went to a school picnic with your classmates to Nehru Park. It was an enjoyable day. Share your experience by writing a diary entry in not more than 100 words.
2. You paid visit to an "OLD AGE HOME" with your teacher. Using the hints given below together with your own ideas, make a diary entry of what you saw and experienced there.

Hints: Old Home, mostly senior citizen above 60, peaceful surrounding, spacious, clean rooms and baths, regular medical check-up, a good library, means of recreation, a home away from home.

XXXXXXXXXXXXXXXXXXXX

दिनांक
04/05/2020

सत्र कार्य 3

01

कक्षा - अष्टम
हिन्दी

भाषा - विचारों के विभिन्न के लिए हम शब्दों के जिस माध्यम का प्रयोग करते हैं, उसे 'भाषा' कहते हैं।

भाषा के दो भेद होते हैं -

i) मौखिक भाषा

ii) लिखित भाषा

i) मुख से बोली जाने वाली भाषा को **मौखिक भाषा** कहते हैं।

ii) पुरतकों और पत्रों में हम जिस भाषा का प्रयोग करते हैं अर्थात् लिखकर व्यक्त करते हैं, उसे **लिखित भाषा** कहते हैं।

लिपि - भाषा को लिखने के लिए जिन चिह्नों का प्रयोग करते हैं, उन्हें 'लिपि' कहते हैं।

हिन्दी, मराठी, संस्कृत एवं नेपाली भाषाएँ भी **देवनागरी लिपि** में लिखी जाती हैं।

जो किसी भाषा को शुद्ध रूप से लिखना, पढ़ना एवं बोलना सिखाता है, उसे '**व्याकरण**' कहते हैं।

व्याकरण के **चार चरण** होते हैं -

क) वर्ण-विचार

ग) पद-विचार

ख) शब्द-विचार

घ) वाक्य-विचार

पर्यायवाची-शब्द

②

• समान अर्थ वाले शब्द को समानार्थी या पर्यायवाची शब्द कहते हैं। जैसे-

1. अमृत - सुधा, पीयूष, अमिथ
2. अश्व - घोड़ा, घोटक, भुरंग, बाजि
3. तलवार - कृपाण, खड्ग, असि
4. आँख - नेत्र, नयन, दृग, चक्षु, लोचन
5. कमल - कंज, पंकज, सरोरुह
6. छाती - गज, करी, गयंद, मलंग
7. गृह - आवास, भवन, निलय
8. नदी - तारिनी, तरंगिणी, सरिता
9. पवन - अनिल, वायु, समीर
10. पक्षी - खग, विहग, चिड़िया
11. पर्वत - गिरि, नग, कूट, पहाड़
12. पृथ्वी - धरती, क्षिति, अवनी
13. पुत्री - कन्या, आत्मजा, तनुजा
14. पुष्प - कुसुम, सुमन, प्रसून
15. पैड़ - वृक्ष, तरु, पादप, वितप

सृष्टि

हिन्दी पाठमाला

भाग - 8

GREEN EARTH

PUBLICATIONS

पाठ 1

यह है भारत देश हमारा

कवि - सुब्रह्मण्यम भारती



इस कविता में कवि ने भारत की भौगोलिक, प्राकृतिक, सांस्कृतिक, साहित्यिक और वैश्विक विशेषताओं का विशेष वर्णन करके हमें अपने देश पर अभिमान करने की प्रेरणा दी है।

चमक रहा **उत्तुंग** हिमालय, यह नगराज हमारा ही है, **ऊँचा**
जोड़ नहीं धरती पर जिसका, यह **नगराज** हमारा ही है। **पर्वतों का राजा**

नदी हमारी ही है गंगा, **प्लावित** करती मधुरस-धारा, **वहना**
बहती है क्या कहीं और भी, ऐसी **पावन** कल-कल धारा? **पवित्र**

सम्मानित जो **सकल** विश्व में, **महिमा** जिनकी बहुत रही है, **बड़ाई**
अमर ग्रंथ वे सभी हमारे, उपनिषदों का देश यही है।

गाएँगे यश हम सब इसका, यह है **स्वर्णिम** देश हमारा,
आगे कौन जगत में हमसे, यह है भारत देश हमारा।

यह है भारत देश हमारा, महारथी कई हुए जहाँ पर,
यह है देश मही का स्वर्णिम, ऋषियों ने तप किए जहाँ पर।

यह है देश जहाँ नारद के, गूँजे **मधुमय** गान कभी धे, **श्रेष्ठ जैसा**
यह है देश जहाँ पर बनते, सर्वोत्तम सामान सभी धे।

यह है देश हमारा भारत, पूर्ण ज्ञान का **शुभ निकेतन**, **सफेद घर**
यह है देश जहाँ पर बरसी, बुद्धदेव की **करुणा** चेतन। **दया**

है महान, अति **भव्य** पुरातन, गूँजेगा यह गान हमारा, **विशाल**
है क्या हम-सा कोई जग में, यह है भारत देश हमारा।

रुकावट **विज्यों** का दल चढ़ आए तो, उन्हें देख भयभीत न होंगे,
अब न रहेंगे दलित-दीन हम, कहीं किसी से हीन न होंगे।

दोष **क्षुद्र** स्वार्थ को खातिर हम तो, कभी न **ओछे** कर्म करेंगे, **सोच**
पुण्य-भूमि यह भारत माता, जग की हम तो भीख न लेंगे।

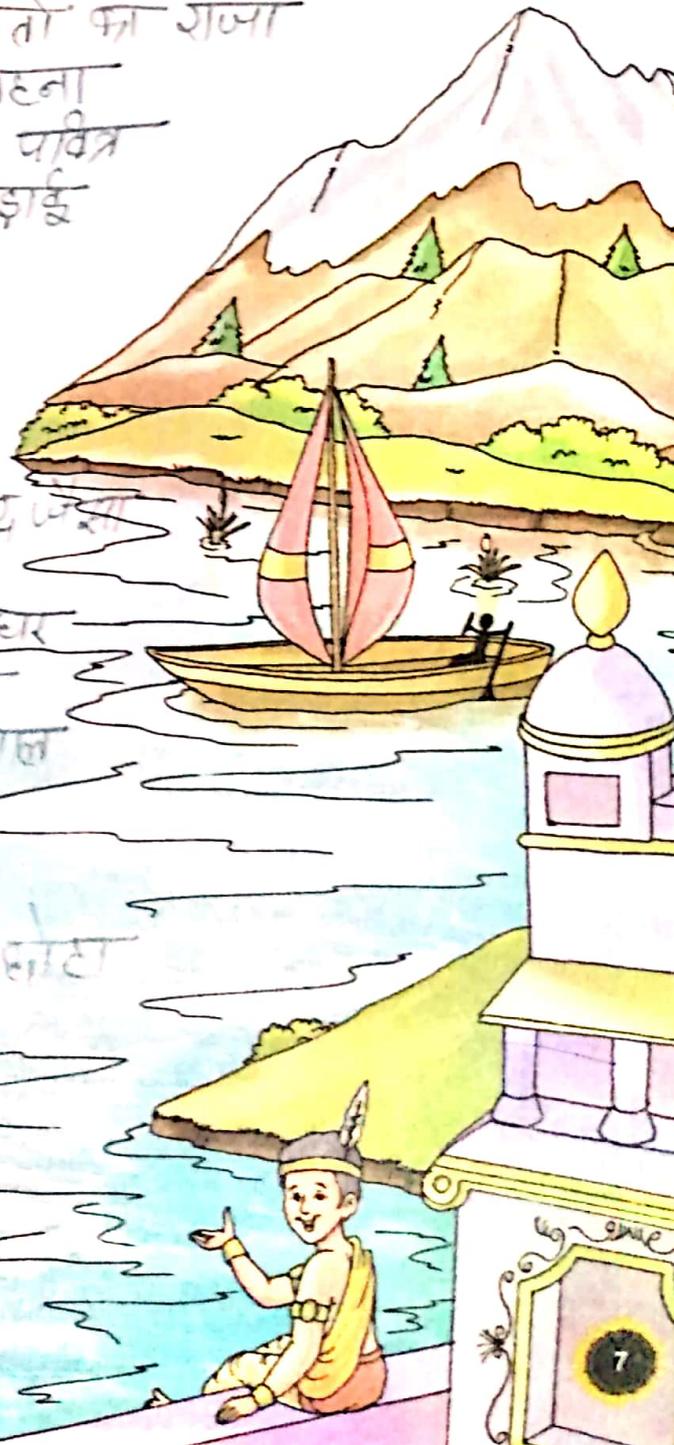
मिसरी-मधु-मेवा-फल सारे, देती हम को सदा यहीं है,

कदली, चावल, अन्न विविध अरु, क्षीर सुधामय लुटा रही है।

केली आर्य-भूमि **उत्कर्षमयी** यह, गूँजेगा यह गान हमारा,
कौन करेगा समता इसकी, महिमामय यह देश हमारा।

सद्यन्तम

-सुब्रह्मण्यम भारती



यह है भारत देश हमारा

इस कविता में कवि ने भारत की भौगोलिक, प्राकृतिक, सांस्कृतिक, सामाजिक और वैश्विक विशेषताओं का विशेष वर्णन करके हमें अपने देश पर अभिमान करने की प्रेरणा दी है।

► **अर्थ** कवि ने कहा है कि यह देश बहुत ही सघन है इसके उत्तर में पर्वतों का राजा हिमालय जो बहुत ऊँचा है चमक रहा है उसका जोड़ धरती पर दूसरा नहीं है।

कवि कहते हैं कि गंगा नदी जो भारत में बहती है वो दूसरे किसी देश में नहीं बहती, उसकी धारा मधुर और पवित्र है।

हमारे ग्रंथ और उपनिषदों को पूरे विश्व में सम्मान मिलता रहा है।

हम सब इसका यश हमेशा गाएंगे क्योंकि इसके जैसा कोई स्वर्णिम देश दूसरा नहीं है।

कितने ही महारथी यहाँ पैदा हुए और कितने ही ऋषि-मुनी यहाँ जन्म लिए, तपस्या किए।

इसी देश में नारद जी मधुर गान गाते थे और यहाँ पर सर्वोत्तम सामान भी बनते थे।

यह वह देश है जो पूर्ण ज्ञान का घर है और यहाँ बुद्ध की दया बरसी है।

यह देश महान होने के साथ-साथ अति
विशाल और प्राचीन है हमारे देश जैसा
जग में कोई देश नहीं है।

कोई भी रुकावट हमारे देश प्रेम को कम
नहीं कर सकता, इसे भयभीत नहीं कर सकता
अब हम किसी दुश्मन से डरने वाले नहीं हैं।

अब हम अपने छोटे स्वार्थ के खातिर कभी
छोटे काम नहीं करेंगे। यह हमारी पुण्य-भूमि है
यह देश हमें मिसरी, मधु, फल, मेवा, केला,
जबन और देती है और अमृत का पान
करवाती है।

इस महानतम देश में हमारा गाब हमेशा
गूँजेगा और कोई भी इसकी बराबरी नहीं कर
सकता।

अभ्यास कार्य

7

1. निम्नलिखित प्रश्नों के उत्तर दें :-
- (क) भाषा किसे कहते हैं? इसके भेदों को लिखें।
 - (ख) लिपि किसे कहते हैं?
 - (ग) किन भाषाओं को देवनागरी लिपि में लिखा जाता है?
 - (घ) व्याकरण किसे कहते हैं?
 - (ङ) व्याकरण के चरणों को लिखें।

2. निम्नलिखित शब्दों के दो-दो पर्यायवाची शब्द लिखें :-

अमृत , आँख , गृह , नदी , पर्वत

3. पद्यांश को ध्यान से पढ़ें और प्रश्नों के उत्तर दें :-

चमक रहा उल्लुंग हिमालय,
यह नगराज हमारा ही है,
छाँड़ गयी धरती पर जिसका
यह नगराज हमारा ही है।

प्रश्नोत्तर

- क) कविता और कवि का नाम बताएं।
- ख) कौन चमक रहा है?
- ग) 'नगराज' का अर्थ लिखें।
- घ) धरती का एक पर्यायवाची बताएं।



SUBJECT - SANSKRIT

अनुच्छेदम् पठित्वा प्रश्नानाम् उत्तराणि लिखत -

प्रश्न :- 1 अहो ! रमणीया प्रातः कालस्य वैला । आकाशे
 व्रगाः कलरवं कुर्वन्ति । सूर्यः आकाशे
 उद्गोन्मुखः अस्ति । वृद्धाः प्रबुद्धाः सन्ति ।
 युवकाः प्रबुद्धाः सन्ति । युवतयः प्रबुद्धाः सन्ति ।
 कृषकाः क्षेत्रम् गच्छन्ति । बालाः विद्यालयम्
 प्रति गच्छन्ति । सर्वे जनाः स्वकार्येषु लग्नाः
 सन्ति । मन्दः सुगन्धः पवनः वहति । स्वर्ग
 आनन्दमयम् वातावरणम् अस्ति । पुष्पाणि
 विकसन्ति । जनाः उद्यानेषु भ्रमन्ति । केचन्
 जनाः व्यायामम् कुर्वन्ति । केचन् सूर्यम् नमन्ति ।
 सर्वे जनाः प्रसन्नाः स्फूर्तिवन्तः सन्ति ।
 प्रातः कालस्य वैला सर्वेषु जनेषु नव-जीवनं
 संचरति । तापसाः आश्रमेषु वसन्ति । भक्ताः
 देवालयेषु गच्छन्ति । शिशावः पित्रामस्य पश्यात्
 प्रसन्नाः भवति । मन्दिरेषु शंखनादः भवति ।

I एक पदेन उत्तरत -

- (क) प्रातः कालस्य वैला कीदृशी भवति ?
 (ख) क्षेत्रम् प्रति के गच्छन्ति ?
 (ग) भक्ताः कुत्र गच्छन्ति ?
 (घ) प्रातः काले मन्दिरेषु किम् भवति ?

II पूर्णवाक्येन उत्तरत -

- (क) प्रातः काले कै कै प्रबुद्धाः भवन्ति ?
 (ख) प्रातः काले जनाः किम् किम् कुर्वन्ति ?

III निदेशानुसारं उत्तरत -

- (क) "सुप्ताः" इत्यस्य किं विलोमपदम्
 अत्र प्रयुक्तम् ?
 (ख) "पक्षिणः" इत्यस्य कः शब्दः प्रयुक्तः ?

प्रश्न-2 अनुर्द्धदम् पठित्वा प्रश्नानाम् उत्तराणि लिखत -

विद्या सर्वश्रेष्ठं सर्वप्रधानम् धनम् भवति ।
 रत्नसारस्य अन्यानि सर्वाणि धनानि व्यर्थं कृते
 नश्यन्ति पर विचिन्तम् इतत् विद्याधनम् यत्
 व्यर्थं कृते वर्धते । विद्यां विना मरः पशुतुल्यः
 भवति । विद्याया जीवनम् आलोकितं भवति
 शानान्धाकारम् च दूरी भवति । विद्याया स्व
 मरः प्रतिष्ठितः भवति । विद्वान् स्व
 सर्वतः पूज्यते ।

I एक पदेन उत्तरत -

- (क) सर्वश्रेष्ठं धनम् किम् भवति ?
 (ख) विचिन्तं धनम् किम् ?
 (ग) व्यर्थं कृते किम् वर्धते ?
 (घ) कः सर्वतः पूज्यते ?



II पूर्ण वाक्येन उत्तरत -

(क) विद्याधनम् विचित्रम् किमर्थम् उग्रस्ति ?

III निदेशानुसारं उत्तरत -

(क) 'विद्यां विना नरः पशुतुल्यः भवति।' अत्र अव्यय पदं किम् ?

प्रश्न:- 3 (क) विद्यालयात् अवकाशार्थं प्राचार्यं प्रति पत्रम्
मञ्जूषायाः दत्तपदैः पूरयत -

सैवायाम्

(i)

कैन्द्रीय विद्यालयः

(ii)

(iii)

सपिनयं iv उग्रस्ति यत् उग्रम् अद्य
विद्यालये v न शक्नोमि । तस्मात्
vi मह्यम् दिव vii अवकाशं प्रदाय
कृताय कुर्वन्तु भवन्तः viii भवतः
अतीव ix भविष्यामि ।

सद्यन्धवाद

x

शिष्यः

क. ख. ग



मञ्जूषाः = मान्यवर, भवदीयः, कारणात्, अहम्
 चाण्डीगढनगरम्, प्राचार्यमहोदया,
 आगन्तुम्, द्वयस्य, निर्वेदयम्, कृतज्ञः

(ख) मितं प्रति परीक्षासफलतायाम् लिखितं
 पत्रं मञ्जूषायां प्रदत्तं : शब्दैः पूरयत -

(i)

प्रियं ii

iii

अत्र कुशलम् तत्रास्तु | भवतः
 परीक्षासफलतायाम् अधुनैव iv |
 भवतः उन्नीयता ज्ञात्वा अति v अस्ति |
 अहोरात्रं प्रभारं विधाय भवान् १४
 प्रतिशतम् vi लब्धवान् | त्वं मम
 परिवारजनस्य vii अर्हसि | पत्र
 समाप्ता तुभ्यं पुनः कदापिं viii |
 ix शीघ्रं जमः |

भवतः X

अ, क, ख

मञ्जूषाः - परीक्षाभवमात्, पितृभ्याम्, सन्तुष्टः,
 अङ्कान्, साधुवादान्, कामये, प्राप्तम्,
 प्रियमित्रम्, स्वप्नं नभस्कारम्, मित्रम् |



प्रश्न: 4 चित्रम् दृष्ट्वा प्रदत्तवाक्यानां सहायतया रिक्तस्थानानि पूर्यत ।



संज्ञाः - विद्यालयस्य, क्रीडन्ति, क्रीडाक्षेत्रं, वातलिप्यं, पुरतःकालम् ।

- (i) स्वतन्त्रं चित्रम् _____ अस्ति ।
 (ii) अस्मिन् चित्रे बालकाः कन्दुकैः _____ ।
 (iii) अत्र एकं विशालं _____ अस्ति ।
 (iv) सर्वे छात्राः _____ गच्छन्ति ।
 (v) तिस्रः छात्राः _____ कुर्वन्ति ।

प्रश्न: 5 संस्कृतं समयनिर्धारणं कुरुत -

- (क) सीता प्रातः [4:30] _____ उतिष्ठति ।
 (ख) सा [7:15] _____ वादयति ।
 विद्यालयं गच्छति ।



- (ग) सा [10:00] वादने जलपानं करोति ।
- (घ) सा [12:45] विद्यालयात् आगच्छति ।
- (ङ) सा [1:30] वादने गृहकार्यं करोति ।
- (च) सा [4:15] वादने क्रीडा-क्षेत्रम् गच्छति ।
- (छ) सा [9:00] वादने भोजनं करोति ।

प्रश्नः 6 प्रदत्त क्रियापदैः विकृतस्वरूपानि पूर्यत -

- (क) बालाः क्रीडाक्षेत्रं [करोति / कुर्वन्ति]
- (ख) अहम् विद्यालयं [गच्छति / गच्छामि]
- (ग) त्वम् पुस्तकं [पठसि / पठति]
- (घ) वयम् ईश्वरं [नमामः / नमामि]
- (ङ) आवाम् कन्दुकैः [क्रीडामः / क्रीडावः]
- (च) तौ वार्तालापं [कुर्वतः / करोति]
- (छ) युवाम् विद्यालयं [गच्छथः / गच्छथ]
- (ज) उद्याने बालकाः [क्रीडति / क्रीडन्ति]
- (झ) सः क्रीडाक्षेत्रे [भ्रमति / भ्रमतः]
- (ञ) ते पुस्तकानि [पठिष्यतः / पठिष्यन्ति]



प्रश्न:-7. मञ्जूषातः अल्पपदैः रिक्त स्थानानि पूरयत-

- (क) वृक्षस्य _____ स्वगाः सन्ति ।
 (ख) रात्रौ गृहात् _____ मा गच्छ ।
 (ग) _____ अशोकः नृपः आसीत् ।
 (घ) विधा _____ जीवनं व्यर्थम् ।

मञ्जूषाः- [पुरा , विना , उपरि , बहिः]

प्रश्न:-8. प्रदत्त शब्दानाम् विभक्ति वचनं च लिखत-

विभक्ति वचनं

- (क) तडागेषु
 (ख) रक्षायै
 (ग) बालकाः
 (घ) लतानाम्
 (ङ) फलेषु
 (च) पुष्पाणि
 (छ) लतायै
 (ज) फलस्य
 (झ) बालकानाम्
 (ञ) लते



प्रश्न:-9 प्रदत्त विकल्पेभ्यः उचित संख्यावाची पदैः रिक्त स्थानानि पूरयत -

- (क) उद्याने _____ बालिका क्रीडति । [स्कः/स्का]
- (ख) वृक्षात् _____ पत्राणि पतन्ति । [त्रयः/त्रीणि]
- (ग) विद्यालये _____ समे _____ मित्रे स्तः । [द्वौ/द्वे]
- (घ) बालकाः कन्दुकेन क्रीडन्ति । [पत्वारः/पत्वारि]
- (ङ) बालका पठतः । [द्वौ/द्वे]

प्रश्न:-10 प्रदत्त संख्यानाम् संस्कृते लिखत -

(क) 18

(ख) 36

(ग) 29

(घ) 14

(ङ) 35

(च) 19

(छ) 40

(ज) 24

(झ) 20

(ञ) 27

प्रश्न:-11 सन्धि सन्धिद्वैदं वा कुरुत -

(क) पुस्तकालयः

(ख) मुनीशः

(ग) लघु + उर्मिः

(घ) पर्वोपकारः

(ङ) नदीशः

(च) मघा + शैश्वर्यम्

(छ) मूर्धोत्सवः

(ज) जर + इन्द्रः

(झ) भोजनालयः

(ञ) गिरि + इन्द्रः

SPECIAL ASSIGNMENT (**ROUND 3**) FOR SELF STUDY :-

CLASS - 8

SESSION – 2020-21

SUBJECT – MATHEMATICS

NOTE – The following assignment has to be done in a notebook and to be submitted after the school reopens

PLAYING WITH NUMBERS :

Numbers in general form

A 2 digit number can always be written as a combination of 2 different numbers.

for eg:-

$$65 = 10 \times 6 + 5 \rightarrow 6 \text{ is at tens place and } 5 \text{ is at ones place.}$$

$$23 = 10 \times 2 + 3 \rightarrow 2 \text{ is at tens place and } 3 \text{ is at ones place}$$

Thus, any two digit number can be written in a general form as $10 \times x + y$

Similarly,

$$572 = 5 \times 100 + 7 \times 10 + 2$$

$$123 = 1 \times 100 + 2 \times 10 + 3$$

The three digit number xyz can be written as $100 \times x + 10 \times y + z$

Puzzles & games

Puzzles and games are a source of entertainment and education that makes interesting and challenging situations.

Reversing the digits of a two-digit number

Addition

Step-1 : Choose any 2-digit number of the form $10x + y$.

Step-2 : Reverse the digits to get a new number i.e., $10y + x$.

Step-3: Add the reversed number to the original number.

$$(10x + y) + (10y + x) = 11x + 11y = 11(x + y)$$

Step-4 : Divide the answer by 11.

$$11(x + y) \div 11 = (x + y)$$

Result: There is no remainder.

Remark: The sum of a two-digit number and the number formed by reversing its digits is exactly divisible by 11 and the quotient obtained is the sum of the digits of the original 2-digit number.

Adding both the number, we get $36 + 63 = 99$, which is exactly divisible by 11

\therefore Hence proved.

Subtraction

Step-1 : Choose a two digit number \overline{yx} in the form $10x + y$.

Step-2 : Reverse the digits to get a new number \overline{xy} in the form $10y + x$.

Step-3 : Subtract both the numbers.

$$(10y + x) - (10x + y) = 9y - 9x = 9(y - x)$$

Step-4 : Divide the answer by 9.

$$9(y - x) \div 9 = (y - x)$$

Result: There is no remainder.

Remark: The difference of a two digit number and its reversed number is exactly divisible by 9 and the quotient obtained is either the difference of the digits of the original 2-digit number or 0.

Reversing the digits of a three-digit number

Addition

Step-1 : Choose any three-digit number xyz in the form $100x + 10y + z$

Step-2 : Form 2 more numbers in a way

$$yzx = 100z + 10x + y.$$

Step-3 : Add all the three numbers

$$(100x + 10y + z) + (100y + 10z + x) + (100z + 10x + y)$$

Step-4 : Divide the answer by 111.

$$= 111(x + y + z) \div 111 = (x + y + z).$$

Result: There is no remainder.

Remark: The sum of a 3-digit number and the number formed by arranging its digits in such a way that each digit occupies a place value only once, is exactly divisible by 111 and the quotient obtained is the sum of the digits of the original 3-digit number.

Step-1 : Take any three-digit number xyz in the form $100x + 10y + z$.

Step-2 : Reverse the digits : $zyx = 100z + 10y + x$.

Step-3 : Subtract both the numbers.

$$(100x + 10y + z) - (100z + 10y + x) = 99x - 99z = 99(x - z)$$

Result: There is no remainder.

Remark: The difference of a 3-digit number and the number formed by reversing the digits is exactly divisible by 99 and the quotient so obtained is either the difference between the hundredth digit and the ones digit of the original 3-digit number or 0.

Letter for digits

Every game has same rules. So, there are some rules for such puzzles also. There are two rules for solving them.

(i) Each letter in the puzzle must stand for just one digit. Each digit must be represented by just one letter.

(ii) The first digit of a number cannot be zero.

Numerical Ability 6.1

Solve for Q:

$$\begin{array}{r} 31Q \\ +1Q3 \\ \hline 501 \end{array}$$

Solution:

From the addition above, we can say $Q + 3 = 1$. For this, Q must be equal to 8. So, the puzzle becomes:

$$\begin{array}{r} 318 \\ +183 \\ \hline 501 \end{array}$$

Numerical Ability 6.2

Find the digits A, B and C.

$$\begin{array}{r} AB \\ \times 3 \\ \hline CAB \end{array}$$

Solution:

Since the one's digit of $B \times 3$ is B, it must be $B = 0$ or $B = 5$.

Now, for A

If $A = 1$

$$\begin{array}{r} 10 \\ \times 3 \\ \hline 030 \\ \hline CAB \end{array} \qquad \begin{array}{r} 15 \\ \times 3 \\ \hline 045 \\ \hline CAB \end{array}$$

These two are not possible because C cannot be zero.

If $A = 2$

$$\begin{array}{r} 20 \\ \times 3 \\ \hline 060 \\ \hline CAB \end{array} \qquad \begin{array}{r} 25 \\ \times 3 \\ \hline 075 \\ \hline CAB \end{array}$$

These two are not possible because C cannot be zero.

If $A = 3$

$$\begin{array}{r} 30 \\ \times 3 \\ \hline 090 \\ \hline CAB \end{array} \qquad \begin{array}{r} 35 \\ \times 3 \\ \hline 105 \\ \hline CAB \end{array}$$

If is not possible because A is not zero and C cannot be zero.

If $A = 5$

$$\begin{array}{r} 50 \\ \times 3 \\ \hline 150 \end{array} \qquad \begin{array}{r} 55 \\ \times 5 \\ \hline 275 \end{array}$$

Tests of divisibility

Divisible by 2

A number is divisible by 2, if its unit digit is 0 or divisible by 2 i.e., 2, 4, 6, 8

DIY.

Find the condition when a two-digit number xy and a 3-digit number xyz will be exactly divisibly by 2.

Explanation

2-digit number xy can be written as $10x + y$. 2 will always divide $10x$.

So, $10x + y$ will be exactly divisible by 2 if $y = 0, 2, 4, 6$ or 8 .

A 3-digit number xyz can be written as $100x + 10y + z$. We can say, 2 will always divide $100x$ and $10y$. So,

$100x + 10y + z$ will be divisible by 2 if $z = 0, 2, 4, 6$ or 8 .

Divisible by 3

A number is divisible by 3, if the sum of its digits is divisible by 3.

Divisible by 5

A number is divisible by 5, if the digit in its unit's place is 5 or zero.

Divisible by 9

A number is divisible by 9, if the sum of its digits is divisible by 9.

Divisible by 10

If number is divisible by 10, if the digit at unit's place is zero.

Divisible by 11

A number is divisible by 11 if the difference between the sum of its digits at odd places and the sum of its

Digits at even places is either exactly divisible by 11 or 0.

The rules of divisibility also holds true for numbers which have more than three digits.

QUESTIONS FOR PRACTICE:

1. Check the divisibility of 21436587 by 9.
2. Check the divisibility of 152875 by 9.
3. If the three digit number $24x$ is divisible by 9, what is the value of x ?
4. Check the divisibility of 2146587 by 3.
5. Check the divisibility of 15287 by 3.
6. If $51x3$ is a multiple of 9, where x is a digit, then what is the value of x ?
7. If $27x$ is a multiple of 3 and x is a digit then find the value of x .
8. Write the following in the generalized form:
 - (i) 65
 - (ii) 605
9. Write the following numbers in usual form:
10. Is 307 divisible by 9?
11. If $42x5$ is a multiple of 9 and x is a digit, then find the value of x .
12. Is 10011 divisible by 3?
13. If $3x12$ is a multiple of 3 and x is digit, then find the value of x .
14. If $35x$ is a multiple of 9 and x is digit, then find the value of x .
15. usual form of the number $9 \times 100 + 7 \times 1$
 - (a) 97
 - (b) 9007
 - (c) 907
 - (d) 16
16. A is a digit and $3A15$ is a multiple of 9. Which of the following can be the value of A ?
 - (a) 1 or 9
 - (b) 0 or 8
 - (c) 0 or 7
 - (d) 0 or 9
17. The value of A and B in
$$\begin{array}{r} 4A \\ +15 \\ \hline B2 \end{array}$$
 is:
 - (a) $A = 7, B = 6$
 - (b) $A = 7, B = 7$
 - (c) $A = 7, B = 5$

(d) $A = 7, B = 4$

18. The value of A and B in $\frac{A1}{B0} + 1B$ is:
- (a) $A = 9, B = 9$
 - (b) $A = 7, B = 9$
 - (c) $A = 7, B = 7$
 - (d) $A = 9, B = 7$

Algebraic Expressions and Identities:

Algebraic Expressions:

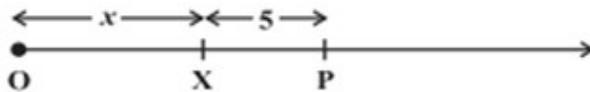
Any expression containing constants, variables, and the operations like addition, subtraction, etc. is called as an algebraic expression.

Example: $5x, 2x - 3, x^2 + 1$, etc.

Relation between number line and expression:

For any given expression of the form $(a + b)$, where a is variable and b is constant then the value of this expression will always lie at b units after the point a on the number line.

Example 1: The following figure shows a number line drawn for the expression $x + 5$.



Here, X represents the variable x which

is unknown.

Thus, the final point will definitely be at 5 units from X which is denoted by P.

1. Term:

A term is either a single number or variable and it can be combination of numbers and variable.

They are usually separated by different operators like $+$, $-$, etc.

Example 1: Some example of terms are $y, 5, 2x$, etc.

Example 2: Consider an expression $6x - 7 = 2$.
Then, the terms in this expression are $6x$, -7 and 2 .

Example 3: Identify the terms for $0.7a - 1.2b + 0.5ab$.
Solution: The terms for given expression are $0.7a$, $-1.2b$ and $0.5ab$.

2. Factors:

Factors can be product of numbers or number and variable.

Example 1: Term $7x$ is made of two factors 7 and x .

Example 2: Number 6 is made of two factors 2 and 3 , 1 and 6 .

3. Coefficient

The number multiplied to variable is called as coefficient.

Example 1: The coefficient of the term $2x$ will be 2 .

Example 2: The coefficient of the term $5ab$ will be 5 .

Example 3: Identify the coefficients for $0.7a - 1.2b + 0.5ab$.
Solution: The coefficients for the given expression are 0.7 , -1.2 and 0.5 .

4. Monomials:

The expressions which have only one term are called as monomials.

Example: 10 , $3x$, $5xy$, $2x^2$, etc. are some monomials.

5. Binomials:

The expressions which have two terms are called as binomials.

Example: $x + 10$, $3x + 1$, $a + b$, $7x^2 + y^2$ etc. are some binomials.

6. Trinomials:

The expressions which have three terms are called as trinomials.

Example: $2x + y + 10$, $3y + 3x$, $a + b + c$, $7x^2 + y^2 + 7$ etc. are some trinomials.

7. Polynomials:

The expression which contains one or more terms with non-zero coefficient is called a polynomial. A polynomial can have any number of terms.

Example 1: 10, $a + b$, $7x + y + 5$, $w + x + y + z$, etc.

Example 2: Classify following polynomials into monomials, binomials, trinomials or others:

(a) $a + b$ (b) 7 (c) $ab + bc + cd + da$ (d) $5x - 5y + 13xy$

Solution: (a) Binomial (b) Monomial (c) Polynomial (d) Trinomial

8. Like terms:

The terms which have same variables are known as like terms.

Example: $5x$ and $7x$; $2xy$ and $3yx$; $4x^2$, $7x^2$, $9x^2$ and x^2 ; etc. are some like terms.

9. Unlike terms:

The terms which do not have the same variables are known as unlike terms.

Example: $5x$ and $7y$; $2xy$ and $3ax$; $4x^2$, $7y^2$ and $9z^2$; etc. are some unlike terms.

Addition and Subtraction of Algebraic Expressions:

When performing addition or subtraction, we can perform the operations only for the like terms.

Let us understand it by an example:

Example 1: Add $7x + y + 7$ to $3x + 2y + 1$.

Solution: Write down both the given expression into separate rows such that like terms fall below each other

$$\begin{array}{r} 7x + y + 7 \\ + 3x + 2y + 1 \\ \hline 10x + 3y + 8 \end{array} \text{ Ans.}$$

Example 2: Subtract $2x^2 + 5xy + 1$ from $7x^2 + 2xy + 2y + 3$.

Solution:

$$\begin{array}{r} 7x^2 + 2xy + 2y + 3 \\ - 2x^2 + 5xy \quad + 1 \\ \hline 5x^2 - 3xy + 2y + 2 \end{array} \text{ Ans}$$

Example 3: Add $a - b + ab$, $b - c + bc$ and $c - a + ac$.

Solution:

$$\begin{array}{r} a - b + ab \\ + \quad b \quad -c + bc \\ + \quad -a \quad c + \quad + ac \\ \hline ab \quad + bc \quad + ac \end{array} \text{ Ans}$$

Example 4: Subtract $4a^2b - 3ab + 5ab^2 - 8a + 7b - 10$ from $18 - 3a - 11b + 5ab - 2ab^2 + 5a^2b$.

Solution:

$$\begin{array}{r} 18 - 3a - 11b + 5ab - 2ab^2 + 5a^2b \\ -10 - 8a - 7b - 3ab + 5ab^2 + 4a^2b \\ \hline 28 + 5a - 4b + 8ab - 7ab^2 + a^2b \end{array} \quad \text{Ans}$$

Multiplication of Algebraic Expressions:

(i) Take note of following points for like terms:

- (a) The coefficients will get multiplied.
- (b) The power of the resultant variable will be the addition of the individual powers.

Example 1: Product of $2x$ and $3x$ will be $6x^2$.

Example 2: Product of $2x$, $3x$ and $4x$ will be $24x^3$.

(ii) Take note of following points for unlike terms:

- (a) The coefficients will get multiplied.
- (b) If all the variables are different then there will be no change in the power of variables.
- (c) If some of the variables are same then the respective power of variables will be added.

Example 1: Product of $2x$ and $3y$ will be $6xy$.

Example 2: Product of $2x$, $3y$ and $4z$ will be $24xyz$.

Example 3: Product of $2x^2$, $3x$ and $4y$ will be $24x^3y$.

1. Multiplying a Monomial by a Monomial:

(a) Multiplication of two monomials:

Let us look at some examples:

Example 1: Multiplication of terms 4 and y will be $4y$.

Example 2: Multiplication of terms $4x$ and $3y$ will be $12xy$.

Example 3: Multiplication of terms $4x$ and x will be $4x^2$.

(b) Multiplication of three or more monomials:

Let us look at some examples:

Example 1: Multiplication of terms 4, x, and y will be $4xy$.

Example 2: Multiplication of terms $4x$, $3y$, 2 and z will be $24xyz$.

Example 3: Multiplication of terms $4x^3$, x^4 , y^4 and $2y$ will be $8x^7y^5$

2. Multiplying a Monomial by a Polynomial:

(a) Multiplication of Monomial by a Binomial

Let us look at some examples:

Example 1: Multiplication of 4 and $(x + y)$ will be $(4x + 4y)$.

Example 2: Multiplication of $5x$ and $(3y + 2)$ will be $(15xy + 10x)$.

Example 3: Multiplication of $7x^3$ and $(2x^4 + y^4)$ will be $(14x^7 + 7x^3y^4)$.

(b) Multiplication of Monomial by a Binomial:

Let us look at some examples:

Example 1: Multiplication of 4 and $(x + y + z)$ will be $(4x + 4y + 4z)$.

Example 2: Multiplication of $2x$ and $(2x + y + z)$ will be $(4x^2 + 2xy + 2xz)$.

Example 3: Multiplication of $7x^3$ and $(2x^4 + y^4 + 2)$ will be $(14x^7 + 7x^3y^4 + 14x^3)$.

Examples based on Multiplying a Monomial by a Polynomial:

Example 1: Simplify $2a(4a - 2) + 7$ and find its values for a) $x = 2$ b) $x = 1/2$

Solution: On simplifying, $2a(4a - 2) + 7$, we get, $8a^2 - 4a + 7$

$$\begin{aligned} \text{(a) For } x = 2, 8a^2 - 4a + 7 &= 8(2)^2 - 4(2) + 7 \\ &= 31 \end{aligned}$$

$$\begin{aligned} \text{(b) For } x = 1/2, 8a^2 - 4a + 7 &= 8(1/2)^2 - 4(1/2) + 7 \\ &= 7 \end{aligned}$$

Example 2: Multiply $(5/7 \times ab)$ and $(-21/10 \times a^2b^2)$.

$$\begin{aligned} \text{Solution: } (5/7 \times ab) \times (-21/10 \times a^2b^2) &= (5/7) \times (-21/10) \times ab \times a^2b^2 \\ &= (-3/2) a^3b^3 \end{aligned}$$

3. Multiplying a Polynomial by a Polynomial:

(a) Multiplication of Binomial by a Binomial:

Let us look at some examples:

Example 1: Multiplication of $(4x + y)$ and $(x + y)$ will be $(4x^2 + 5xy + y^2)$.

Example 2: Multiplication of $(5x^2 + 3y)$ and $(3y + 2)$ will be $(15x^2y + 10x^2 + 9y^2 + 6y)$.

(b) Multiplication of Binomial by a Trinomial:

Let us look at some examples:

Example 1: Multiplication of $(4x + 2)$ and $(x + y + z)$ will be $(4x^2 + 4xy + 4xz + 2x + 2y + 2z)$.

Example 2: Multiplication of $(2x^2 + 2xy)$ and $(2x + y + z)$ will be $(4x^3 + 6x^2y + 2x^2z + 2xy^2 + 2xyz)$.

Examples based on Multiplying a Polynomial by a Polynomial

Example 1: Multiply the binomials $(2ab + 3b^2)$ and $(3ab - 2b^2)$.

$$\begin{aligned} \text{Solution: } (2ab + 3b^2) \times (3ab - 2b^2) &= 2ab \times (3ab - 2b^2) + 3b^2 \times (3ab - 2b^2) \\ &= 6a^2b^2 - 4ab^3 + 9ab^3 - 6b^4 \\ &= 6a^2b^2 + 5ab^3 - 6b^4 \end{aligned}$$

Example 2: Simplify $(a + b + c)(a + b - c)$

$$\begin{aligned} \text{Solution: } (a + b + c)(a + b - c) &= a(a + b - c) + b(a + b - c) + c(a + b - c) \\ &= a^2 + ab - ac + ab + b^2 - bc + ac + bc - c^2 \\ &= a^2 + b^2 - c^2 + 2ab \end{aligned}$$

Identity:

It is a relation which satisfies $A = B$, where A and B will contain some variables and for any values of these variables the relation $A = B$ will always be true.

Example: Consider $(x + 1)(x + 3) = x^2 + 4x + 3$.

Let us take $x = 2$,

$$\text{LHS} = (2 + 1)(2 + 3) = 3 \times 5 = 15.$$

$$\text{RHS} = 2^2 + 4 \times 2 + 3 = 4 + 8 + 3 = 15.$$

Hence, $\text{LHS} = \text{RHS}$.

Similarly, for any values of x the relation will always be true i.e. $\text{LHS} = \text{RHS}$.

Standard Identities:

(i) $(a + b)^2 = (a^2 + 2ab + b^2)$

(ii) $(a - b)^2 = (a^2 - 2ab + b^2)$

(iii) $(a + b)(a - b) = (a^2 - b^2)$

Example 1: Find square of 102.*Solution:* We can use $(a + b)^2 = (a^2 + 2ab + b^2)$ identity to simplify the problem.We can split 102 as (100+2). Let $a = 100$ and $b = 2$.

Substituting these values in identity, we have,

LHS = $(100 + 2)^2 = (102)^2$

RHS = $(100^2 + 2 \times 100 \times 2 + 2^2) = (10000 + 400 + 4) = 10404$.

Thus, square of 102 is 10404.

Example 2: Using $(x + a)(x + b) = x^2 + (a + b)x + ab$, find 105×107 .*Solution:* Using given identity, we can write

$$\begin{aligned}
 105 \times 107 &= (100 + 5)(100 + 7) \\
 &= 100^2 + (5 + 7) \times 100 + 5 \times 7 \\
 &= 11235
 \end{aligned}$$

Example 3: Prove that $(3a + 7)^2 - 84a = (3a - 7)^2$.

$$\begin{aligned}
 \text{Solution: LHS} &= (3a + 7)^2 - 84a \\
 &= (3a)^2 + 2(3a)(7) + (7)^2 - 84a \\
 &= 9a^2 + 42a + 49 - 84a \\
 &= 9a^2 - 42a + 49
 \end{aligned}$$

$$\begin{aligned}
 \text{RHS} &= (3a - 7)^2 \\
 &= (3a)^2 - 2(3a)(7) + (7)^2 \\
 &= 9a^2 - 42a + 49
 \end{aligned}$$

Since, LHS = RHS, it is proved that $(3a + 7)^2 - 84a = (3a - 7)^2$.

Factorization :

Factors:

These are the number when multiplied give another number.

Example: 2 and 3 are factors of 6, since 2×3 gives 6.

In other words, pair of all the numbers whose product results in one single number are said to be the factors of that number.

Example: The numbers 1, 2, 3, 4, 6, 12 are the factors of 12.**1. Prime Factor Form:**

When number is written as a product of prime factors then it is said to be its prime factor

form.

Example: Prime factor form of 70 is 2, 5, and 7.

2. Algebraic Expressions Factors:

The irreducible form of algebraic expressions is known as its factors.

Example 1: The factors of $5xy$ will be 5, x and y .

Example 2: The factors of $3x(x + 2)$ will be 3, x and $(x + 2)$.

Factorization:

It is the process of decomposition of algebraic expression into product of other objects or factors which gives the original expression. The following process are:

1. Method of common factors:

Step 1: Decompose every term into irreducible factors.

Step 2: Find all the common terms amongst all the obtained irreducible factors.

Step 3: The product of common terms and the left out terms will give the desired factor form.

Example 1: Factorise $5x + 20$.

Solution:

Step 1: Decompose every term into irreducible factors.

Here, $5x = 5 \times x$ and $20 = 2 \times 2 \times 5$.

Step 2: Find all the common terms amongst all the obtained irreducible factors.

Here, the only common term is 5.

Step 3: The product of common terms and the left out terms will give the desired factor form.

Thus, the desired factor form will be $5(x + 4)$.

Example 2: Factorise $8x^2 + 6x + 4$.

Solution: $8x^2 = 2 \times 2 \times 2 \times x \times x$

$6x = 3 \times 2 \times x$

$4 = 2 \times 2$

Thus, $8x^2 + 6x + 4 = 2(4x^2 + 3x + 2)$. This is the desired factor form.

2. Factorisation by regrouping

For given expression, if there is no term common to all the terms then we take out common amongst some terms and then obtain desired factor form.

Example: Factorise $xy + x + y + 1$.

Solution: We will take $(xy + x)$ as one group and $(y + 1)$ as another.

Factor form of $(xy + x) = (x \times y) + (x \times 1)$
 $= x(y + 1)$

Factor form of $(y + 1) = (y \times 1) + (1 \times 1)$
 $= (y + 1)$

On combining, we get,

$xy + x + y + 1 = x(y + 1) + (y + 1)$

Now we can take common $(y + 1)$ from both the term, we get,
$$= (x + 1)(y + 1)$$

3. Factorization using identities:

There are many standard identities. Some of them are given below:

(i) $(a + b)^2 = a^2 + 2ab + b^2$

(ii) $(a - b)^2 = a^2 - 2ab + b^2$

(iii) $(a + b)(a - b) = a^2 - b^2$

Example 1: Factorise $x^2 + 10x + 25$.

Solution: We will use the identity $(a + b)^2 = a^2 + 2ab + b^2$ here.

$$\begin{aligned} \text{Therefore, } x^2 + 10x + 25 &= x^2 + 2 \times 5 \times x + 5^2 \\ &= (x + 5)^2 \end{aligned}$$

Example 2: Factorise $4y^2 - 12y + 9$

Solution: We will use the identity $(a - b)^2 = a^2 - 2ab + b^2$

$$\text{Since } 4y^2 = (2y)^2, 9 = 3^2 \text{ and } 12y = 2 \times 3 \times (2y)$$

$$\begin{aligned} \text{Therefore, } 4y^2 - 12y + 9 &= (2y)^2 - 2 \times 3 \times (2y) + (3)^2 \\ &= (2y - 3)^2 \end{aligned}$$

Example 3: Factorise $49p^2 - 36$

Solution: There are two terms; both are squares and the second is negative.

The expression is of the form $(a^2 - b^2)$. We will use the identity $(a + b)(a - b) = a^2 - b^2$

$$\begin{aligned} 49p^2 - 36 &= (7p)^2 - (6)^2 \\ &= (7p - 6)(7p + 6) \end{aligned}$$

4. Factors of the form $(x + a)(x + b)$:

In this type, factorise given expression such that $(x + a)(x + b) = x^2 + (a + b)x + ab$.

Example: Factorise $x^2 + 3x + 2$.

Solution: On comparing with the identity $(x + a)(x + b) = x^2 + (a + b)x + ab$; we get $(a + b) = 3$ and $ab = 2$.

On solving, we get $a = 1$ and $b = 2$.

Substituting these values into the identity, we can express as $(x + 1)(x + 2)$.

Division of Algebraic Expressions:

(a) Division of monomial by a monomial:

Let us take example to understand this:

Example: Divide $14x^2$ by $7x$.

Solution: Writing both the given terms into irreducible form, we get,

$$14x^2 = 2 \times 7 \times x \times x$$

$$7x = 7 \times x$$

Now, dividing in usual manner, we can write

$$14x^2 / 7x = (2 \times 7 \times x \times x) / (7 \times x) = 2x$$

(b) Division of polynomial by a monomial:

Let us take example to understand this:

Example: Divide $4x^3 + 2x^2 + 2x$ by $2x$.

Solution: We can write,

$$(4x^3 + 2x^2 + 2x) / 2x$$

We can take the $2x$ common from each the term, and divide by $2x$, then we get-

$$= 2x (2x^2 + x + 1) / 2x$$

$$= (2x^2 + x + 1)$$

(c) Division of polynomial by a polynomial:

Let us take example to understand this:

Example: Divide $9x^2 + 3x$ by $(3x + 1)$.

Solution: We can write,

$$(9x^2 + 3x) / (3x + 1)$$

We can take the $3x$ common from each the term, and divide by $(3x+1)$, then we get

$$= 3x \times (3x + 1) / (3x + 1)$$

$$= 3x$$

QUESTIONS FOR PRACTICE:

1. Find $(2x + 3y)^2$ using algebraic identities.
2. Using suitable identities find $(1092)^2$.
3. Using the identity $(a-b)^2 = a^2 - 2ab + b^2$, find $(5a - 7b)^2$.
4. Find 194×206 using suitable identity.
5. Use a suitable identity to find the product of $(3a + 1/3)(3a - 1/3)$.
6. The length and breadth of a rectangle are $3x^2 - 2$ and $2x + 5$ respectively. Find its area.
7. Find the value of: $x^2 - 1/5$ at $x = -1$.
8. What is the value of $x^2 + y^2 - 10$ at $x = 0$ and $y = 0$?
9. Find the product of $9a$, $4ab$ and $-2a$.
10. Simplify $(a + b + c)(a + b - c)$.
11. Using identities evaluate: 8.56×11.60 .
12. Using identities evaluate: $(99)^2$.
13. Simplify $x(2x - 1) + 5$ and find its value at $x = -2$.
14. Evaluate the value of $(95)^2$ using identities.
15. Add: $a + b + ab$; $b - c + bc$ and $c + a + ac$.

16. Verify the identity $(x + a)(x + b) = x^2 + (a + b)x + ab$ for $a = 2$, $b = 3$ and $x = 4$.
17. Find the volume of cuboid whose dimensions are $(x^2 - 2)$; $(2x + 4)$ and $(x - 3)$.
18. Write the terms and coefficients of $3 - xy + yz - xz$.
19. Simplify: $(a + b + c)(a + b - c)$.
20. Simplify the expression $x(2x-1) + 5$ and its value at $x = -2$.
21. Using suitable identities find $(xy + 3p)^2$.
22. Subtract $5x^2 - 6y^2 + 8y - 5$ from $7x^2 - 5xy + 10y^2 + 5x - 4y$.
23. Factorise: $54x^2 + 42x^3 - 30x^4$
24. Factorise: $2x^2yz + 2xy^2z + 4xyz$
25. Factorise: $30xy - 12x + 10y - 4$
26. Regroup the terms and factorise: $z - 19 + 19xy - xyz$
27. Factorise: $100x^2 - 80xy + 16y^2$
28. Factorise: $16x^4 - y^4$
29. Factorise: $x^2 + 6x + 8$
30. Factorise: $49y^2 - 1$
31. Divide $10(x^3y^2x^2 + x^2y^3z^2 + x^2y^2z^3)$ by $5x^2y^2z^2$.
32. Simplify: $12(y^2 + 7y + 10) \div 6(y + 5)$
33. Simplify: $-45p^3 \div 9p^2$
34. Simplify: $4x^2y^2(3z - 24)$, $36xy(z - 8)$
35. Divide: $81x^3(50x^2 - 98)$ by $27x^2(5x + 7)$
36. Which of the following is the remainder when $z(5z^2 - 80)$ is divided by $5z(z - 4)$:
- $z + 4$
 - $z - 4$
 - 5
 - 0
37. Which of the following is the quotient when $44(x^4 - 5x^3 - 24x^2)$ is divided by $22x(x - 8)$:
- $x(x + 3)$
 - $2x(x + 3)$
 - $2(x - 3)$
 - $x(x - 3)$
38. Which of the following is factorization of $(1 - x^2)$
- $(1 + x)(1 + x)$
 - $(1 - x)(1 - x)$
 - $(1 - x)(1 + x)$
 - none of these
39. By which of the following $a^4 - b^4$ be divided to get quotient $(a^2 + b^2)(a - b)$ and, remainder as 0.
- $a^2 + b^2$
 - $a - b$
 - $a + b$
 - $a^2 - b^2$
40. Is $(a - 1)(b - 1)$ the factorisation of $(ab - a - b + 1)$ or $(ab - a + b - 1)$?
41. Factorise : $27x^3 - 21x^2 + 15x^4$
42. Factorise : $ax^3y^2 + bx^2y^3 + cx^2y^2z$
43. Factorise : $x - 9 + 9zy - xyz$
44. Factorise:
- $p^2 - 8p + 16$
 - $121x^2 + 44xy + 4y^2$
45. Factorise: $54x^2 - 96y^2$
46. Divide $63(p^4 + 5p^3 - 24p^2)$ by $9p(p + 8)$.

MULTIPLE CHOICE QUESTIONS :

1. Which of the following is the numerical coefficient of x^2y^2 ?
 - I. 0
 - II. 1
 - III. x^2
 - IV. y^2
2. Which of the following is the numerical coefficient of $-5xy$?
 - I. 5
 - II. $-x$
 - III. -5
 - IV. $-y$
3. pqr is what type of polynomial?
 - I. Monomial
 - II. Binomial
 - III. Trimonial
 - IV. None of these
4. The value of $x^2 - 5$ at $x = -1$ is-
 - I. -2
 - II. -1
 - III. -4
 - IV. -5
5. $a^2 - b^2$ is a product of
 - I. $(a+b)(a-b)$
 - II. $(a+b)(a+b)$
 - III. $(a-b)(a-b)$
 - IV. None of these
6. Which of the following is the value of $(x + 1/x)^2$?
 - I. $x^2 + 1/x^2$
 - II. $x^2 - 1/x^2$
 - III. $x^2 + 1/x^2 + 2$
 - IV. $x^2 + 1/x^2 + 2x$
7. Which of the following is obtained by subtracting $x^2 - y^2$ from $y^2 - x^2$?
 - I. $-2(x^2 - y^2)$
 - II. $-2(x^2 + y^2)$
 - III. $2(x^2 + y^2)$
 - IV. $2(x^2 - y^2)$
8. What degree does $x^3 - x^2y^2 - 8y^2 + 2$ have?
 - I. 2
 - II. 3
 - III. 4
 - IV. 7
9. What is the value of $5x^{25} - 3x^{32} + 2x^{-12}$ at $x=1$?
 - I. 0
 - II. 2
 - III. 4
 - IV. None of these
10. What is the product of $(x+a)$ and $(x+b)$?
 - I. $x^2 + (a-b)x + ab$
 - II. $x^2 + (a+b)x - ab$
 - III. $x^2 + (a+b)x - ab$
 - IV. $x^2 + (a+b)x + ab$
11. Which of the following is the common factor of $21x^2y$ and $35xy^2$?
 - (i) 7
 - (ii) xy
 - (iii) $7xy$
 - (iv) none of these.

12. Which of the following are the factors of $1 - x^2$?
- $(x + 1)(x - 1)$
 - $(1 - x)(1 + x)$
 - $(1 - x)(1 - x)$
 - $(1 + x)(1 + x)$.
13. Which of the following is the common factor of:
 $5xy$, $3pqr$ and $40xyz$?
- 5
 - 0
 - xy
 - 1
14. Which of the following is the quotient obtained on dividing $-18xyz^2$ by $-3xz$?
- $6Yz$
 - $-6yz$
 - $6xy^2$
 - $6xy$
15. Which of the following is the quotient obtained on dividing $(x^2 - b)(x - a)$ by $-(x - a)$?
- $(x^2 - b)$
 -
- $$\frac{-(x^2 - b)}{(x - a)}$$
- $-(x^2 - b)$
 - $-(x + a)$
16. Which of the following are the factors of $a^2 + ab + bc + ca$
- $ab - a - b + 1 = (1 - a)(1 - b)$
 - $ab - a - b + 1 = (a - 1)(b - 1)$
 - $ab - a - b + 1 = (1 - a)(b - 1)$
 - $ab - a - b + 1 = (a - 1)(1 - b)$
17. $(y - x)(y + x)$ is equal to which of the following:
- $y^2 - yx$
 - $yx - x^2$
 - $y^2 - x^2$
 - $x^2 - y^2$
18. Which of the following are the factors of $a^2 + ab + bc + ca$
- $(b + c)(c + a)$
 - $(a + b)(a + c)$
 - $a(a + b + c)$
 - $(a + b)(b + c)$.
19. Which of the following is the factorisation of $x^3 - x$?
- $x(x - x^2)$
 - $x[(1 + x)(1 - x)]$
 - $x(x^2 - x)$
 - $x[(x + 1)(x - 1)]$
20. Which of the following is equal to $x^3 - 225x$
- $x(1 - 15x)(1 + 15x)$
 - $x(x - 15)(x + 15)$
 - $x(1 - 15x)(1 - 15x)$
 - $x(1 + 15x)(1 - 15x)$.

THE END

PHYSICS STD: VIII

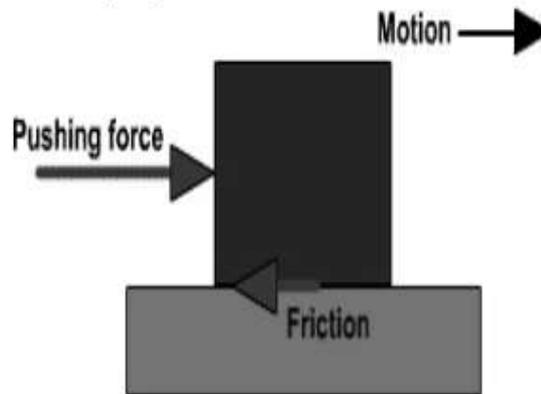
FRICTION

Introduction

Forces affect the motion and speed of a football in the game, and different forces can help or hinder motion in the game at different times. Some forces are in direct contact with objects, while other forces are not. For example, the force of friction slows the football down when it rubs against another object. **Friction** is a force that resists motion between two bodies in contact. You can observe friction when you roll a football on the ground. The ball will eventually come to a complete stop after rolling, because the friction caused by the football dragging on the ground depletes the force that was initially enacted upon it.

Definition of Friction

"The opposing force, which acts in the opposite direction of the movement of the upper Body ,is called "FRICTION FORCE", or simply " FRICTION ".



EXAMPLE:

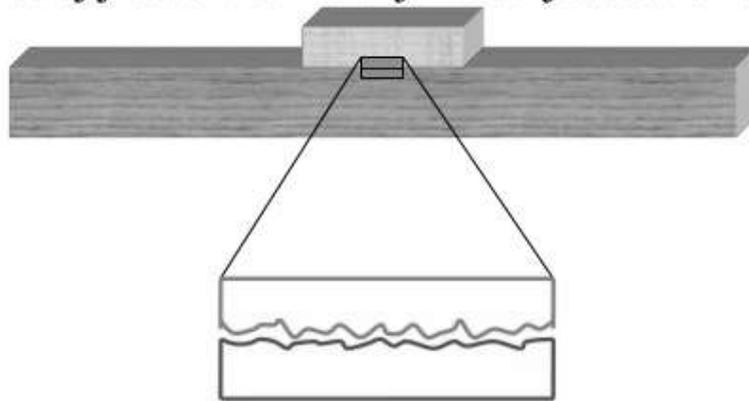


FRICTIONAL FORCE

Frictional force refers to the **force** generated by two surfaces that contacts and slide against each other. ... These **forces** are mainly affected by the surface texture and amount of **force** impelling them together. The angle and position of the object affect the amount of **frictional force**.

CAUSE OF FRICTION

- *Friction is caused due to the interlocking of irregularities between the two surfaces in contact.*
 - **Smooth surfaces** have minute irregularities between the two surfaces.
 - **Rough surfaces** have larger irregularities between the two surfaces.
- *So force of friction is more if the surfaces are rough.*



FACTORS THAT AFFECT FRICTION

- Depends on the nature of the surfaces in contact
 - The rougher the surface the greater is the friction
- Is proportional to the force pressing the surfaces together (in the case of horizontal movement, the pressing force is the weight).
 - Pushing heavy vs. light objects
- Is independent of the area of contact



ASSIGNMENT QUESTIONS

1. Does friction depend on the nature of objects?
2. Which type of surface produces less friction?
3. Which type of surface produces more friction?
4. What would happen when an object starts moving if there is no friction?
5. Name the force which always opposes motion?
6. What is the direction of forces of friction acting on an object ?
7. Give an example where heat is produced due to friction.
8. What is friction ?
9. What are the causes of friction ?
10. Write two factors affecting friction .

METALS AND NON-METALS

- Materials around us can be broadly grouped into metals and non-metals.

PHYSICAL PROPERTIES OF METALS AND NON-METALS

PHYSICAL PROPERTIES	METALS	NON-METALS
CONDUCTIVITY	Metals (such as iron or copper) are good conductors of heat and electricity.	Non-metals (such as coal or sulphur) are poor conductors of heat and electricity. Graphite is an exception as it is a good conductor of electricity.
DUCTILITY	Metals (such as aluminium and copper) are ductile, which means that they can be drawn into wires.	Non-metals are brittle (break down when struck) and hence, they cannot be drawn into wires.
HARDNESS	All metals are hard though there are some exceptions. Sodium and potassium are soft and can be cut with a knife.	Most non-metals are soft. Diamonds are exceptions as they are the hardest material found on Earth. However, they are also very brittle and break when struck with a hammer.
LUSTRE	Metals (such as gold, silver and copper) are lustrous, which means that they reflect light from their surface and can be polished.	Non-metals (such as coal) are generally dull and do not reflect light. Hence, they lack metallic lustre.
MALLEABILITY	Metals (such as silver and aluminium) are malleable, which means that they can be beaten into thin sheets.	Since non-metals break easily, they cannot be pounded into sheets.
PHYSICAL STATE	Most metals remain solid at room temperature, except mercury and gallium which remain liquid at room temperature.	Most non-metals exist in two of the three states of matter at room temperature: Gases (such as oxygen), and Solids (such as carbon).
SONOROUS	Metals produce ringing sounds when they are struck and hence, they are sonorous, except Mercury which is liquid in nature.	Non-metals are non-sonorous and do not produce the typical metallic sound when they are struck.
EXAMPLES	Iron, copper, aluminium, calcium, magnesium, etc.	Sulphur, carbon, oxygen, phosphorus, etc.

EXCEPTIONS IN PHYSICAL PROPERTIES

- Mercury is a liquid metal.
- Lead and mercury are poor conductors of heat.
- Mercury expands significantly for the slightest change in temperature.
- Gallium and caesium have a very low melting point
- Iodine is non-metal but it has lustre.
- Graphite conducts electricity.
- Diamond conducts heat and has a very high melting point.

USES OF AND NON- METALS

- Non-metal is essential for our life which all living beings inhale during breathing,
- Non-metals used in fertilisers to enhance the growth of plants,
- Non-metal used in water purification process,
- Non-metal used in the purple coloured solution which is applied on wounds as an antiseptic,
- Non-metals used in crackers

ASSIGNMENT:

Q1. Define metal. Name any five metals.

Q2. What are non-metals? Name any five non-metals.

Q3. State any five physical properties of metals and non-metals?

Q4. Define malleability and ductility?

Q5. Give two examples of metals which are good conductor of heat.

Q6. Write one example of each of

(a) A metal which is so soft that, it can be cut with knife

(b) A non-metal which is the hardest substance.

(c) A metal and non-metal which exist as liquid at room temperature

Q7. Give reason:

(a) School bells are made up of metals.

(b) Electric wires are made up of copper.

Class - 8

MICROORGANISMS

- Microorganisms are microscopic organisms that cannot be seen with the naked eye.
- These organisms are usually unicellular in nature.

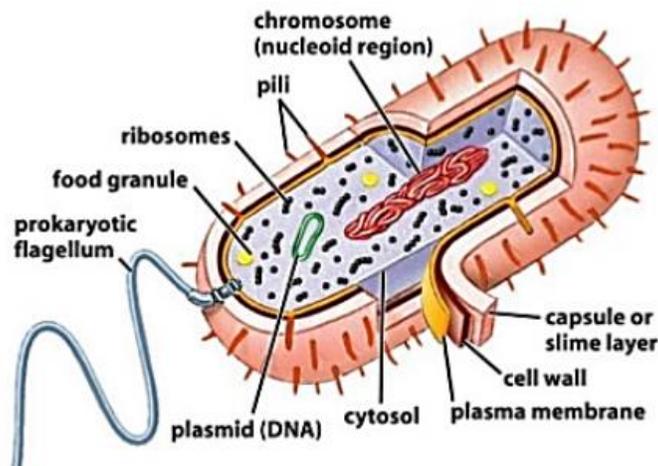
TYPES OF MICROORGANISMS

There are five major groups of microorganism. These are as follows:

1. Bacteria
2. Algae
3. Protozoa
4. Fungi
5. Viruses

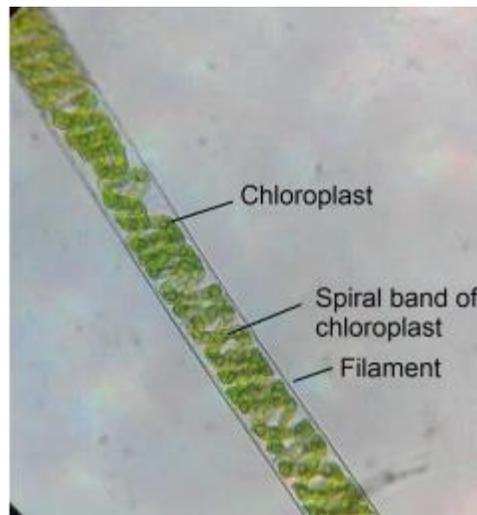
BACTERIA

- They are simple living organisms which are found all around us. They are mostly single- celled tiny organisms, but they live together in colonies of millions.
- Bacteria are found in three different shapes:
 1. Rod shaped, called bacilli.
 2. Spherical shaped, called cocci.
 3. Spiral called spirilla.



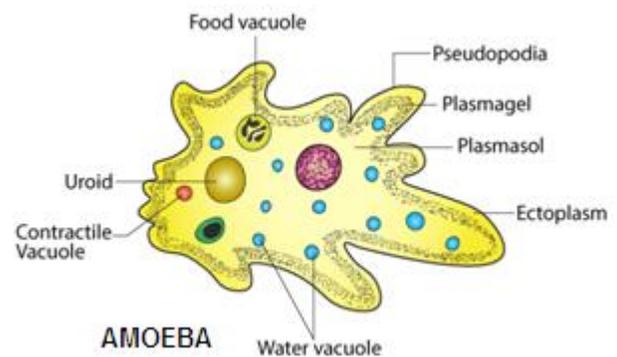
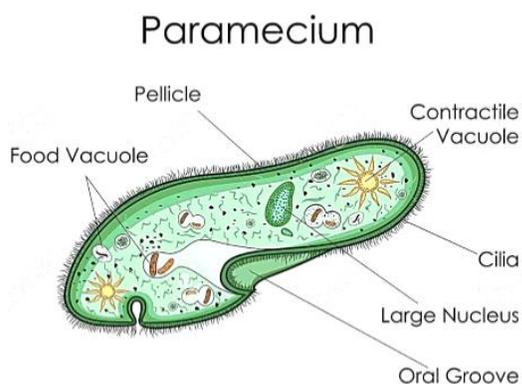
ALGAE

- Algae are simple plant- like organisms which are usually aquatic in nature.
- They contain a cell wall and chlorophyll and can make their own food by photosynthesis.
- Algae can be unicellular or multicellular.
- Some of the common examples are diatoms, chlamydomonas, and seaweed.



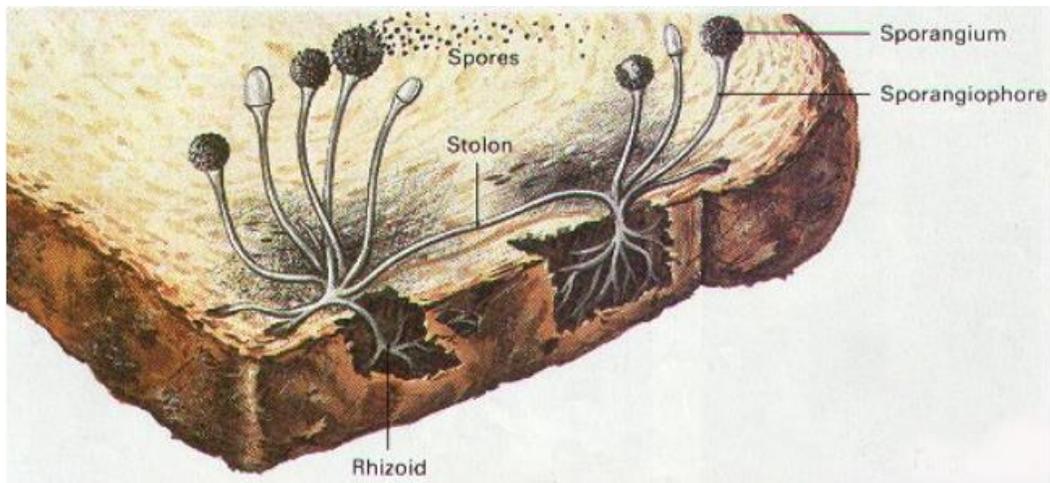
PROTOZOA

- These are unicellular microscopic organisms similar to animals that can move about to capture food and are heterotrophic in nature.
- They are mostly aquatic in nature.
- Amoeba, paramecium are some examples of protozoa



FUNGI

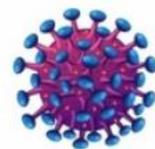
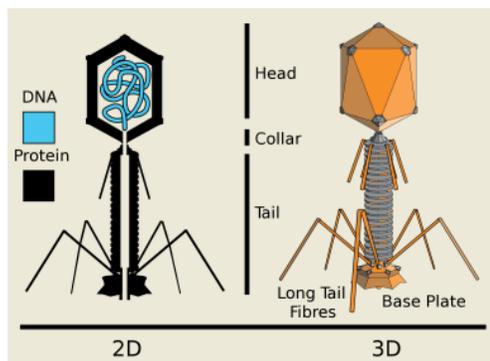
- Plant -like organisms that do not contain chlorophyll are called Fungi.
- Fungi may be unicellular (Yeast) or multicellular (Bread mould) and are found in warm and moist places.
- Fungi can be heterotrophic, saprophytic or parasitic in nutrition.
- Examples: Yeast, Rhizopus (Bread mould), mushrooms, puffballs.



Bread Mould

VIRUSES

- Viruses are smaller than any known cell.
- Viruses can only be seen with electron microscope.
- Viruses can reproduce only inside the bodies of other organisms, which mean they need a host.
- A virus is like a non- living thing outside the body of other organisms. Therefore, it is a borderline between a living and a non- living thing.



HIV



Hepatitis B



Ebola Virus



Adenovirus



Influenza



Bacteriophage

USEFUL MICROORGANISMS

Microorganisms are useful in the following ways:

- In food and beverage industry
- In making medicines and vaccines
- In agriculture
- In cleaning the environment

BACTERIA ARE HELPFUL BECAUSE

- ✓ It decomposes organic wastes (such as vegetable peels, animal remains, and faeces etc.).
- ✓ It is used in the preparation of medicines.
- ✓ It increases soil fertility by fixing nitrogen.
- ✓ It is used in the setting of curd and making cheese, pickles, and other food items.

How is curd formed?

A bacterium called Lactobacillus multiplies in milk and converts it into curd.

How is yeast useful to us?

Yeast is used in the baking industry (to make bread, pastries, and cakes) because it helps in fermentation. It reproduces rapidly and produces carbon dioxide during respiration. Bubbles of the carbon-dioxide gas it produces fill the spaces in the dough and increases its volume. It is also used in the commercial production of alcohol and wine which is done by growing yeast on natural sugars present in fruit juices and grains like rice, wheat, and barley.

What is Fermentation?

Fermentation is the process by which the yeast converts sugar into alcohol.

It was discovered by Louis Pasteur in 1857.

MEDICINAL USE OF MICROORGANISMS

- (i) Whenever we fall ill the doctor may give us some antibiotic tablets, capsules or injections like penicillin which are made up of microorganism.
- (ii) These days the medicines produced from Bacteria and fungi kill or stop the growth of the disease-causing microorganisms. Such medicines are called antibiotics.
- (iii) Streptomycin, tetracycline and erythromycin medicines which are made from fungi and bacteria are some of the commonly known antibiotics.
- (iv) The antibiotics are made by growing specific microorganisms and are used to cure a variety of diseases. Antibiotics should be taken only on the advice of a qualified doctor.
- (v) Antibiotics are even added with the feed of livestock and poultry for checking microbial infection in animals.
- (vi) Microorganisms are also used to control many plant diseases.

CLEANING THE ENVIRONMENT

At the time of making manure, we collect wastes of plants, vegetables and fruits from nearby houses and gardens. They put them in a pit meant for waste disposal. After some time, it decomposed by microorganisms and gets converted to manure. By this method environment is cleaned.

INCREASING SOIL FERTILITY

Some bacteria and blue green algae are able increase the fertility of soil by fix nitrogen from the atmosphere to enrich soil with nitrogen. These microbes are commonly called biological nitrogen fixers.

ANTIBIOTICS

What are Antibiotics? What are their uses?

Antibiotics are medicines that can kill or stop the growth of disease-causing microorganisms. For Example, Penicillin.

Antibiotics are used to:

- Cure a variety of diseases (such as streptomycin, erythromycin, and tetracycline that are made from bacteria and fungi),
- Cure microbial infection in animals (by mixing antibiotics with the feed of livestock and poultry), and
- Control several plant diseases.

Pathogens: Disease-causing microbes are called Pathogens.

Antibodies: Antibodies are substances our body produces to fight disease-causing microbes.

Vaccines: Vaccines are weakened or dead disease-causing microbes that are injected in our body to trigger the production of antibodies. These antibodies remain in the body for a long time to protect it against any attack of disease-causing microbes.

Vaccination: The process of protecting the body from pathogens with the help of vaccines is called Vaccination.

Some of the diseases that can be prevented by vaccination are:

- Cholera,
- Hepatitis,
- Smallpox, and
- Tuberculosis

ASSIGNMENT:

1. What are viruses? Name some common diseases in human caused by virus.
2. Explain the formation of curd from the milk.
3. Mention some beneficial effects of bacteria.
4. Explain the uses of Fungi and Algae.

5. Match the microorganisms given in the Column A to the group to which they belong in Column B.

Column A

Column B

- (a) *Lactobacillus*
- (b) *Aspergillus*
- (c) *Spirogyra*
- (d) *Paramecium*

- (i) Algae
- (ii) Protozoa
- (iii) Fungi
- (iv) Bacteria

- 6. Name one commercial use of yeast.
- 7. Name some of the diseases which can be prevented by vaccines?
- 8. How does microorganism help in increasing soil fertility?
- 9. Describe the role of microorganisms in
 - i. Cleaning the environment
 - ii. Sewage treatment
- 10. Define microorganism. Write the different types of microorganisms with example?

GURU GOBIND SINGH PUBLIC SCHOOL

SUBJECT: HISTORY

STANDARD: VIII

ASSIGNMENT: III

How The Company Established Power: From Trade To Territory.

(Continued)

Claim to Paramountcy

- Under Lord Warren Hastings, who was Governor General from 1773-1813, propagated a new Policy of Paramountcy.
- Under this, the Company claimed that its authority was paramount or supreme, hence its power was greater than that of Indian states.

Setting up a new administration:

- The British had divided their territories into administrative units called Presidencies. There were three Presidencies-Bombay, Bengal and Madras- each ruled by a Governor.
- The Governor General was the supreme head of administration.
- Each district has two courts- a Criminal Court (faujdari adalat) and a Civil Court (diwani adalat)
- A New Supreme Court was established under the Regulating Act of 1773 and a court of appeal was set up in Calcutta.

The Company Army

- Colonial rule in India brought in some new ideas of administrative and reform but its real strength was its military.

- In the early 19th century the British began to develop a uniform military culture.

Conclusion

- The east India company changed from a trading company to a colonial power.
- The introduction of steam ships enabled faster movement between England and India .
- By 1857, the Company had 63 percent of Indian Territory under its direct rule.
- So, in a sense , all India was the control of East India company

Answer the following questions:-

1. What is the policy of "Paramountcy" ?
2. In what way did the administration of the Company differ from that of the Indian Rulers ?

Agricultural Reforms

Objectives

- The Company becomes the Diwan
- Revenue for the Company
- Need to improve agriculture
- The Mahalwari System

- The Munro System
- The demand for indigo
- Main system of indigo cultivation
- The Blue Rebellion

The Company becomes the Diwan

- The Mughal emperor Shah Alam II appointed the East India Company as the Diwan of Bengal on 12th August 1765.
- The Company now became the chief financial administrator of the territory under his control.

Revenue for the Company

- Even though the Company had become the Diwan, its primary focus remained on trade.

- The Company wanted to increase the revenue so that it could buy cotton and silk at low cost.
- Before it became the Diwan, the Company had import gold and silver from Britain to purchase goods.
- The economy of Bengal was badly affected. In 1970, a great famine swept across Bengal.
- As a result, about ten million people died.

Need to improve agriculture

- The Company felt that it had to do something to ensure regular income. With this objective Lord Cornwallis introduced the Permanent Settlement in 1793.
- The system was implemented in Bengal, Bihar and Orissa.
- Under this system Zamindars became the new masters of the land.
- This settlement was called permanent because the amount of revenue to be paid by each Zamindar was fixed permanently and would not be increased in future.

The problems of Zamindari System

- The revenue fixed was very high and most zamindars found it very difficult to pay.
- Anyone who failed to pay the revenue on time lost his zamindari.
- The situation changed in the early part of the 19th century as agriculture expanded and price rose.
- This meant more income for zamindars.
- The company did not gain anything because it has fixed the revenue permanently.
- This system was very oppressive for the cultivator.

Mahalwari System

- Holt Mackenzie ,an Englishman ,devised a new system called Mahalwari System, which came into effect in 1822.
- The system was introduced in Western Uttar Pradesh and Madhya Pradesh. Later on the system was introduced in Punjab too.
- The settlement of land revenue was made between the Company and the Mahal .
- The rate of revenue was to be revised periodically.
- The charge of collecting the revenue was given to village headman rather than the zamindar.

The Munroe System (Ryotwari)

- In the south, a new system was devised which was known as Ryotwari System.
- Ryotwari System was initiated by Captain Alexander Read and developed by Thomas Munro.
- This system was extended all over South India.

Answer the following questions:-

- Who appointed the Company as Diwan of Bengal and when ?
- List two problems which arose with the new Munro System of Fixing Revenue.
- What was the Munro System ?
- Write short note on Mahalwari System .
- Describe the main feature of the "Permanent Settlement".

Crops for Europe

- By the late 18th century the Company was trying to expand the cultivation of opium and indigo.
- They forced cultivators to produce jute, tea, sugarcane, wheat, cotton and rice in various parts of India.

The Demand for indigo

- By the thirteenth century Indian indigo was being used by cloth manufacturers by Italy, France and Britain to dye cloth.
- Indigo produced a rich blue colour whereas the dye from woad another plant was pale and dull.
- So, they persuaded their governments to lift the ban on indigo imports in the 17th century .

- While the demand increased , existing supplies from west Indies and America fell sharply for a number of reasons.
- Indigo plantations came up in many parts of North America.

Expanding indigo cultivation in India

- The company in India expanded the area under indigo cultivation to meet the rising demand for indigo in Europe.
- As the indigo trade grew commercial agents and officials of the company began investing in indigo production.

Main Systems of indigo cultivation

- There were two main systems of indigo cultivation- **Nij** and **Ryoti**.
- In Nij system, the planter produced indigo in lands that he directly controlled.

The Problem with Nij Cultivation

- The planters found difficulty to expand the area under Nij cultivation.
- Nij cultivation on a large scale required many plough and bullocks, investing on purchase and maintenance of ploughs was a big problem. The planters were reluctant to expand the area under Nij cultivation.
- The area of land producing indigo under nij cultivation remained less than 25%.

The Ryoti system of cultivation

- In Ryoti system, the planters forced the ryots to sign a contract an agreement (satta).
- Those who signed the contract got cash advance from the planters at low rates of interest to produce indigo.
- The peasants got very low price for the indigo they produce and the cycle of loans never ended.
- After an Indigo harvest the land could not be sown with rice which the peasants preferred.

The Blue Rebellion

- In March 1859 thousands of ryots in Bengal refused to grow indigo.
- As the rebellion spreads, ryots refused to pay rents to the planters and attacked indigo factories.
- The government set up the indigo commission to enquire into the system of indigo production.

- It declared that indigo cultivation was not profitable for ryots. Hence they could refuse to produce indigo in future.
- After the revolt, indigo production collapsed in Bengal. The planters now shifted their operations to Bihar.

Answer the following questions :-

- What does Blue Rebellion mean ?
- Write short notes on : Nij Cultivation
- Why were ryots reluctant to grow indigo ?
- What were the circumstances which led to the eventual collapse of indigo production in Bengal ?



**GURU GOBIND SINGH PUBLIC
SCHOOL**

**STANDARD : VIII
SUBJECT : GEOGRAPHY
ASSIGNMENT III**

LAND AND SOIL RESOURCES

SOIL RESOURCES

The thin layer of loose earth ,product of weathering ,covering the earth surface on which plants grows is termed as soil . It occurs only in the lithospheric zone of the earth.

•**Composition**: Soil is composed of inorganic materials or different mineral nutrients, organic materials or dead and decayed flora and fauna. Decomposed biological wastes called humus, present in the soil determines its quality, The fine grained or coarse grained quality of the soil and its color is known as texture of the soil.

SOIL PROFILE

The rock wastes and other components of soil are formed in layers . This layering arrangement depend on speed and types of weathering and is known as soil profile . Each of these layers is known as 'HORIZON' . For the purpose of identification as per their constitution ,they are grouped into three major layers known as humus layer, top soil and sub soil .

The uppermost layer that is formed by the partial decay of organic matter is called the humus layer . The fertile part of the soil is known as top soil , and the material immediately under the top soil is called the sub soil . The weathered or broken rock , upon which all the three layers rest is called the weathered zone .

The unbroken solid rock , which is the lower most layer of the soil profile is called the bed rock. When rain falls , the fine grained nutrients of the top soil are leached to subsoil. The leached material besides nutrients may also contain clay. Therefore, the roots of plants often reach the sub soil, to get the accumulate nutrients their.

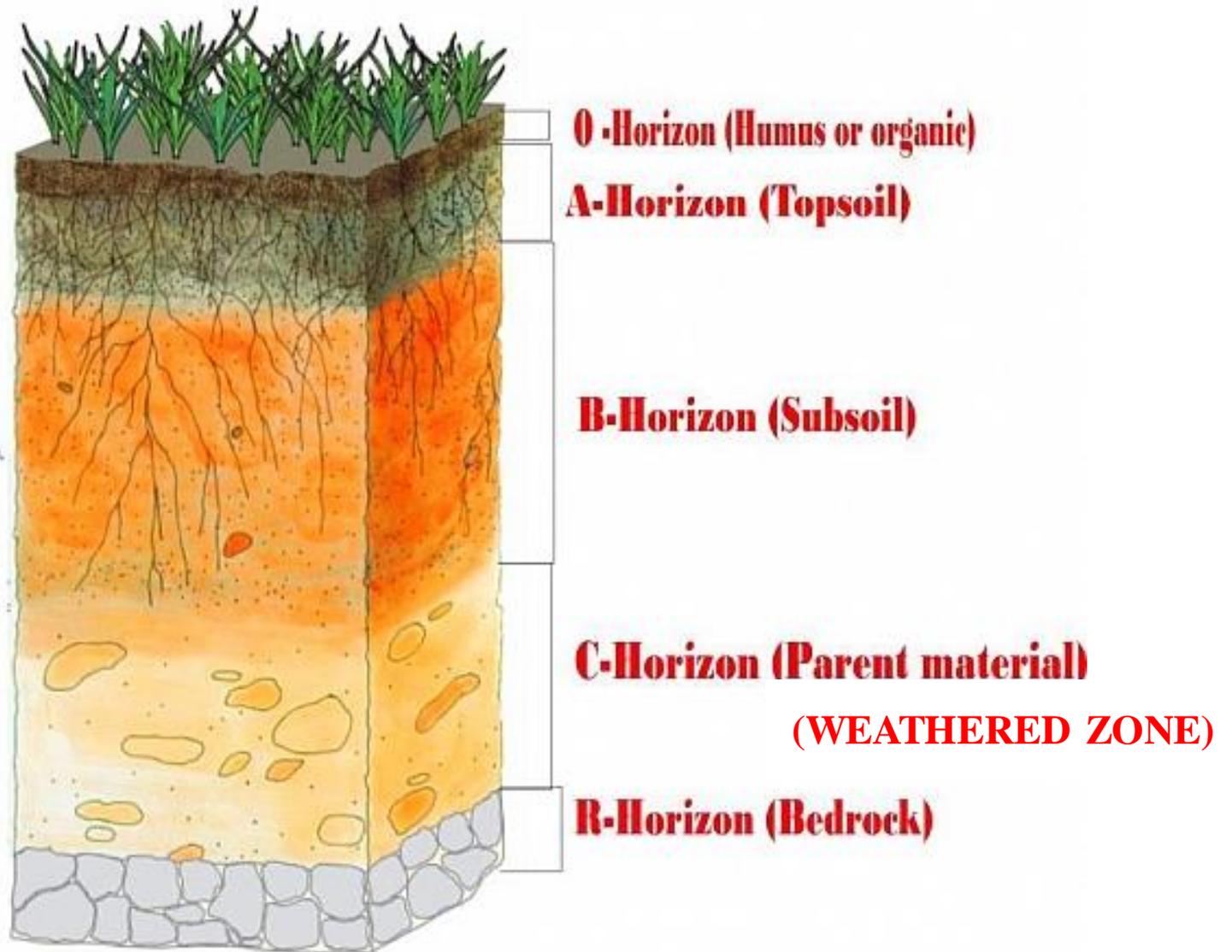


Fig:-SOIL PROFILE

SOIL DEGRADATION

Soil degradation in simple terms refers to the soil which is unfit for plants growth by natural and human factors. It is often termed as soil erosion. The degradation not only affects the top but also the other layers of soil.

Types and causes of soil erosion:-

There are two major cause of soil erosion – Natural and Man-Made.

Natural causes:-

- **Gully erosion:** It is caused by fast running water , which washes away the soil.
- **Sheet erosion :** It is caused when water flows down a slope and washes away the top soil.
- **Splash erosion :** It is caused when torrential rain fall scrubs and washes away the soil.
- **Wind erosion :** In deserts and costal areas , the speed of wind is high which blows away the fine soil particles of the top soil and deposits them else where .

Man-Made Causes :-

- **Deforestation:** The indiscriminate clearing of green cover and cutting down of trees damage the soil. The roots of plants bind the soil and hold moisture . Thus, deforestation leads to drying up of soil.
- **Over Grazing:** Over grazing by cattle and sheep causes damage to the soil as the top soil get exposed , leading to leaching or might get blown away by the wind .
- **Over use of ground water:** the indiscriminate use of underground water by ever growing urban settlements and irrigation systems results in soil collapses and harms layers as well .
- **Fertilizers :** The use of artificial fertilizers and pesticides causes damage to the basic soil properties.

Major Factors Affecting Soil Formation.

Weathering and its types determine the quality and quantity of soil.

Parent rock determines content, colour, texture, chemical properties, mineral, permeability.

SOIL

Climate temperature and rainfall influence the rate of weathering and humus formation.

Relief is the form of altitude and slope, determine soil and its nutrients retention.

Flora, Fauna and micro-organism affect the rate of humus formation.

Time determines the thickness of the soil profile.

METHODS OF SOIL CONSERVATION

It means protection, preservation and efficient utilization of land and soil resources.

Some methods of soil conservation are:-

- ***Afforestation*** : In some areas , original vegetation cover has been removed, such as in shiwalik hills. In such areas afforestation and reforestation is needed to hold the soil. Advancement of desert can be checked by planting trees along the margins of desert.
- ***Controlled grazing*** : The number of cattle to be grazed on slope should be according to the carrying capacity of pastures.
- ***Terraced agriculture*** : Slope must be cut into a series of terraces (fields) for cultivation so as to slow down the flow of rain water.

- **Rock dams:** Rock dams are built across the stream in those regions which are prone to flooding .
- **Contour ploughing:** contour ploughing , terracing and bunding is done to check soil wash on slopes . Ploughing is done at right angles to the hill slopes.
- **Crop rotation:** crop rotation system should be applied and the land should be left fallow for some time. Soil fertility can be maintained in this way.
- **Shelter belts:** In coastal areas and arid and semi arid regions where wind speed is very high tall trees are grown in rows to restrict the speed of the wind, thus checking the soil erosion.
- **Mulching:** It is a method of converting the open or bare ground with compost organic substances such as straw and manure to prevent leaching and wearing away of the top soil.

Questions:-

1. What is mulching?
2. Name two layers of soil profile.
3. Name any two steps that government has taken to conserve soil.
4. What is soil profile?
5. How does overgrazing cause soil erosion?
6. Explain how soil formation gets affected by relief and topography of land masses.
7. What is soil erosion? Describe its various types.
8. Why is soil conservation necessary? How can it be conserved?
9. Draw a neat and labelled diagram of soil profile .

Class -8

Self Study Material / Assignment-3

Microsoft Access is a powerful program to create and manage our databases. It has many built in features constructing and viewing our information.

To use MS Access, following four steps are needed:

Database Creation – Create your Microsoft Access database and specify what kind of data you will be storing.

Data Input – After a database is created, the data of every business day can be entered into the Access database.

Query – It is a term used to basically describe the process of retrieving information from the database.

Report (optional) – Information from the database is organized in a nice presentation that can be printed in an Access Report.

To close a database:

Closing a database means to free up the computer's memory

Steps to close a database:

- Click the File tab to go to Backstage View.
- Select Close Database.
- If you have any unsaved objects, a dialog box will pop up for each one asking if you want to save it. Select Yes to save the object, No to close it without saving, or Cancel to leave your database open.

Opening a database:

To open an existing database from the File menu, follow these steps:

- Choose File and then select Open option. The Open dialog box appears
- If necessary, open the Look In drop-down list box to select another drive or directory.
- Click to select the filename of the database you want to open.

- Click Open.



Navigation pane:

The Navigation Pane is the main way to view and access all our database objects and it displays on the left side of the Access window by default. The Navigation Pane can be customized in a variety of ways. It enables to view database objects like tables, queries, reports and forms.

Datasheet view refers to row wise and column wise viewing of data in a table in database applications such as spreadsheets, Access, Excel, and so on. The information related to individual records is provided in individual rows and the attributes related to that record is given in the corresponding columns.

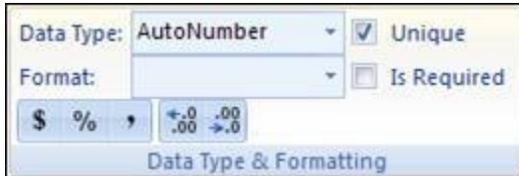
Creating a Table in Datasheet View :

1. Open any database

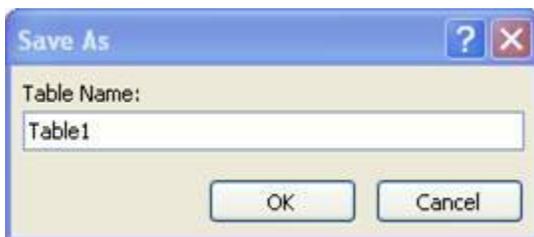
2. Choose the Table command in the Tables group on the Create tab



3. Add your table fields
4. Next, for each field you add, you'll want to check and possibly change the assigned data type
5. Select the first field
6. Show the Data Tools Datasheet Contextual tab



7. Check, **and if** necessary, change the Data Type and Formatting in the Data Type & Formatting group
8. Repeat **step 7** for all fields
9. Click the Save command on the Quick Access Toolbar



10. Enter a table name
11. Click OK

Design view:

Design view allows us to create a new table with the fields of our choice. In design view the window is divided into two parts:

1) Top pane:

The top view is mainly used for creating fields name, to specify field type, and enter field descriptions.

2) Bottom pane:

It is mainly used to specify the properties of the fields.

Fields: A field is a segment of information that when grouped with other related segments, provides a detailed record for a specific object. A field, for example, would be specific information regarding the employee, perhaps the employee's name, hire date or social security number.

Data types: A field's data type determines what kind of data it can store. MS Access supports different types of data, each with a specific purpose.

The data type determines the kind of the values that users can store in any given field.

Each field can store data consisting of only a single data type.

Type of Data	Description	Size
Text	Text or combinations of text and numbers, including numbers that do not require calculating (e.g. phone numbers).	Up to 255 characters.
Number	Numeric data used in mathematical calculations.	1, 2, 4, or 8 bytes (16 bytes if set to Replication ID).
Date/Time	Date and time values for the years 100 through 9999.	8 bytes
Currency	Currency values and numeric data used in mathematical calculations involving data with one to four decimal places.	8 bytes

AutoNumber	A unique sequential (incremented by 1) number or random number assigned by Microsoft Access whenever a new record is added to a table.	4 bytes (16 bytes if set to Replication ID).
Yes/No	Yes and No values and fields that contain only one of two values (Yes/No, True/False, or On/Off).	1 bit.
Memo	Characters used for detailed, descriptive fields	Up to 63,999 characters
OLE objects	OLE objects can store pictures, audio, video, or other BLOBs (Binary Large Objects)	Up to about 2 GB.
Hyperlink	Text or combinations of text and numbers stored as text and used as a hyperlink address.	Up to 8,192 (each part of a Hyperlink data type can contain up to 2048 characters).
Lookup Wizard	A simple lookup field uses the contents of another table or a value list to validate the contents of a single value per row	Dependent on the data type of the lookup field
Calculated	You can create an expression that uses data from one or more fields. You can designate different result data types from the expression.	You can create an expression that uses data from one or more fields. You can designate different result data types from the expression.
Attachment	Files, such as digital photos. Multiple files can be attached per record. This data type is not available in earlier versions of Access.	Up to about 2 GB.

Assignment:

- 1) What is MS ACCESS?
- 2) Write the steps to close a database.
- 3) Write the four steps that are needed to use MS ACCESS.
- 4) Write the steps to open a database in MS ACCESS.
- 5) What is design view? Explain.
- 6) What is navigation pane?
- 7) What are data types in MS ACCESS? Give three examples.
- 8) Write the steps to create table in datasheet view.
- 9) What is field in a database?
- 10) Write the description of hyperlink data type in MS ACCESS.