Class - 8
Subject- Computer

Assignment- 4

Lesson - Queries, Forms And Reports in MS Access

By- Shubhra Ghosh

Session - 2020-2021

ASSIGNMENT 4

COMPUTER

CLASS- VIII

CH -4 Queries, Form and Reports in MS Access

Followings are the Links for ----

- ✓ Creating query using query wizard- https://www.youtube.com/watch?v=HoUaHHfnsdw
- ✓ Creating query using design view- https://www.youtube.com/watch?v=d5bo7O2wkuw
- ✓ Creating new forms using form command- https://www.youtube.com/watch?v=5R_jcKhkK8A
- ✓ Creating new forms using form wizard- https://www.youtube.com/watch?v=CY1e4UbegpE
- ✓ Creating form using Split Form- https://www.youtube.com/watch?v=V38sS2YGJQY
- ✓ Creating report using Report command and Report Wizard- https://www.youtube.com/watch?v=iks5OO8Vh1c

- ➢ At the end of the chapter content answer key is given from which section A and B write answers in your book and Section C and D is to be done in your computer copy.

CHAPTER 4

QUERIES, FORMS AND REPORTS IN MS ACCESS

IN THE CHAPTER

- Queries
- Forms
- Reports

A database is a collection of information that is organised so that it can easily be accessed, managed and updated. MS Access is a software package that can help people efficiently store and retrieve all types of information.

In MS Access:

a) A **table** is the warehouse of the information you store in your database.

b) A **form** is a unique way of viewing the information in a table. It allows to enter new data and access the existing records.

c) A **query** draws the data from the records already in a table based on certain criteria.

d) A **report** is used to present and summarise the data in an attractive manner.

In this chapter, you will learn about forms, queries and reports.

Queries

Queries are those that truly make the work in a database. It is used to filter the data according to a certain criteria or specification. Its most common function is to recover specific data of the tables. The data that you wish to see usually is distributed by several tables. You can also see them in a single data sheet. Actually, it is very difficult to extract data from tables without query. It is a question asked from tables to extract information from the table. The result obtained is also a table but filtered.

Creating a Query

After creating a table and entering data, you can work with queries.

There are two ways to create a query:

- Query Wizard
- Query Design

Creating a query using Query Wizard

With the Query Wizard, you can select a group of records based on some rules you specify. For example, if you have a database that contains large amount of information in one or more tables, you can use a carefully designed query to collect or display just a few records that satisfy some numerical or logical value.

Step 1: Select the **Create** tab and click on **Query Wizard** in the **Queries** group.

Fig 4.1: Selecting Query Wizard option

Step 2: Select the **Simple Query Wizard** option from given four options and click on **OK** button.

Fig 4.2: Selecting Simple Query Wizard option

Step 3: Select fields by first highlighting the field under the **Available Fields** heading and then clicking the **">"** button one by one. After selecting the fields, click on the **Next** button.

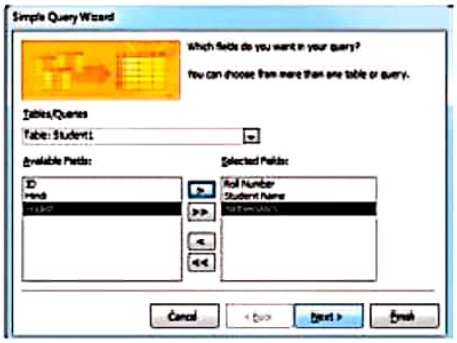


Fig 4.3: Selecting fields

Step 4: Assign the name for the query and then click on the **Finish** button.

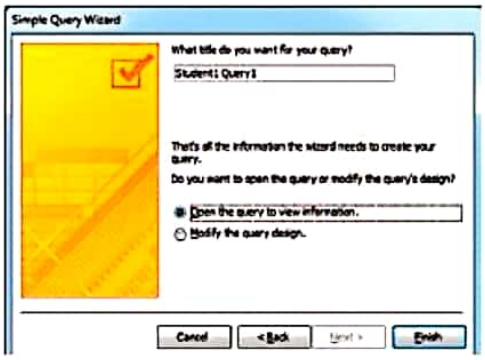
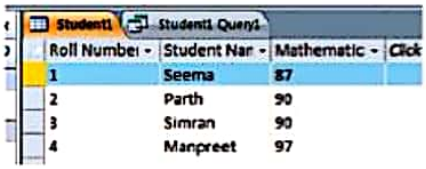


Fig 4.4: Assigning name for the Query

The result of query is as shown:



Student1 | Student1 Query1

Roll Number	Student Nam	Mathematic	Click
1	Seema	87	
2	Parth	90	
3	Simran	90	
4	Manpreet	97	

Fig 4.5: Result of the Query

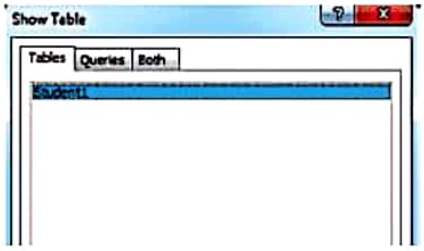
Creating a query using Query design

A query can be based on table or on other query. To create a query, you need to open the table or query on which you are going to base your query in "Query Design" view and then use the options in design view to create your query.

Step 1: Select the **Create** tab and click on **Query Design** in the **Queries** group.

Fig 4.6: Selecting Query Design option

Step 2: Select the table in which you are going to apply the query from the **Show Table** dialog box. Click on the **Add** button. You can repeat the steps to add several related tables.



Step 3: In the table box you will see the list of its field names, select the fields by double-clicking on their names to which you want to apply the query.

Step 4: The selected fields will appear at the top of each column in the **Query Design Grid**.

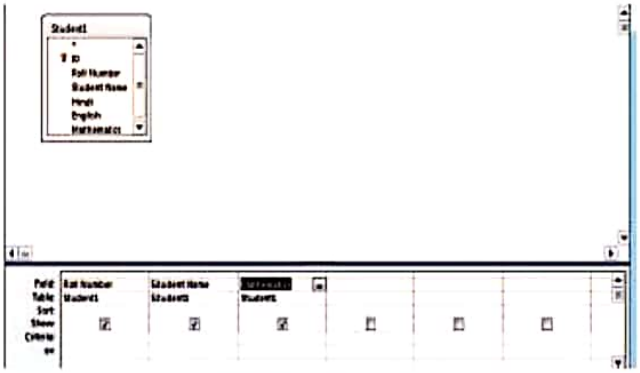


Fig 4.8: Query Design Grid

Step 5: Now, assign the criteria or condition into the appropriate cell of the **Query Design Grid**. For example, you want to extract the records where Mathematics marks are greater than 70.

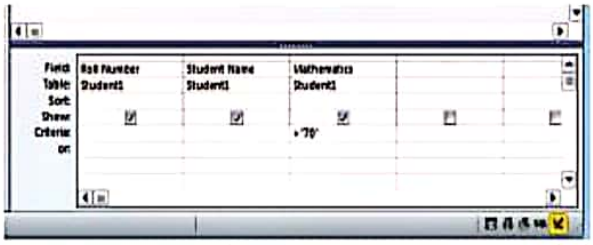


Fig 4.9: Applying Criteria

Step 6: Save your query by clicking on the **Save** icon with a suitable name.

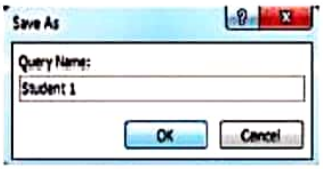


Fig 4.10: Naming Query

Step 7: Click on the **Run** icon in the **Results** group of the ribbon.

The result of the query is as shown:

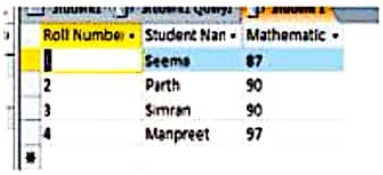


Fig 4.11: Result of the Query

Forms

A form is a database object that you can use to create a user interface for a database application. It allows you to add and update data, one record at a time in a table. Forms are made up of controls, such as text boxes, buttons, document tabs and drop down lists, grouped in a way that makes them easy to use. It is user friendly way of entering, editing and viewing the information in the table.

In real life, a form is piece of paper that you fill out so that someone can collect and keep track of specific information about you.

MS Access provides three main views in which a form is displayed:

- **Form view:** It is used to enter and edit data.
- **Layout view:** It is the only view that is available for designing forms. It is used to change the look and feel of a form.
- **Design view:** It gives you a more detailed view of the structure of your form. You can see the Header, Detail and Footer sections of the form.

You can create a form in various ways using:

- **Form command**
- **Form wizard**
- **Split form**

Creating a new form using the Form command

The basic form command is the one that allows the person entering the data to see just one record at a time. It also included all the fields in the source table for you and you can modify the layout of the basic form to hide fields or add controls.

Step 1: Select the table you wish to use as a source table.

Step 2: Click on the **Create** tab, in the **Forms** group, click on **Form.**

A new form opens in the Layout view.

Fig 4.12: Selecting Form option

Fig 4.13: A form

Step 3: To edit or enter data in the form, click on the **Home** tab then on **View.** Now, click on **Form view.**

You can change records in the form by moving through them from the Navigation bar.

Step 4: Click on the **Save** button. Type the form name and click on **OK**.

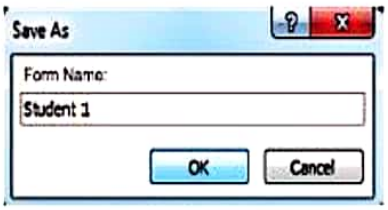


Fig 4.14: Saving form

Creating a Form using Form Wizard

In order to select better criteria for the fields that are going to appear in a form, you can use the wizard for the forms.

Step 1: Click on the **Create** tab, in the **Forms** group, click on **Form Wizard**.

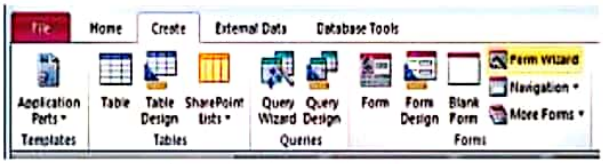


Fig 4.15: Selecting Form Wizard option

Step 2: Select the fields to use in the form creation. Press the **Next** button.

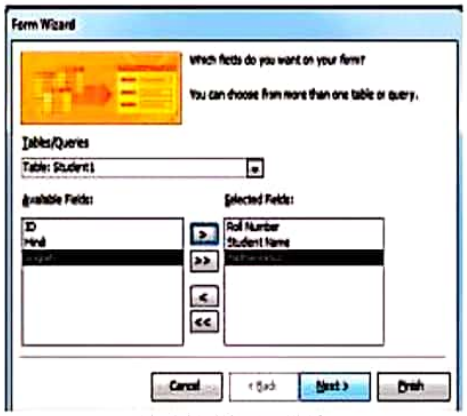


Fig 4.16: Selecting Fields

Step 3: Select the form layout. Press the **Next** button.

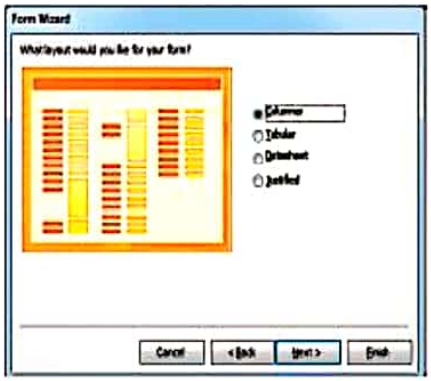


Fig 4.17: Selecting Layout

Step 4: Assign a name to the form and click on the **Finish** button.

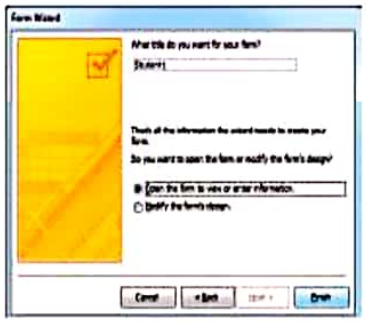


Fig 4.18: Assigning name

The result form will appear.

Fig 4.19: A form

Creating a form using Split Form

To create a form using Split Form, follow these steps:

Step 1: Click on **More Forms** in the **Forms** group of the **Create** tab.

Fig 4.20: Selecting Split Form option

Step 2: Select the option **Split Form**.

The output will appear as shown.

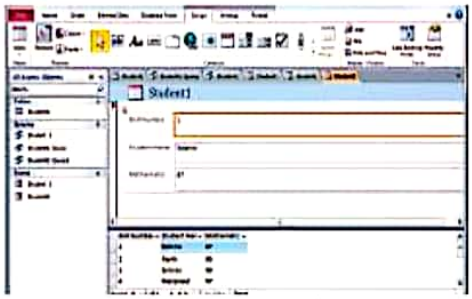


Fig 4.21: Form after splitting

The form is displayed in the upper half of the window and the database is displayed in the lower half. You can click on any record which you want to display in the form.

The two views are separated by a bar which you can use to resize the height of the two views. Both parts of the window will show the same field and the same record at a time.

Reports

A report is an effective way to present and summarise the data using an attractive layout. Report is a presentation of data in a printed format.

MS Access 2010 offers tools that allow you to create and format a report. The Report Wizard walks you through the steps of creating a report. The Report command, however, is much easier to use and all of the formatting options are still available in Layout view once the report is created.

Creating a report using Report command

Step 1: Click on the **Create** tab, in **Reports** group, click on **Report**.

Fig 4.22: Selecting Report option

The report will automatically be generated and will include every field in the table in order of their appearance in the table.

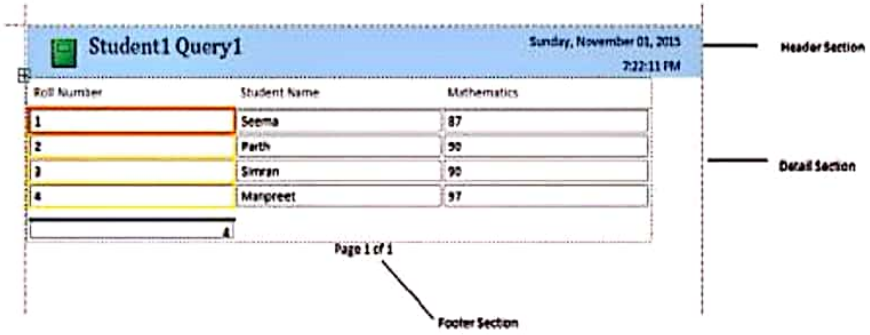


Fig 4.23: A report

Creating a report using Report Wizard

Step 1: Click on the **Create** tab, the **Reports** group, click on **Report Wizard**.

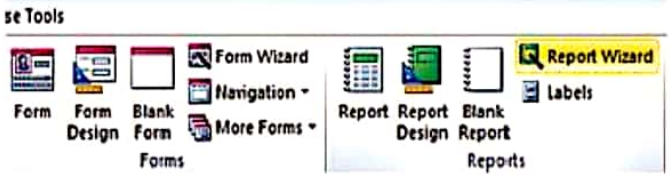


Fig 4.24: Selecting Report Wizard option

Step 2: Select the **Query** or **Table** and **Fields** to be used in report creation. Select the fields by first highlighting the field under the **Report Wizard** heading and then clicking the "**>**" button one by one then click on **Next** Button.

Step 3: Select the fields for grouping. Press the **Next** button.

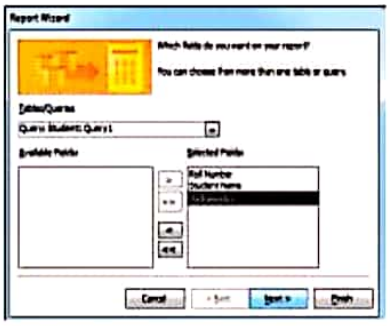


Fig 4.25: Selecting fields

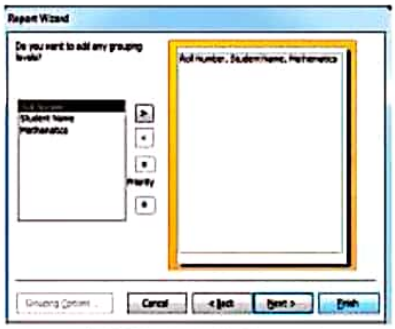


Fig 4.26: Selecting fields for grouping

Step 4: Select the sort order and click on the **Next** button.

Step 5: Select the report **Layout** and page **Orientation.**

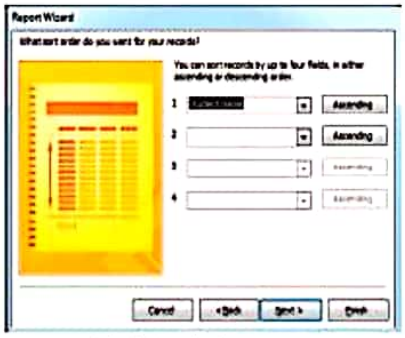


Fig 4.27: Selecting sort order

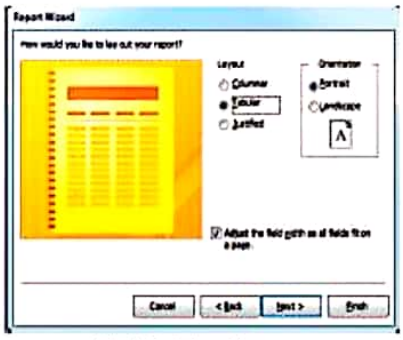


Fig 4.28: Selected layout

Step 6: Press the **Next** button.

Step 7: Assign a name to the report and select **Preview the report** option. Click on the **Finish** button to see your report.

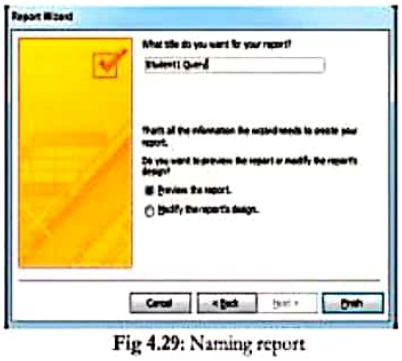


Fig 4.29: Naming report

Fig 4.30: A report

Answer keys

EXERCISE

A. Tick (✓) the correct answer.

1. A _____ is a presentation of data in a printed form.
   a) report b) query c) form
2. How many views does Access provide to display a form?
   a) Two b) Four c) Three
3. Which view allows you to see Header / Footer?
   a) Form View b) Design View c) Layout View
4. A _____ displays specific records from a table that meet a certain criteria.
   a) Form b) Query c) Report
5. This part of Access lets you enter data.
   a) Form b) Report c) Query
6. How many ways are there to create query?
   a) One b) Six c) Two
7. This view is used to change the look of a form.
   a) Form View b) Layout View c) Design View
8. One of the following is not a database object.
   a) Query b) Form c) Worksheet

B. Fill in the blanks.

1. MS Access provides three main views in which a form is displayed.
2. Form view is used to enter and edit data.
3. Split Form is used to create form.
4. The Report option is available in Reports group.
5. Layout view is the look and feel view for forms.
6. Form view is used to enter data.
7. There are two ways to create a query.
8. Queries help us to filter data based on a specific condition.

C. Short answer type questions.

1. What is a Report?

A. A report is an effective way to present and summarize the data using an attractive layout. It is a presentation of data in a printed format.

2. Why do you use forms?

A. A form is a database object that you can use to create a user interface for a database application. It allows you to add and update data, one record at a time in a table.

3. Define query. What is its function?

A. Query is used to filter the data according to a certain criteria. Its most common function is to recover specific data from the tables.

4. Name two ways to create a query.

A. Two ways to create a query are:

a) Query Wizard

b) Query Design

D. Long answer type questions.

1. Write the steps to create a Report using Report Wizard.

A. **Step 1:** Click on the Create tab and go to the Reports group and click on Report Wizard

Step 2: Select the Query or Table and Fields to use in report creation. Select the fields by first highlighting the field under the Report Wizard heading and then clicking the ">" button one by one then click on Next Button.

Step 3: Select the fields for grouping. Press the Next button.

Step 4: Select the sort order and click on Next button.

Step 5: Select the report Layout and page Orientation. Press Next button.

Step 6: Press the Next button.

Step 7: Assign a name to report and select Preview the report option. Click on the Finish button to see your report.

2. Write the steps to create a Query using the Query Wizard.

A. **Step 1:** Select the Create tab and click on Query Wizard in the Queries group.

Step 2: Select the Simple Query Wizard option from given four options and click on OK button.

Step 3: Select fields by first highlighting the field from under the Available Fields heading and then clicking the ">" button one by one. After selecting the fields click on Next button.

Step 4: Assign, the name for the query and then click on Finish button.

.....END.....

Class -8.

Subject -. Science

Assignment 4

Chapter- Materials- Metals and non-metals

by Anoop Kumar

Session - 2020-2021

EXERCISES

9. What happens when

   (a) Dilute sulphuric acid is poured on a copper plate?

   (b) Iron nails are placed in copper sulphate solution?

   Write word equations of the reactions involved.

10. Saloni took a piece of burning charcoal and collected the gas evolved in a test tube.

   (a) How will she find the nature of the gas ?

   (b) Write down word equations of all the reactions taking place in this process.

11. One day Reeta went to a jeweller's shop with her mother. Her mother gave an old gold jewellery to the goldsmith to polish. Next day when they brought the jewellery back, they found that there was a slight loss in its weight. Can you suggest a reason for the loss in weight?

Extended Learning — Activities and Projects

1. Prepare Index Cards for any four metals and four non-metals. The card should have information like name of metal/non-metal; its physical properties, chemical properties and its uses.
2. Visit a blacksmith and observe how metals are moulded.
3. Suggest an experiment to compare the conductivity of electricity by iron, copper, aluminium and zinc. Perform the experiment and prepare a short report on the results.
4. Find out the locations of the deposits of iron, aluminium and zinc in India. Mark these in an outline map of India. In which form are the deposits found? Discuss in the class.
5. Discuss with your parents/neighbours/goldsmiths why gold is preferred for making jewellery.
6. Visit the following websites and enjoy the quiz on metals and non-metals:
   - chemistry.about.com/od/testsquizzes/Chemistry_Tests_Quizzes.htm
   - www.gcsescience.com/q/qusemet.html
   - www.corrosionsource.com/handbook/periodic/metals.htm

You saw that the shape of the iron nail and the aluminium wire changed on beating. If they were beaten harder these could be changed into sheets. You might be familiar with silver foil used for decorating sweets. You must also be familiar with the aluminium foil used for wrapping food. The property of metals by which they can be beaten into thin sheets is called **malleability**. This is a characteristic property of metals. As you must have noticed, materials like coal and pencil lead do not show this property. Can we call these metals?

Can you hold a hot metallic pan which is without a plastic or a wooden handle and not get hurt? Perhaps not! Why? Try to list some other experiences in which a wooden or plastic handle protects you from being hurt while handling hot things. On the basis of these experiences what can you say about the conduction of heat by wood and plastic?

You must have seen an electrician using his screw driver. What kind of handle does it have? Why?

Let us find out.

Activity 4.2

Recall how to make an electric circuit to test whether electricity can pass through an object or not (Fig. 4.2). You might have performed the activity with various objects in Class VI. Now, repeat the activity with the materials mentioned in Table 4.3. Observe and group these materials into good conductors and poor conductors.

Fig. 4.2 : Electric tester

Table 4.3 : Electrical Conductivity of Materials

S.No.	Materials	Good Conductor / Poor Conductor
1.	Iron rod/nail	
2.	Sulphur	
3.	Coal piece	
4.	Copper wire	

You observe that iron rod, nail and copper wire are good conductors while rolled sulphur piece and coal piece are poor conductors.

Oh! The meaning of recalling our experiences and then of this activity was to show that metals are good conductors of heat and electricity. We learnt this in Class VI.

Where do you find the use of aluminium and copper wires? Have you seen wires of coal? Definitely not!

The property of metal by which it can be drawn into wires is called **ductility**.

Have you ever noticed the difference in sound on dropping an iron sheet/plate, a metal coin, and a piece of coal on the floor? If not, you can try it now.

Do you note any difference in the sound produced?

Does copper also get rusted? I have seen a greenish deposit on the surface of copper vessels.

When a copper vessel is exposed to moist air for long, it acquires a dull green coating. The green material is a mixture of copper hydroxide ($Cu(OH)_2$) and copper carbonate ($CuCO_3$). The following is the reaction

$$2Cu + \underbrace{H_2O + CO_2}_{\text{moist air}} + O_2 \rightarrow Cu(OH)_2 + CuCO_3$$

Now recall the activity of burning magnesium ribbon. The ash obtained on burning magnesium ribbon is dissolved in water and tested for its acidic/basic nature.

Is the solution acidic or basic? How do you ascertain this?

You must have observed that the red litmus turns blue. So, oxide of magnesium is also basic in nature. In general, metallic oxides are basic in nature.

Let us now observe the reaction of non-metals with oxygen.

Activity 4.4

(To be demonstrated by the teacher in the class)

Take a small amount of powdered sulphur in a deflagrating spoon and heat it. If deflagrating spoon is not available, you may take a metallic cap of any bottle and wrap a metallic wire around it and give it the shape shown in Fig. 4.4 (a).

As soon as sulphur starts burning, introduce the spoon into a gas jar/ glass tumbler [Fig. 4.4 (a)]. Cover the tumbler with a lid to ensure that the gas produced does not escape. Remove the spoon after some time. Add a small quantity of water into the tumbler and quickly replace the lid. Shake the tumbler well. Check the solution with red and blue litmus papers [Fig. 4.4 (b)].

Fig. 4.4 (a) : *Burning of sulphur powder*

Fig. 4.4 (b) : *Testing of solution with litmus papers*

Have you seen wooden bells in temples? Can you give a reason?

The things made of metals produce a ringing sound when struck hard. Suppose you have two boxes similar in appearance, one made of wood and the other of metal. Can you tell which box is made of metal by striking both the boxes?

Since metals produce ringing sounds, they are said to be **sonorous**. The materials other than metals are not sonorous.

After performing the above activities, we can say that some materials are **hard, lustrous, malleable, ductile, sonorous and good conductors of heat and electricity.** The materials which generally possess these properties are called metals. The examples of metals are iron, copper, aluminium, calcium, magnesium, etc. In contrast, materials like coal and sulphur are soft and dull in appearance. They break down into a powdery mass on tapping with a hammer. They are not sonorous and are poor conductors of heat and electricity. These materials are called **non-metals.** The examples of non-metals are sulphur, carbon, oxygen, phosphorus, etc.

Metals like sodium and potassium are soft and can be cut with a knife. Mercury is the only metal which is found in liquid state at room temperature. These are exceptions.

4.2 Chemical Properties of Metals and Non-metals

Reaction with Oxygen

You are familiar with the phenomenon of rusting of iron. Recall the reaction by which rust is formed. You had also performed in Class VII an activity of burning a magnesium ribbon in air. You had learnt that in both the processes oxide formation takes place. Complete the following reactions of iron and magnesium with oxygen.

Iron (Fe) + Oxygen (O_2) + Water (H_2O) → ?

Magnesium (Mg) + Oxygen (O_2) → ?

Activity 4.3

Let us check the nature of rust formed as a result of the reaction between iron, oxygen and water. Collect a spoonful of rust and dissolve it in a very little amount of water. You will find that the rust remains suspended in water. Shake the suspension well. Test the solution with red and blue litmus papers (Fig. 4.3). What do you observe? Is the solution acidic or basic?

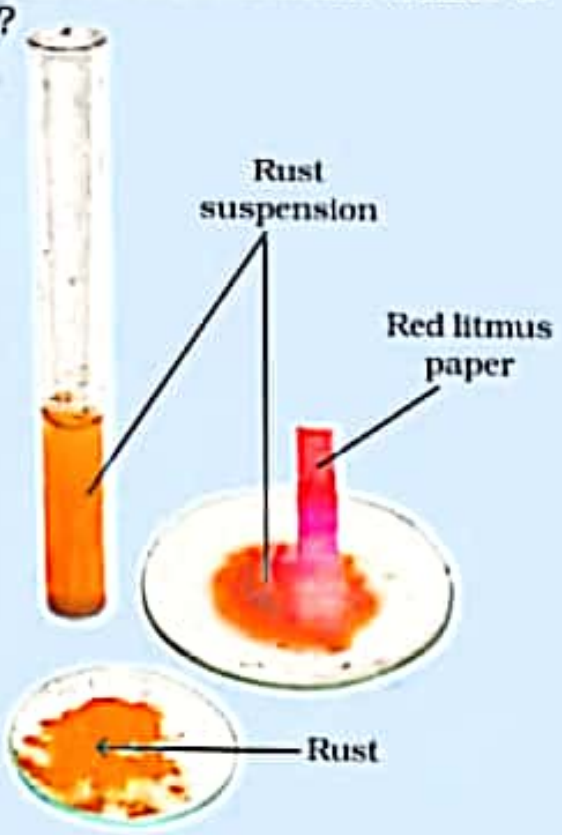


Fig. 4.3 : Testing the nature of rust

(To be demonstrated by the teacher. During the preparation of sodium hydroxide solution, care should be taken that pellets of sodium hydroxide are handled with a plastic spatula).

Prepare a fresh solution of sodium hydroxide in a test tube by dissolving 3-4 pellets of it in 5 mL of water. Drop a piece of aluminium foil into it. Bring a burning match stick near the mouth of the test tube. Observe carefully.

What does the 'pop' sound indicate? As before, the 'pop' sound indicates the presence of hydrogen gas.

Metals react with sodium hydroxide to produce hydrogen gas.

Reactions of non-metals with bases are complex.

Displacement Reactions

Recall the activity of the reaction between copper sulphate and iron that you

Name of the Base	Metal	Name of the Acid	Non-metal
Calcium hydroxide	Calcium	Sulphuric acid	Sulphur

me of the product formed in on of sulphur and oxygen is dioxide gas. When sulphur dissolved in water sulphurous ned. The reaction can be given

lioxide (SO_2) + Water (H_2O) → us acid (H_2SO_3)

ulphurous acid turns blue per red. Generally, oxides of ls are acidic in nature.

the name of some of the acids and bases you have read II. Note down their names in . Identify the metal or non- esent in them which forms h oxygen.

with Water

how metals and non-metals water.

metal is very reactive. It igorously with oxygen and lot of heat is generated in tion. It is, therefore, stored ene.

Activity 4.5

(To be demonstrated by the teacher. During demonstration special care should be taken that the size of the sodium metal piece is roughly the size of a wheat grain. It should be held with a pair of tongs.)

Take a 250 mL beaker/glass tumbler. Fill half of it with water. Now carefully cut a small piece of sodium metal. Dry it using filter paper and wrap it in a small piece of cotton. Put the sodium piece wrapped in cotton into the beaker. Observe carefully. *(During observation keep away from the beaker)*. When reaction stops touch the beaker. What do you feel? Has the beaker become hot? Test the solution with red and blue litmus papers. Is the solution acidic or basic?

***Fig. 4.5 :** Reaction of sodium with water*

I heard that magnesium is found in plants. In what form is it found in them?

The doctor reported iron deficiency in my body. Where is iron in my body?

In Class VII, you have learnt that in a chemical reaction, new substances are formed. These substances are different from those which underwent the reaction. Now, if a substance cannot be broken down further by chemical reactions, by cooling, heating, or by electrolysis, it is called 'element'. Sulphur is an element. So is iron. Carbon, too, is an element. The smallest unit of an element is atom. A sample of an element contains only one kind of atom. The atom of an element remains unaffected by physical changes in the element. For example, an atom of liquid sulphur would be exactly the same as the atom of solid or vapour sulphur.

Although we have an infinite variety of substances in the universe, the number of elements forming these substances is limited. There are no more than 94 naturally occurring elements. An important classification of elements is in terms of metals and non-metals. Most of the elements are metals. The remaining are either non-metals or metalloids. Metalloids possess character of both metals and non-metals.

What changes do you observe in the various beakers? You have read that one metal displaces another metal from its compound in aqueous solution. In beaker 'A' zinc (Zn) replaces copper (Cu) from copper sulphate ($CuSO_4$). That is why the blue colour of copper sulphate disappears and a powdery red mass of copper is deposited at the bottom of the beaker. The reaction can be represented as follows:

Copper Sulphate ($CuSO_4$) + Zinc (Zn)
(Blue)
→ Zinc Sulphate ($ZnSO_4$) + Copper (Cu)
(Colourless) (Red)

You can write down the reaction taking place in beaker 'B' in a similar manner.

I have understood the reactions taking place in beakers 'A' and 'B'. But I am still confused why there is no change in beakers 'C', 'D' and 'E'?

There could have been displacement of zinc by copper in beaker 'C' and by iron in beaker 'E'. Similarly iron could be displaced by copper in beaker 'D'.

Since we do not see any change in beaker C, we can infer that copper is not able to replace zinc from zinc sulphate. But why? When zinc can replace copper in beaker 'A' why cannot copper replace zinc in beaker 'C'? Remember that science is not arbitrary. It follows definite rules based on facts. And the rule here is that zinc is more reactive than copper and iron. A more reactive metal can replace a less reactive metal, but a less reactive one cannot replace a more reactive metal. Now you can understand why there are no displacement reactions in beakers D and E also. Can you guess the sequence of metals from more reactive to less reactive among zinc, iron and copper?

4.3 Uses of Metals and Non-metals

You should be able to guess why metals are used in making machinery, automobiles, aeroplanes, trains, satellites, industrial gadgets, cooking utensils, water boilers, etc. You are also familiar with the uses of some non-metals. Here are some interesting ones. We are sure that you will guess them right:

- 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.

You may add some more uses of metals and non-metals from your experiences.

Properties	Metals	Non
1. Appearance		
2. Hardness		
3. Malleability		
4. Ductility		
5. Heat Conduction		
6. Conduction of Electricity		

6. Give reasons for the following.

(a) Aluminium foils are used to wrap food items.
(b) Immersion rods for heating liquids are made up of metallic
(c) Copper cannot displace zinc from its salt solution.
(d) Sodium and potassium are stored in kerosene.

7. Can you store lemon pickle in an aluminium utensil? Explain

8. Match the substances given in Column **A** with their use Column **B**.

A	B
(i) Gold	(a) Thermometers
(ii) Iron	(b) Electric wire
(iii) Aluminium	(c) Wrapping food
(iv) Carbon	(d) Jewellery
(v) Copper	(e) Machinery
(vi) Mercury	(f) Fuel

- Metals are lustrous whereas non-metals have no lustre.
- Generally, metals are malleable and ductile. Non-metals do not have these properties.
- Generally, metals are good conductors of heat and electricity but non-metals are poor conductors.
- On burning, metals react with oxygen to produce metal oxides which are basic in nature. Non-metals react with oxygen to produce non- metallic oxides which are acidic in nature.
- Some metals react with water to produce metal hydroxides and hydrogen gas. Generally, non-metals do not react with water.
- Metals react with acids and produce metal salts and hydrogen gas. Generally, non-metals do not react with acids.
- Some metals react with bases to produce hydrogen gas.
- More reactive metals displace less reactive metals from their compounds in aqueous solutions.
- Metals and non-metals are used widely in every day life.

(Warning : Keep the mouth of the test tube away from your face. Use test tube holder to hold the test tube.)

Take samples of metals and non-metals listed in Table 4.5 in separate test tubes and label them as A, B, C, D, E, and F. With the help of a dropper add 5 mL of dilute hydrochloric acid to each test tube one by one. Observe the reactions carefully. If no reaction occurs in the cold solution, warm the test tube gently. Bring a burning matchstick near the mouth of each test tube.

Repeat the same activity using dilute sulphuric acid instead of the dilute hydrochloric acid. Record your observations in Table 4.5.

Table 4.5 : Reaction of Metals and Non-metals with Acids

Test tube Label	Metal/ Non-metal	Reaction with Dilute Hydrochloric Acid		Reaction with Dilute Sulphuric Acid	
		Room Temperature	Warm	Room Temperature	Warm
A	Magnesium (ribbon)				
B	Aluminium (foil)				
C	Iron (filings)				
D	Copper (peeled flexible wire)				
E	Charcoal (powder)				
F	Sulphur (powder)				

CLASS – VIII ASSIGNMENT- 4 SUBJECT- SCIENCE

Question 1.
What are non-metals? Give examples.
Question 2.
Mention 4 physical properties of metals.
Question 3.
Explain the term 'malleability' with suitable examples.
Question 4.
Why aluminium is used for wrapping of food items?
Question 5.
What are the differences between metals and non-metals? Explain on the basis of their physical properties
Question 6.
What happens when a copper vessel is exposed to moist air for long? Also write the equation.
Question 7.
How do metals and non-metals react with water?
Question 8.
What is a displacement reaction? Give one example.
Question 9.
Explain chemical properties of metals with examples.
Question 10.
What are main uses of metals?
Question 11.
What is reactivity series?
Question 12.
Zinc sulphate forms a colourless solution in water. Will you observe any colour on adding copper turn-ing in it?
Question 13.
With the help of equations, explain the reaction of non-metals with oxygen.
Question 14.
What happens when metals react with water?
Question 15.
Classify the following into metals and non-metals:
Copper, iron, graphite, sulphur, aluminium, oxygen

CLASS 8

SUBJECT MATHS

ASSIGNMENT 4

CHAPTER 4

PRACTICAL GEOMETRY

BY : AAKANSHA SINGH

SESSION (2020-2021)

Class 8 maths

Instructions for the students:

1. Download the diksha app from the play store.
2. Open the app and login as student.
3. Select the medium in which u want to study.
4. Now select the class 8
5. Select the maths subject.
6. Open the fourth chapter (Practical Geometry)
7. Do the following assignments which are as follows:-

a. Practice all the examples

b. Practice the questions given in the exercise.

c. Als construct the types of quadrilaterals given in the examples and complete the exercises in the copy.

CHAPTER

4

Practical Geometry

4.1 Introduction

You have learnt how to draw triangles in Class VII. We require three measurements (of sides and angles) to draw a unique triangle.

Since three measurements were enough to draw a triangle, a natural question arises whether four measurements would be sufficient to draw a unique four sided closed figure, namely, a quadrilateral.

DO THIS

Take a pair of sticks of equal lengths, say 10 cm. Take another pair of sticks of equal lengths, say, 8 cm. Hinge them up suitably to get a rectangle of length 10 cm and breadth 8 cm.

Fig 4.1

This rectangle has been created with the 4 available measurements.

Now just push along the breadth of the rectangle. Is the new shape obtained, still a rectangle (Fig 4.2)? Observe that the rectangle has now become a parallelogram. Have you altered the lengths of the sticks? No! The measurements of sides remain the same.

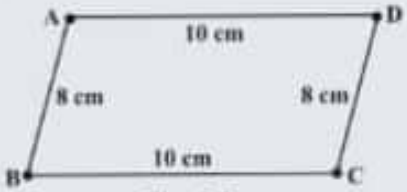


Fig 4.2

Give another push to the newly obtained shape in a different direction; what do you get? You again get a parallelogram, which is altogether different (Fig 4.3), yet the four measurements remain the same.

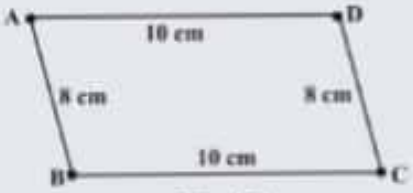


Fig 4.3

This shows that 4 measurements of a quadrilateral cannot determine it uniquely. Can 5 measurements determine a quadrilateral uniquely? Let us go back to the activity!

Step 4 S should lie on both the arcs drawn. So it is the point of intersection of the two arcs. Mark S and complete PQRS. PQRS is the required quadrilateral (Fig 4.9).

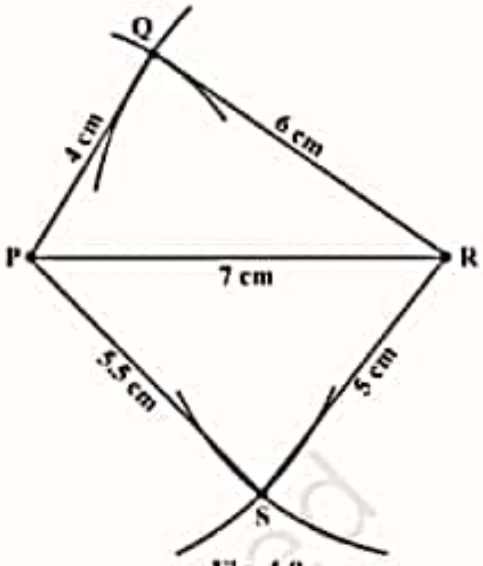


Fig 4.9

THINK, DISCUSS AND WRITE

(i) We saw that 5 measurements of a quadrilateral can determine a quadrilateral uniquely. Do you think any five measurements of the quadrilateral can do this?

(ii) Can you draw a parallelogram BATS where BA = 5 cm, AT = 6 cm and AS = 6.5 cm? Why?

(iii) Can you draw a rhombus ZEAL where ZE = 3.5 cm, diagonal EL = 5 cm? Why?

(iv) A student attempted to draw a quadrilateral PLAY where PL = 3 cm, LA = 4 cm, AY = 4.5 cm, PY = 2 cm and LY = 6 cm, but could not draw it. What is the reason?
[**Hint:** Discuss it using a rough sketch].

EXERCISE 4.1

1. Construct the following quadrilaterals.

(i) Quadrilateral ABCD.
AB = 4.5 cm
BC = 5.5 cm
CD = 4 cm
AD = 6 cm
AC = 7 cm

(ii) Quadrilateral JUMP
JU = 3.5 cm
UM = 4 cm
MP = 5 cm
PJ = 4.5 cm
PU = 6.5 cm

(iii) Parallelogram MORE
OR = 6 cm
RE = 4.5 cm
EO = 7.5 cm

(iv) Rhombus BEST
BE = 4.5 cm
ET = 6 cm

Step 1 From the rough sketch, it is easy to see that ΔPQR can be constructed using SSS construction condition. Draw ΔPQR (Fig 4.6).

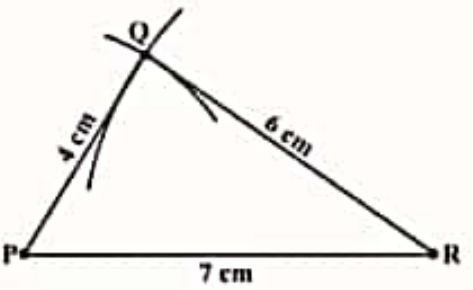


Fig 4.6

Step 2 Now, we have to locate the fourth point S. This 'S' would be on the side opposite to Q with reference to PR. For that, we have two measurements.

S is 5.5 cm away from P. So, with P as centre, draw an arc of radius 5.5 cm. (The point S is somewhere on this arc!) (Fig 4.7).

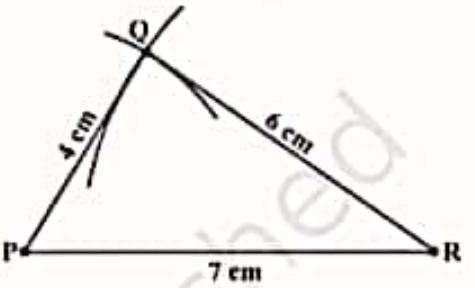


Fig 4.7

Step 3 S is 5 cm away from R. So with R as centre, draw an arc of radius 5 cm (The point S is somewhere on this arc also!) (Fig 4.8).

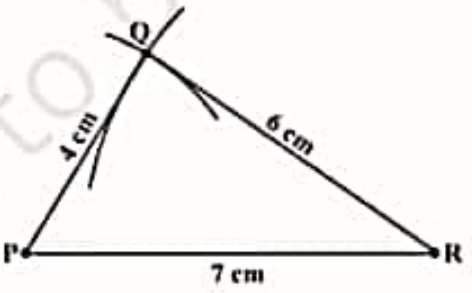


Fig 4.8

Step 3 D is at a distance of 6.5 cm on CY. With C as centre, draw an arc of length 6.5 cm. It cuts CY at D (Fig 4.22).

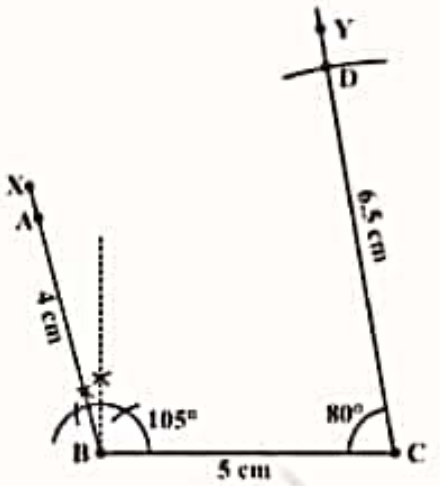


Fig 4.22

Step 4 Complete the quadrilateral ABCD. ABCD is the required quadrilateral (Fig 4.23).

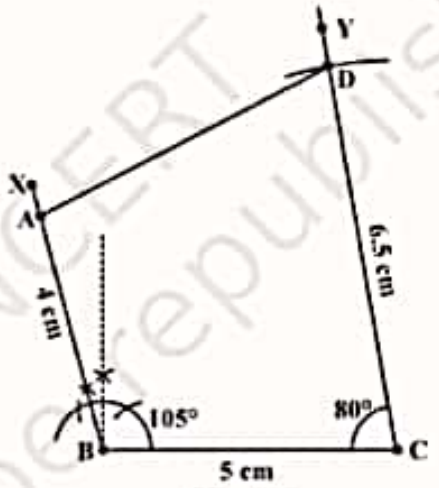


Fig 4.23

THINK, DISCUSS AND WRITE

1. In the above example, we first drew BC. Instead, what could have been be the other starting points?
2. We used some five measurements to draw quadrilaterals so far. Can there be different sets of five measurements (other than seen so far) to draw a quadrilateral? The following problems may help you in answering the question.
   (i) Quadrilateral ABCD with AB = 5 cm, BC = 5.5 cm, CD = 4 cm, AD = 6 cm and $\angle B = 80°$.
   (ii) Quadrilateral PQRS with PQ = 4.5 cm, $\angle P = 70°$, $\angle Q = 100°$, $\angle R = 80°$ and $\angle S = 110°$.

   Construct a few more examples of your own to find sufficiency/insufficiency of the data for construction of a quadrilateral.

Solution:

Here is a rough sketch that would help us in deciding our steps of construction. We give only hints for various steps (Fig 4.15).

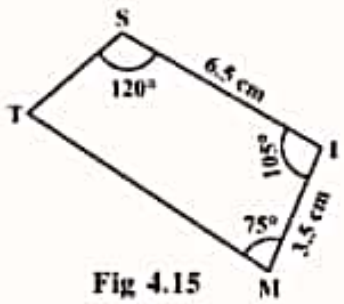


Fig 4.15

Step 1 How do you locate the points? What choice do you make for the base and what is the first step? (Fig 4.16)

Fig 4.16

Step 2 Make $\angle ISY = 120^\circ$ at S (Fig 4.17).

Fig 4.17

EXERCISE 4.4

1. Construct the following quadrilaterals.
   (i) Quadrilateral DEAR
   DE = 4 cm
   EA = 5 cm
   AR = 4.5 cm
   $\angle E = 60°$
   $\angle A = 90°$

   (ii) Quadrilateral TRUE
   TR = 3.5 cm
   RU = 3 cm
   UE = 4 cm
   $\angle R = 75°$
   $\angle U = 120°$

4.3 Some Special Cases

To draw a quadrilateral, we used 5 measurements in our work. Is there any quadrilateral which can be drawn with less number of available measurements? The following examples examine such special cases.

Example 5: Draw a square of side 4.5 cm.

Solution: Initially it appears that only one measurement has been given. Actually we have many more details with us, because the figure is a special quadrilateral, namely a square. We now know that each of its angles is a right angle. (See the rough figure) (Fig 4.24)

This enables us to draw ΔABC using SAS condition. Then D can be easily located. Try yourself now to draw the square with the given measurements.

Rough figure

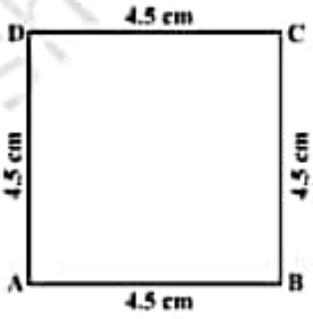


Fig 4.24

Example 6: Is it possible to construct a rhombus ABCD where AC = 6 cm and BD = 7 cm? Justify your answer.

Solution: Only two (diagonal) measurements of the rhombus are given. However, since it is a rhombus, we can find more help from its properties.

The diagonals of a rhombus are perpendicular bisectors of one another.

So, first draw AC = 7 cm and then construct its perpendicular bisector. Let them meet at 0. Cut off 3 cm lengths on either side of the drawn bisector. You now get B and D.

Draw the rhombus now, based on the method described above (Fig 4.25).

Rough figure

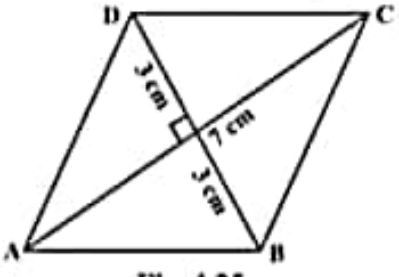


Fig 4.25

TRY THESE

1. How will you construct a rectangle PQRS if you know only the lengths PQ and QR?
2. Construct the kite EASY if AY = 8 cm, EY = 4 cm and SY = 6 cm (Fig 4.26). Which properties of the kite did you use in the process?

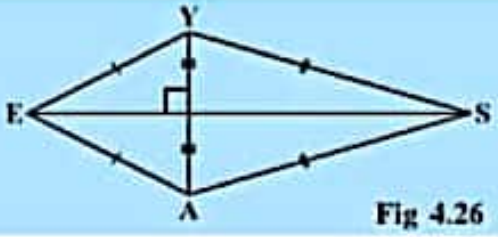


Fig 4.26

EXERCISE 4.5

Draw the following.

1. The square READ with RE = 5.1 cm.
2. A rhombus whose diagonals are 5.2 cm and 6.4 cm long.
3. A rectangle with adjacent sides of lengths 5 cm and 4 cm.
4. A parallelogram OKAY where OK = 5.5 cm and KA = 4.2 cm. Is it unique?

WHAT HAVE WE DISCUSSED?

1. Five measurements can determine a quadrilateral uniquely.
2. A quadrilateral can be constructed uniquely if the lengths of its four sides and a diagonal is given.
3. A quadrilateral can be constructed uniquely if its two diagonals and three sides are known.
4. A quadrilateral can be constructed uniquely if its two adjacent sides and three angles are known.
5. A quadrilateral can be constructed uniquely if its three sides and two included angles are given.

Step 3 Make $\angle IMZ = 75°$ at M. (where will SY and MZ meet?) Mark that point as T. We get the required quadrilateral MIST (Fig 4.18).

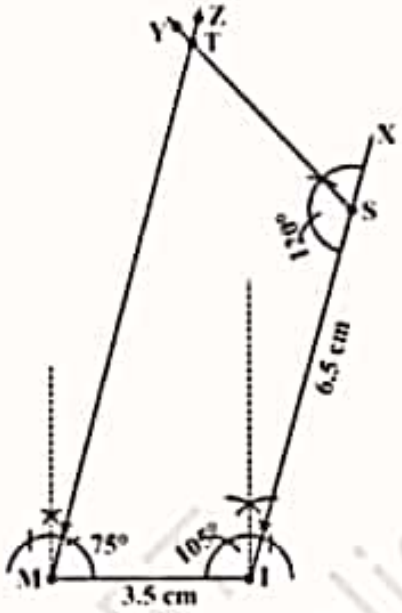


Fig 4.18

THINK, DISCUSS AND WRITE

1. Can you construct the above quadrilateral MIST if we have 100° at M instead of 75°?
2. Can you construct the quadrilateral PLAN if PL = 6 cm, LA = 9.5 cm, $\angle P = 75°$, $\angle L = 150°$ and $\angle A = 140°$? (**Hint:** Recall angle-sum property).
3. In a parallelogram, the lengths of adjacent sides are known. Do we still need measures of the angles to construct as in the example above?

EXERCISE 4.3

1. Construct the following quadrilaterals.

(i) Quadrilateral MORE
MO = 6 cm
OR = 4.5 cm
$\angle M = 60°$
$\angle O = 105°$
$\angle R = 105°$

(ii) Quadrilateral PLAN
PL = 4 cm
LA = 6.5 cm
$\angle P = 90°$
$\angle A = 110°$
$\angle N = 85°$

(iii) Parallelogram HEAR
HE = 5 cm
EA = 6 cm
$\angle R = 85°$

(iv) Rectangle OKAY
OK = 7 cm
KA = 5 cm

4.2.4 When three sides and two included angles are given

Under this type, when you draw a rough sketch, note carefully the "included" angles in particular.

Example 4: Construct a quadrilateral ABCD, where AB = 4 cm, BC = 5 cm, CD = 6.5 cm and $\angle B = 105°$ and $\angle C = 80°$.

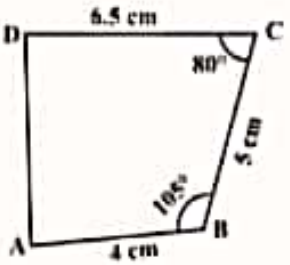


Fig 4.19

Solution:

We draw a rough sketch, as usual, to get an idea of how we can start off. Then we can devise a plan to locate the four points (Fig 4.19).

Step 1 Start with taking BC = 5 cm on B. Draw an angle of 105° along BX. Locate A 4 cm away on this. We now have B, C and A (Fig 4.20).

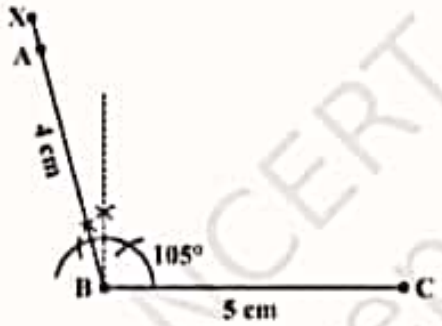


Fig 4.20

Step 2 The fourth point D is on CY which is inclined at 80° to BC. So make $\angle BCY = 80°$ at C on BC (Fig 4.21).

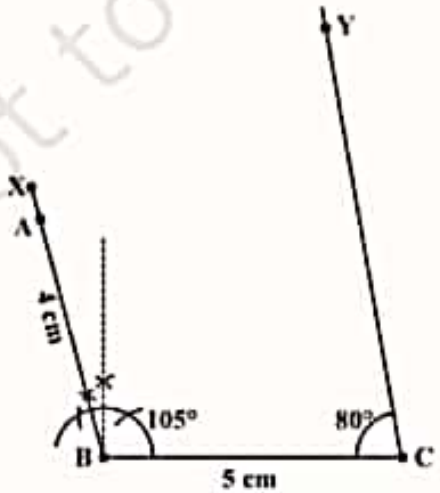


Fig 4.21

4.2.2 When two diagonals and three sides are given

When four sides and a diagonal were given, we first drew a triangle with the available data and then tried to locate the fourth point. The same technique is used here.

Example 2: Construct a quadrilateral ABCD, given that BC = 4.5 cm, AD = 5.5 cm, CD = 5 cm the diagonal AC = 5.5 cm and diagonal BD = 7 cm.

Solution:

Here is the rough sketch of the quadrilateral ABCD (Fig 4.10). Studying this sketch, we can easily see that it is possible to draw Δ ACD first (How?).

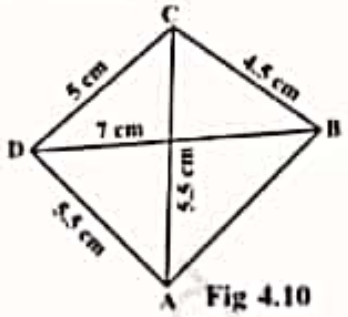


Fig 4.10

Step 1 Draw Δ ACD using SSS construction (Fig 4.11). (We now need to find B at a distance of 4.5 cm from C and 7 cm from D).

Fig 4.11

Step 2 With D as centre, draw an arc of radius 7 cm. (B is somewhere on this arc) (Fig 4.12).

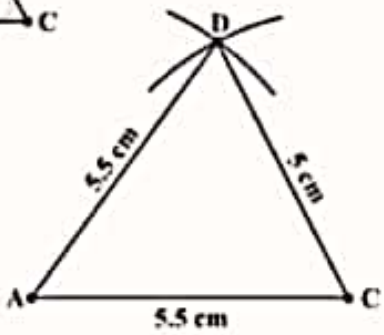
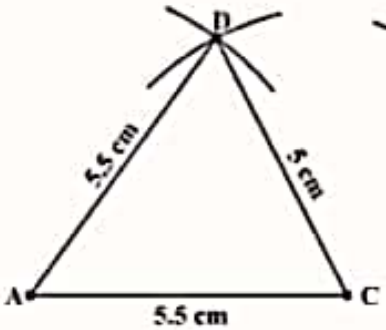



Fig 4.12

Step 3 With C as centre, draw an arc of radius 4.5 cm (B is somewhere on this arc also) (Fig 4.13).



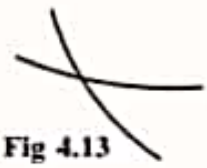


Fig 4.13

Step 4 Since B lies on both the ares, B is the point intersection of the two ares. Mark B and complete ABCD. ABCD is the required quadrilateral (Fig 4.14).

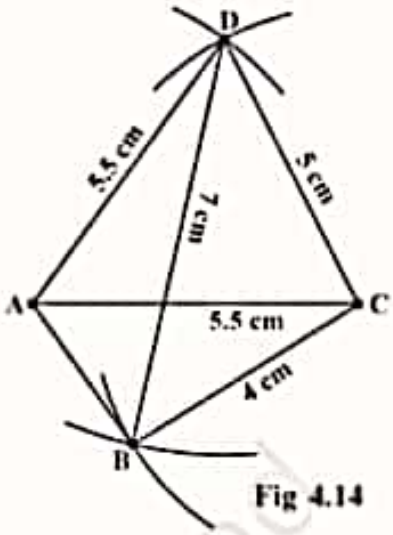


Fig 4.14

THINK, DISCUSS AND WRITE

1. In the above example, can we draw the quadrilateral by drawing ΔABD first and then find the fourth point C?
2. Can you construct a quadrilateral PQRS with PQ = 3 cm, RS = 3 cm, PS = 7.5 cm, PR = 8 cm and SQ = 4 cm? Justify your answer.

EXERCISE 4.2

1. Construct the following quadrilaterals.

(i) quadrilateral LIFT

LI = 4 cm

IF = 3 cm

TL = 2.5 cm

LF = 4.5 cm

IT = 4 cm

(ii) Quadrilateral GOLD

OL = 7.5 cm

GL = 6 cm

GD = 6 cm

LD = 5 cm

OD = 10 cm

(iii) Rhombus BEND

BN = 5.6 cm

DE = 6.5 cm

4.2.3 When two adjacent sides and three angles are known

As before, we start with constructing a triangle and then look for the fourth point to complete the quadrilateral.

Example 3: Construct a quadrilateral MIST where MI = 3.5 cm, IS = 6.5 cm, $\angle M = 75°$, $\angle I = 105°$ and $\angle S = 120°$.

You have constructed a rectangle with two sticks each of length 10 cm and other two sticks each of length 8 cm. Now introduce another stick of length equal to BD and tie it along BD (Fig 4.4). If you push the breadth now, does the shape change? No! It cannot, without making the figure open. The introduction of the fifth stick has fixed the rectangle uniquely, i.e., there is no other quadrilateral (with the given lengths of sides) possible now.

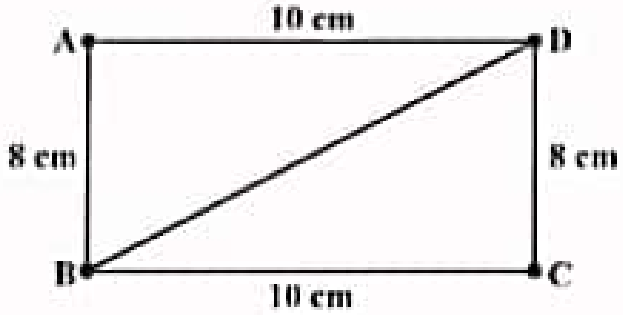


Fig 4.4

Thus, we observe that five measurements can determine a quadrilateral uniquely. But will any five measurements (of sides and angles) be sufficient to draw a unique quadrilateral?

THINK, DISCUSS AND WRITE

Arshad has five measurements of a quadrilateral ABCD. These are AB = 5 cm, $\angle A = 50°$, AC = 4 cm, BD = 5 cm and AD = 6 cm. Can he construct a unique quadrilateral? Give reasons for your answer.

DO THIS

Take a pair of sticks of equal lengths, say 10 cm. Take another pair of sticks of equal lengths, say, 8 cm. Hinge them up suitably to get a rectangle of length 10 cm and breadth 8 cm.

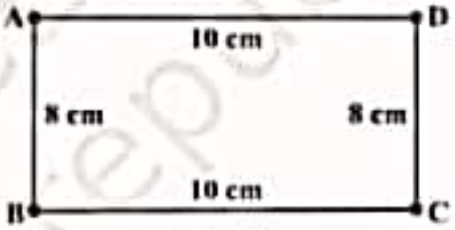


Fig 4.1

This rectangle has been created with the 4 available measurements.

Now just push along the breadth of the rectangle. Is the new shape obtained, still a rectangle (Fig 4.2)? Observe that the rectangle has now become a parallelogram. Have you altered the lengths of the sticks? No! The measurements of sides remain the same.

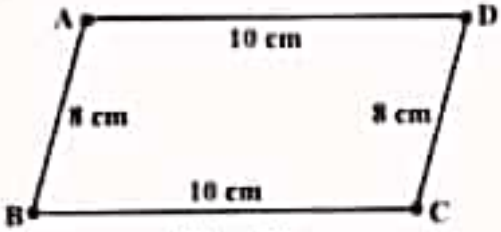


Fig 4.2

Give another push to the newly obtained shape in a different direction; what do you get? You again get a parallelogram, which is altogether different (Fig 4.3), yet the four measurements remain the same.

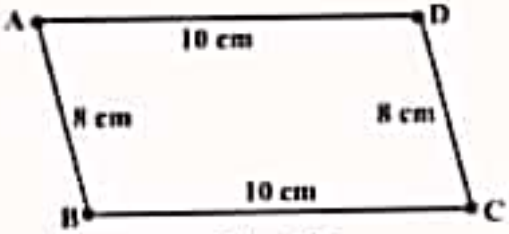


Fig 4.3

This shows that 4 measurements of a quadrilateral cannot determine it uniquely. Can 5 measurements determine a quadrilateral uniquely? Let us go back to the activity!

Summary

The Narayanpur Incident

Shashi Deshpande

The incidents in the story are set against the backdrop of Quit India Movement that Gandhiji initiated as part of our fight for Independence from British rule.

Manju and Babu watch a procession of college students marching in silent protest to the Collector's office to hand over a notice asking the Collector to leave the country. The procession is orderly and without any untoward incident. The students disperse after shouting a few slogans of patriotism. Mohan, Manju and Babu's brother, is one of the students and he explains to them that the demonstration of protest was peaceful as they did not want to be imprisoned for violent behaviour.

That night Suman and a stranger smuggle a cyclostyling machine into the house and keep it in the puja room so as to not arouse suspicion as they work late into the night. Suman, Mohan and their mother secretly make copies of Gandhiji's speeches while Babu keeps watch from front room and Manju is ready to pass on Babu's warning to them.

Patil, the sub-inspector, comes in introducing himself as a friend of their father. He tells them that the British officers suspect them of having a cyclostyling machine and using it to spread messages of patriotism. He offers to take it away to save them from being caught with it in their house. Mohan does not trust the police officer working for the British government but the mother trusts him when he says he wants to protect them as a friend of the family and also as an Indian with love for his country. After the sub-inspector leaves with the cyclostyling machine, Suman and Mohan take the cyclostyled material to another secret hide-out. Mohan returns alone leaving Suman in a safe place.

ANSWER KEY TO THE WORKSHEETS

THE NARAYANPUR INCIDENT

Answer key to grammar worksheets

A. 1. P 2. C 3. C 4. P 5. P

B. *Free response*

Answer key to vocabulary worksheets

1. presently 2. eventually 3. A little while ago 4. at this moment in time.

QUESTION BANK WITH ANSWER KEY

THE NARAYANPUR INCIDENT

1. Read the lines and answer the questions.

They walked in complete silence. There were no slogans, no shouts, just the shuffle of feet and a low murmur from the watching crowd.

a. Who is being referred to in the above lines?

b. Where were they heading?

c. Why were there no slogans or shouts?

Answers:

a. These lines refer to the college students and Mohan who were taking part in the procession to support the Quit India Movement.

b. They were heading towards the collector's office to present their paper.

c. It was a peaceful march. The participants in the procession wanted to give the message firmly but peacefully.

2. Answer in brief.

a. Why was Manju disappointed?

Answer: Manju and Babu went to witness their brother taking part in the procession. She, as a young girl, probably thought there would be excitement and some activity during or after the procession as it was a protest against the British rule. However, the students quietly returned after handing over a piece of paper to the DSP outside the collector's office. This is what disappointed her.

b. What was in the big newspaper parcel? Why did Mohan bring it in secretly?

Answer: The big newspaper parcel had the cyclostyling machine. Mohan was involved in the Quit India Movement and so had to work without the knowledge of the British Police. As part of their protest, Mohan had to cyclostyle the Mahatma's speech and distribute it among the protesters. This had to be done in secrecy as no such activity was tolerated by the British.

3. Answer in detail.

Why did Amma allow Patil to take away the cyclostyling machine? Why was Mohan opposed to it?

Answer: Along with others, Amma was involved in the Quit India Movement and she knew very well that if the British police came to know of their activities, all of them would be put in jail. They were secretly make copies of Mahatma's speech to be distributed to other protesters. Being a mature person, Amma probably knew the repercussions if their plan failed. This is the reason why she allowed Patil, a sub-inspector, to take away the machine. While she took the risk of believing Patil, Mohan was apprehensive and felt that Patil would cheat them as he was a policeman.

4. Answer in detail. (Think and answer)

Write, in your own words, what you think would have happened after they opened the door.

Free response

THE NARAYANPUR INCIDENT

Understanding the Text

A. 3, 7, 4, 1, 5, 6, 2

B. 1. 'The Narayanpur Incident' by Shashi Deshpande is set in the days of the British rule, immediately after the Quit India resolution was passed in Bombay. Babu and Manju longed to join the freedom struggle and hence they went to attend the procession taken out by college students. However, the procession was peaceful, true to the spirit of Mahatma Gandhi's non-violent, passive resistance. When the procession reached the gate of the collector's office, they were barred from entering. After some bickering with the DSP at the gate, the students turned their backs and walked off, chanting slogans. Babu and Majnu were disappointed at the obvious lack of drama and action at the site of the protest. When they asked Mohan, their elder brother who was also a participant at the rally, whether they were scared or not, he assured them that it was all premeditated. The protesters wanted to warn the British government that they will have to face the consequences if they did not leave India. That from now on, they will be treated like the enemy.

2. The quoted lines have been taken from 'The Narayanpur Incident' by Shashi Deshpande. The speaker, sub-inspector Patil, was Mohan's father's school friend. As a well wisher, he had come to warn Mohan and his family about a police raid at their house. These were the turbulent times of the Quit India movement and the police suspected that Mohan, a young freedom fighter, hid a cyclostyling machine to produce copies of Mahatma Gandhi's speech. When Mohan's mother agreed to hand over the cyclostyling machine to the sub-inspector, Mohan protested. This was when sub-inspector Patil assured him that the country was as much his as it was Mohan's.

3. Mohan, Babu and Manju could not go to sleep out of the fear of the police raiding their house. Amma pacified the children and put them to sleep. When sleep had finally descended upon the family, there was a sharp knock on the door. Amma asked Mohan to go and check who it was. It was then, that with great despair, Mohan announced that the police had finally raided the house.

Appreciating the Text

1. Mohan – Mohan risked his and his family's life, hiding a cyclostyling machine in the house. Even when the policeman approached, he lied to his face and denied having kept the cyclostyling machine.

2. Mother – Mother who was wiser than Mohan trusted the policeman who was friends with her husband in school. So she risked handing him over the cyclostyling machine, knowing that he could very well be spying on them.

3. Manju – Manju was the younger sibling of Mohan who hero-worshipped her brother and wanted to help him in any way. So when Mohan asks her to go to bed, she looks crestfallen. Mohan, realising that she wants to help asks her to sit at the hall and pass on information from Babu who was guarding the door.

4. Babu – Babu, although not a college student was eager to attend his older brother, Mohan's procession to the collector's office. At home, when his brother asked him to guard the door, he waited attentively and watched if anyone suspicious approached.

5. Suman – Suman was Mohan's friend who carried the cyclostyling machine to Mohan's house. But when sub-inspector Patil warned them about the possibility of a police raid, Suman had to leave the house with the machine. She showed immense courage in the face of police intervention and left the house before anyone could be arrested.

6. Patil – Patil was a policeman who had known about the police raid at Mohan's house. He knew that Mohan was hiding a cyclostyling machine. But instead of arresting them when he visited their house, Mohan warned them of a possible police raid and suggested that they move the machine from their house.

2. 'The Narayanpur Incident' by Shashi Deshpande is set in the turbulent historic juncture of Quit India Movement. The first instance where danger is felt is when Mohan tries to hide a suspicious parcel in his room. But he later agrees to Amma's insistence of hiding it in the Puja room. The suspicious parcel turns out to be a cyclostyling machine, the possession of which was banned by the British Government. This machine could make many copies of a letter or a document quickly. In spite of knowing that they were illegally smuggling in the machine, Mohan and Amma decided to keep it in their house. The author builds up a sense of danger when he asks his younger siblings, Babu and Manju to guard the front room and warn them if they see anyone approaching.

   Soon enough Babu heard a man's bike stop outside their gate. He sat up, alert. When the man got off his bike and tried to open their gate, Babu jumped up. He warned everybody that they had a visitor. This was the second instance where the writer has created tension to show imminent danger. The family was hiding a machine which they were not supposed to possess in the first place. The arrival of a stranger in such a situation was dangerous, to say the least.

3. *Free response*

Grammar and Usage

A. 1. C 2. P 3. P 4. C 5. C 6. P

B. She has won the Nobel Peace Prize, which by any yardstick is not an ordinary achievement and places her among the great leaders of all time.

कार्यपत्रक – 5

जगत तारन गोल्डेन जुबिली स्कूल प्रयागराज

सत्र – (2020 – 2021)

कक्षा – '8'

विषय – संस्कृत

पाठ – जननी जन्मभूमिश्च

पुस्तक – संस्कृत भारती (भाग 5)

निर्देश –

1. प्रदत्त अनुवाद एवं समस्त अभ्यास कार्य उत्तर-पुस्तिका में करें।

2. प्रेषित वीडियो को ध्यान से देखकर दीर्घ एवं गुण सन्धियों का अभ्यास करें।

प्रेषिका :- प्रतिभा मिश्रा

विषय अध्यापिका

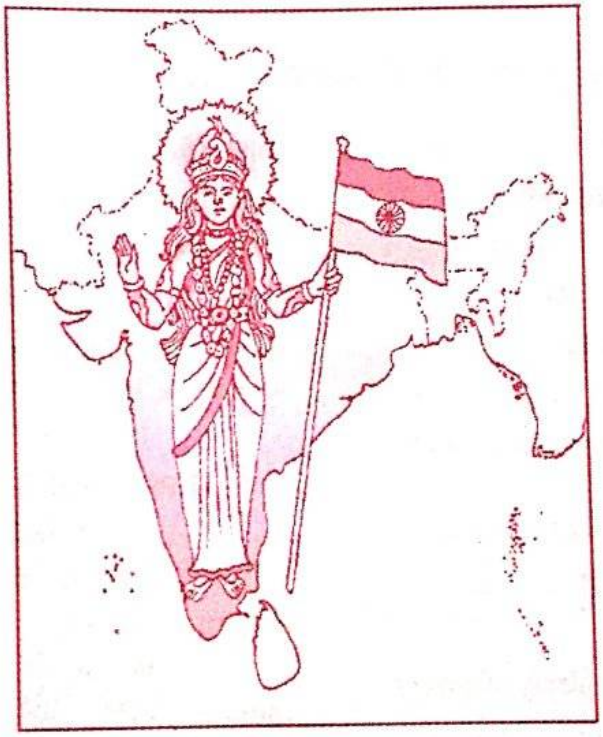
4

जननी जन्मभूमिश्च

रामः रावणं हतवान्। युद्धं समाप्तम् अभवत्। विभीषणः राममवदत्—"इमां लङ्कां भवतः चरणयोः अर्पयामि। भवानेव अत्र राजा भवतु।" लक्ष्मणस्यापि तथा इच्छा आसीत्।

रामः लक्ष्मणमकथयत्—

"अपि स्वर्णमयी लङ्का न मे लक्ष्मण रोचते।
जननी जन्मभूमिश्च स्वर्गादपि गरीयसी।।"



सेयम् अस्माकं जन्मभूमिः भारतम् अस्ति। सुजला, सुफला शस्यश्यामला चेयं मातेव सर्वान् अस्मान् रक्षति। भारतमातुः अङ्के पवित्रं जलं धारयन्त्यः गङ्गा-कावेरी-ब्रह्मपुत्रादयः नद्यः प्रवहन्ति। हिमाच्छादितः हिमालयः अस्याः श्वेतमुकुटमिव शोभते। सागराः अस्याः चरणयुगलं निरन्तरं प्रक्षालयन्ति।

'भा' अर्थात् 'प्रकाशः'। अतः 'भारतम्' अर्थात् 'प्रकाशे रतम्' अस्ति। एतेन नाम्ना तद् भूखण्डं ज्ञायते यत्र ज्ञानस्य प्रकाशः निरन्तरं प्रसरति। इयं भारतभूमिः देवतुल्यानां ज्ञानिनां गुणिनां च भूमिरस्ति। अतः इयं 'देवभूमिः' इति कथ्यते।

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भारतभूमेः गौरवं प्राचीनम् उन्नतं चास्ति। अत्र जनानां विविधाः वेशाः बहुविधानि भोजनानि च सन्ति। अत्र विभिन्नाः भाषाः ताभिः रचिताः प्रसिद्धाः ग्रन्थाश्च विद्यन्ते। भरतनाट्यम् ओडिशीनृत्यं चेव भारतीयनृत्यकला न केवलं भारते अपितु विश्वे प्रसिद्धास्ति। श्रीनगरं कन्याकुमारी चेव मनोहराणि पर्यटनस्थलानि सर्वेषां मनांसि आकर्षन्ति। भारते विविधाः धर्माः तेषां विविधानि पूजास्थलानि च सन्ति। परन्तु एतस्यां विविधतायाम् एकता एव अस्याः भूमेः वैशिष्ट्यमस्ति।

शिक्षायां ज्ञानविज्ञानानां च क्षेत्रे भारतं सर्वदा अग्रेसरं विद्यते। प्राचीनकाले नालन्दा, तक्षशिलादि विश्वविद्यालयाः सम्पूर्णे विश्वे अतीव प्रसिद्धाः आसन्। आधुनिककालेऽपि चिकित्साशास्त्रे, संगणकविद्यायाम् अपरेषु वैज्ञानिकेषु क्षेत्रेषु च भारतीयाः समग्रविश्वे प्रमुखाः सन्ति।

अस्माकं कृते इयं भारतभूमिः स्वर्गादपि श्रेष्ठा पूज्या चास्ति। वयं स्वमातरम् इव एतां जन्मभूमिं सततं सेवामहे। एतस्याः एकताम्, अखण्डतां गौरवं च रक्षितुं वयं स्वजीवनत्यागमपि करिष्यामः।

शब्द-संग्रह (Word List)

अर्पयामि (अर्प्) = समर्पित करता हूँ ([I] offer)

तथा = वैसी (thus, like that)

स्वर्णमयी = सोने की (golden)

स्वर्गादपि (स्वर्गात् + अपि) = स्वर्ग से भी (than even heaven)

गरीयसी = अधिक पूज्य (more worthy of worship)

सेयम् (सा + इयम्) = वही (that very)

सुजला = जल से परिपूर्ण (endowed with plenty of water)

सुफला = फलों से भरी (full of fruits)

शस्यश्यामला = हरी-भरी (full of green crops)

धारयन्त्यः = धारण करती हुई (bearing)

हिमाच्छादितः (हिम + आच्छादितः) = बर्फ से ढँका (covered with snow)

श्वेतमुकुटमिव (श्वेतमुकुटम् + इव) = सफेद मुकुट के समान (like a white crown)

चरणयुगलम् = पाँवों की जोड़ी को (pair of feet)

प्रक्षालयन्ति (प्र-क्षल्) = धोते हैं (wash)

प्रकाशे रतम् = प्रकाश [को फैलाने] में लगा हुआ (engaged in [spreading] light)

नाम्ना = नाम से (by name)

भूखण्डम् = भूमि का टुकड़ा (piece of land)

ज्ञायते (ज्ञाय) = जाना जाता है (is known)

प्रसरति (प्र-सृ) = फैलता है (spreads)

देवतुल्यानां ज्ञानिनाम् = देवता के समान ज्ञानियों की (of Godlike learned men)

गुणिनाम् = गुणियों की (of the virtuous)

विद्यन्ते (विद्) = हैं (are)

मनांसि = मन (mind)

विविधतायाम् = विविधता में (in diversity)

वैशिष्ट्यमस्ति (वैशिष्ट्यम् + अस्ति) = विशिष्टता है (is the speciality)

अग्रेसरम् = अग्रणी (leader)

चिकित्साशास्त्रे = चिकित्साशास्त्र में (in medical science)

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संगणकविद्यायाम् = संगणक विद्या में (in computer science)
अपरेषु = दूसरों में (in others)
समग्रविश्वे = पूरे विश्व में (in the whole world)
सततम् = हमेशा (always)
सेवामहे (सेव्) = [हम] सेवा करते हैं ([we] serve)
स्वजीवनत्यागमपि (स्वजीवनत्यागम् + अपि) = अपने जीवन का त्याग भी (even the sacrifice of one's own life)

• पढ़ें और समझें (Read and understand)

◊ सन्धि-विच्छेद

रामम्वदत् = रामम् + अवदत्
मातेव = माता + इव
भूमिरस्ति = भूमिः + अस्ति
चेव = च + इव
मनोहराणि = मनः + हराणि
आधुनिककालेऽपि = आधुनिककाले + अपि

◊ इन्-अन्तवाले पुँलिङ्ग शब्द 'ज्ञानिन्' और 'गुणिन्' के रूप एकसमान चलते हैं। ('गुणिन्' के रूप के लिए परिशिष्ट देखें।)

◊ 'शुभ्' और 'सेव्' आत्मनेपदी धातु हैं। इनके रूप एकसमान चलते हैं। ('सेव्' के रूप के लिए परिशिष्ट देखें।)

अभ्यास

1. संस्कृत में उत्तर दें। (Answer in Sanskrit.)
   (क) भारतमातुः श्वेतमुकुटं कः?
   (ख) के अस्याः चरणयुगलं प्रक्षालयन्ति?
   (ग) देवभूमिः का अस्ति?
   (घ) भारतभूमेः वैशिष्ट्यं किम्?
   (ङ) वयं मातरम् इव कां सेवामहे?

2. निम्नलिखित शब्दों के अर्थ लिखें। (Write the meanings of the following words.)
   हिमाच्छादितः, चरणयुगलम्, विविधतायाम्, सततम्, अग्रेसरम्, नाम्ना

3. निम्नलिखित शब्दों का पद-परिचय दें। (Analyse the following words.)
   इयम्, भारतमातुः, भूमौ, ज्ञानिनाम्, विविधतायाम्

4. निम्नलिखित पाठ्यांशों का अनुवाद करें। (Translate the following passages.)
   (क) रामः रावणं ··· राजा भवतु।
   (ख) इयं भारतभूमिः ··· इति कथ्यते।
   (ग) शिक्षायां ··· अग्रेसरं विद्यते।

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5. दिए गए शब्दों से रिक्त स्थानों की पूर्ति करें।
(Fill in the blanks with the given words.)
एकता, प्रक्षालयन्ति, स्वर्गात्, देवतुल्यानाम्, प्रमुखाः

(क) सागराः भारतमातुः चरणौ ..... ।

(ख) इयं ..... ज्ञानिनां भूमिः अस्ति।

(ग) अत्र विविधतायाम् ..... एवास्ति।

(घ) वैज्ञानिकेषु क्षेत्रेषु भारतीयाः ..... सन्ति।

(ङ) भारतभूमिः ..... अपि श्रेष्ठा अस्ति।

6. निर्देशानुसार धातुरूप लिखें। (Conjugate the roots according to the instructions.)

(क) अस् लोट् लकार प्रथम पुरुष

(ख) सेव् लृट् लकार उत्तम पुरुष

(ग) भू लङ् लकार मध्यम पुरुष

(घ) रक्ष् विधिलिङ् लकार प्रथम पुरुष

(ङ) शुभ् लट् लकार मध्यम पुरुष

7. संस्कृत में अनुवाद करें। (Translate into Sanskrit.)

(क) हमारे लिए जन्मभूमि देवी समान है।
(Motherland is like a goddess for us.)

(ख) भारतभूमि माता के समान हमारी रक्षा करती है।
(The land of India protects us like a mother.)

(ग) भारत में अनेक पर्यटन स्थल हैं।
(There are many tourist spots in India.)

(घ) हमें भारत माँ की सेवा करनी चाहिए।
(We should serve Mother India.)

(ङ) भारत की नदियाँ पवित्र जल धारण करती हैं।
(The rivers of India contain holy water.)

(च) हम अपना जीवन भारतमाता को [भारतमात्रे] अर्पण करते हैं।
(We offer our lives to Mother India [भारतमात्रे].)

(छ) गुणियों का आचरण अनुकरणीय होता है।
(The conduct of the virtuous is worthy of emulation.)

(ज) तुम क्यों नहीं कपड़े धोते हो?
(Why don't you wash the clothes?)

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(प्रस्तुत पाठ का हिन्दी रूपान्तर)

राम: रावणम् - - - - - - - इति कथ्यते।

अनुवाद:- राम नें रावण को मारा। युद्ध समाप्त हो गया। विभीषण नें राम से कहा - "यह लंका आपके चरणों में अर्पित करता हूँ। आप ही यहाँ राजा हों।"

लक्ष्मण की भी यही इच्छा थी।

राम नें लक्ष्मण से कहा -

"हे लक्ष्मण! यद्यपि यह लंका सोने की है फिर भी मुझे अच्छी नहीं लगती क्योंकि माता और मातृभूमि स्वर्ग से भी बढ़कर हैं।"

वही यह हमारी जन्मभूमि भारत है। निर्मल जल वाली, फलों से भरी हुई और हरी - भरी यह माता की भाँति हम सब की रक्षा करती है। भारत माता की गोद में पवित्र जल धारण करने वाली गंगा - कावेरी - ब्रह्मपुत्र आदि नदियाँ बहती हैं। बर्फ से ढका हुआ हिमालय इसके श्वेत मुकुट की भाँति शोभा पाता है। सागर इसके दोनों चरणों को

लगातार द्योते हैं।
'भा' अर्थात प्रकाश। अतः 'भारतम्' का अर्थ है प्रकाश में लगा हुआ। इस नाम से वह भूखण्ड जाना जाता है जहाँ ज्ञान का प्रकाश लगातार फैल रहा है। यह भारतभूमि देवताओं के समान ज्ञानी और गुणी लोगों की भूमि है। इसलिए इसे देवभूमि कहते हैं।

भारतभूमेः - - - - - त्यागमपि करिष्यामि।

अनुवाद:- भारत भूमि का गौरव प्राचीन और उन्नत है। यहाँ लोगों के अलग-अलग पहनावे और विभिन्न प्रकार के भोजन हैं। यहाँ विभिन्न भाषाएँ और उनमे लिखे गये प्रसिद्ध ग्रन्थ हैं। भरतनाट्यम और ओडीसी जैसी भारतीय नृत्यकला न केवल भारत में बल्कि विश्व में प्रसिद्ध है। श्रीनगर और कन्याकुमारी जैसे मनोहर पर्यटन स्थल सब के मन को आकर्षित करते हैं। भारत में विभिन्न धर्मी

और उनके विभिन्न पूजा स्थल हैं। लेकिन इस विविधता में एकता ही इस भूमि की विशेषता है।

शिक्षा और ज्ञान-विज्ञान के क्षेत्र में भारत हमेशा आगे रहा है। प्राचीनकाल में नालन्दा, तक्षशिला आदि विश्वविद्यालय पूरे विश्व में बहुत प्रसिद्ध थे। अ वर्तमानकाल में भी चिकित्साशास्त्र, कम्प्यूटर तथा अन्य वैज्ञानिक क्षेत्रों में भारतीय पूरे विश्व में प्रसिद्ध हैं।

हमारे लिए यह भारतभूमि स्वर्ग से भी श्रेष्ठ और पूज्य है। हमें अपनी माता के समान अपनी इस जन्मभूमि की हमेशा सेवा करनी चाहिए। इसकी एकता, अखण्डता और गौरव की रक्षा के लिए हम अपने जीवन का त्याग भी करेंगे।

अभ्यास कार्य

1. (क) भारतमातुः श्वेत मुकुटः हिमालयः।
(ख) सागराः अस्या चरणयुगलं प्रच्छालयन्ति।
(ग) भारतभूमिः, देवभूमिः अस्ति।
(घ) विविधतायाम् एकता भारतभूमेः वैशिष्ट्यम् अस्ति।
(ङ) वयं मातरम् इव जन्मभूमिं सेवामहे।

2. देखें पाठ्यपुस्तक पृष्ठ सं० 12, 13।

3. इयम् – सर्वनाम स्त्रीलिङ्ग प्रथमा विभक्ति एकवचन
भारतमातुः – संज्ञा स्त्रीलिङ्ग षष्ठी वि० एकव०
भूमौ – संज्ञा स्त्री लिङ्ग० सप्तमी वि० एकव०
ज्ञानिनाम् – विशेषण पुल्लिङ्ग० षष्ठी वि० बहुव०
विविधतायाम् – विशेषण पुल्लिङ्ग० सप्तमी वि० बहु व०

4. देखें हिन्दी रूपान्तर।

5. (क) प्रक्षालयन्ति (ख) देवतुल्यानाम्
(ग) एकता (घ) प्रमुखाः (ङ) स्वर्गात्

6. (क) अस्तु स्ताम् सन्तु
(ख) सेविष्ये सेविष्यावहे सेविष्यामहे
(ग) अभवः अभवतम् अभवत
(घ) रक्षेत् रक्षेताम् रक्षेयुः
(ङ) शोभस्व शोभेथे शोभध्वे

7.(क) अस्माकं कृते जन्मभूमिः देवीमिव अस्ति।
(ख) भारतभूमिः मातरमिव अस्मांक रक्षति।
(ग) भारते अनेकानि पर्यटनस्थलानि सन्ति।
(घ) वयं भारतमातुः सेवामहे।
(ङ) भारतस्य नद्यः पवित्रं जलं धारयन्ति।
(च) वयं स्वजीवनं भारतमात्रे अर्पयामः।
(छ) गुणिजनानाम् आचरणम् अनुकरणीयम्।
(ज) त्वं कथं वस्त्राणि न प्रक्षालयसि?

———×———

क्रियात्मक क्रियाकलाप

1. 50 से 100 तक की गिनती संस्कृत में याद करके अपनी उत्तर पुस्तिका में लिखें।

2. अपनी उत्तर पुस्तिका में भारत के राष्ट्रीय पुष्प और राष्ट्रीय पक्षी का चित्र अंकित करें और उनके विषय में पाँच संक्षिप्त वाक्य संस्कृत में लिखें।

———×———.

Session 2020-21

Class- VIII

Subject: Sanskrit

Video Link

Follow the Instructions given below:-

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