

## Class IX Computer Applications

### Chapter 1

#### Elementary Concept of Objects and Classes

##### 1. What is an object?

An object is an identifiable entity with some characteristic and behaviours.

A software object is a software unit of related variables and methods.

##### 2. What is a class?

A class is a group of objects that share common properties, relationships and behavior. A class is defined using the keyword 'class'

##### 3. Name the members of a class?

Data members (Variables)

Member functions (Methods)

##### 4. How can you say that a class is an object factory?

A class is an object factory because it is the blueprint from which any number of individual objects or instances are created.

##### 5. Define Inheritance.

Inheritance is the process by which objects of one class inherit the features of objects of another class.

##### 6. Define Encapsulation.

The wrapping up of data and functions into a single unit is called encapsulation.

##### 7. Define Abstraction or Data abstraction.

Abstraction refers to the act of representing essential features without including the background details or explanations.

##### 8. Define polymorphism.

The ability to take more than one form is called as polymorphism.

##### 9. What is object oriented programming?

It is an approach of OOP that emphasis is on data rather than procedures. Programs are divided into objects that consists of data and methods.

**10. What is structured programming?**

Programmes that are arranged in a particular order are called structured programming.

**11. What is procedural programming?**

Procedural programming is a structure that is broken down into smaller subprograms such as functions and procedures.

**12. Why class is called a user defined data type?**

When a class is created the user/programmer is actually creating a data type of his own , hence it is called user defined data type.

**13. Characteristics of OOP programming?**

1. Programs are divided into objects.
2. Data is hidden and cannot be accessed by external methods.
3. Addition of new data and methods can be done easily whenever necessary.

**14. Advantages and disadvantages of OOP**

1. The focus is on the data rather than procedures.
2. Easy maintenance and debugging
3. Provides the facility of reusability.
4. Only essential details are visible to the user.

**Disadvantages**

1. Relation between classes to be created.
2. OOP design requires lot of planning and expertise.
3. Not good for representing non-objects.

**15. What is instance?**

An instance is an object in memory.

**16. Difference between object and instance?**

Instance refers to the copy of the object at a particular time whereas object refers to the memory address of the class.

**17. What are the different types of programming approach?**

Structured programming, procedural and oop .

## Chapter 2 – Class as a basis for all Computations

### 1. What is an access modifiers? Name them.

The access modifier decides whether the variable or method of a class can be accessed by method of another class.

- a) **Public** – which mean the members (variables /methods) accessible to any other class.
- b) **private** - means the members (variables /methods) accessible only within its own class.
- c) **protected** – means members are accessible to subclasses or classes in the same package.
- d) **Default** - means members are accessible to subclasses or classes in the same package. It is provided by the compiler.

### 2. What are variables?

Variables are the named memory locations where values are stored.

For example `int a =10;` where 'a' is the variable, int is the data type and 10 is the constant.

### 3. What are the type of variables?

- a) **Member variable (data members)** – declared in the class to represent values.
- b) **Class variables (static variables)** – a variable declared only once for a class and also used with keyword static. Eg. `static int a =10;`
- c) **Instance variable** – this is the variable used for object creation.
- d) **Local variable** – used in the method (function) definition
- e) **Parameters** – variables used in method declaration.

### 4. What is the use of 'new' operator?

It is used to create new objects. It allocates memory space for an object.

### 5. How can you create an instance of a class?

An instance of a class is created by using new operator.

### 6. Which operator must be used to invoke the the methods of an object?

**new**

**7. Which return type must be used if the method does not return any value?**

**void.**

**8. What will you write in the parameter list of a method, if the method actually does not take any parameter?**

**Nothing ..just put empty bracket eg. ( ).**

### **3. Introduction to Java and Blue J**

**1. Give the file extensions of java programs.**

**.class.**

**2. What are the two types of java programs?**

**Java applets and java applications.**

**3. How is java platform independent?**

**Java programs can run on any platform irrespective of various operating systems and type of computers.**

**4. What are the different features of java?**

Object oriented language

Reusable

Platform independent and portable

Automatic Garbage collection.

**5. What is bug and debugging?**

An error in the program or source code is called as a bug.

The process of detecting errors in the source code and correcting them is known as debugging.

**6. Explain various types of errors?**

Syntax error – an error that occurs when the syntax to be followed are violated.

Runtime error- error that occurs during the execution or running time of the program.

Logical error – an error that causes to give incorrect output.

7. What are comments in java?

Comments improve the readability of a program. They are ignored by the compiler. Types of comments are as follows:

The // symbol for single line comments

The /\* .....\*/ for multi line comments (block style)

The /\*\* ..... \*/ - documentation style.

8. What are byte code?

It is a code which converts source code to machine code.

9. What is JVM?

It is the byte code of java programs.

10. Which command is used to print output to the console?

System.out.println( ) command is used to give output on the monitor.

#### 4. Data types, variables & values in Java

1. What is an identifier?

Identifier identifies different part of the program. Egs. Class name, variable name, function name etc.

. egs: class **sum** - class is the key word **sum** is the identifier

float **a** = 12; - float is key word **a** is identifier (variable)

2. What are key words? State the difference between punctuaters.

Keywords are the words that convey a special meaning to the language compiler. These are reserved for special purpose and must not be used as normal use to name identifiers or

variables. Eg. new, break, for etc

3. What do you mean by scope of variable?

Scope of variables means the accessibility of variables.

4. What are tokens? Give example.

A token is the smallest individual element of a Java program. Egs: keywords, identifiers, variables, literals, operators, punctuators.

5. What are the rules for naming identifiers?

a) Identifier must not be a reserved word(keyword)

b) They must not begin with a digit (prefer to begin with an alphabet)

c) They can have alphabets, digits, underscore and dollar sign characters

d) They can be of any length but space should not be used.

e) JAVA is case-sensitive ie, upper case and lower case letters are treated differently

6. What are constants or literals? What are its types?

7. A program element whose value remained unchanged during the program execution is called constant.

Eg. int a=10; where 10 is the constant.

Types of constants:

Integer constant – byte, short, int, long (number without decimal part)

Floating constant – float and double (number with decimal part)

Character constant – char (enclosed in single quotes 'A', '3', '#' etc)

Boolean constant – Boolean (true or false)

String constant – String (enclosed in double quotes "abcxyz")

8. What is an operator? Give example

An operator in Java is a symbol that performs certain calculation.

Egs : unary, binary, ternary, arithmetic, increment / decrement , logical relational etc.

9. What are punctuators or separators and its types?

Separators are also known as punctuators. They are used to give special meaning to the compiler and also any user who scans the program. They are,

( ) **parentheses** - used to refer parameters in method definition and to show Operation precedence in expressions. Also to denote function.

[ ] **sq.brackets** used to declare array types

{ } **braces** start and end for a block of statements, to contain values of arrays

; **semicolon** to terminate statements

, **comma** to separate identifiers

. **period** to separate variable or method from reference variable

10. What are data types? What are its categories?

A data type is the type of data a variable can hold. All variables in the Java language must have a data type. They are of two types:

primitive data type – are the basic data types which are independent. They are of 8: byte, short, int, long, float, double, char and boolean.

reference data type – are composed of (derived from) primitive data type and also called as derived datatype, composite data type or user defined data types. They are : arrays, strings, class / objects.

#### Integer primitive data types

Type	Size	Range
byte	8 bits	-128 to +127
short	16 bits	-32,768 to + 32,767
int	32 bits	-2 billion to +2 billion (10 digits)
long	64 bits	-10E18 to +10E18 (19 digits)

#### Floating point primitive data types

Type	Size	Range
------	------	-------

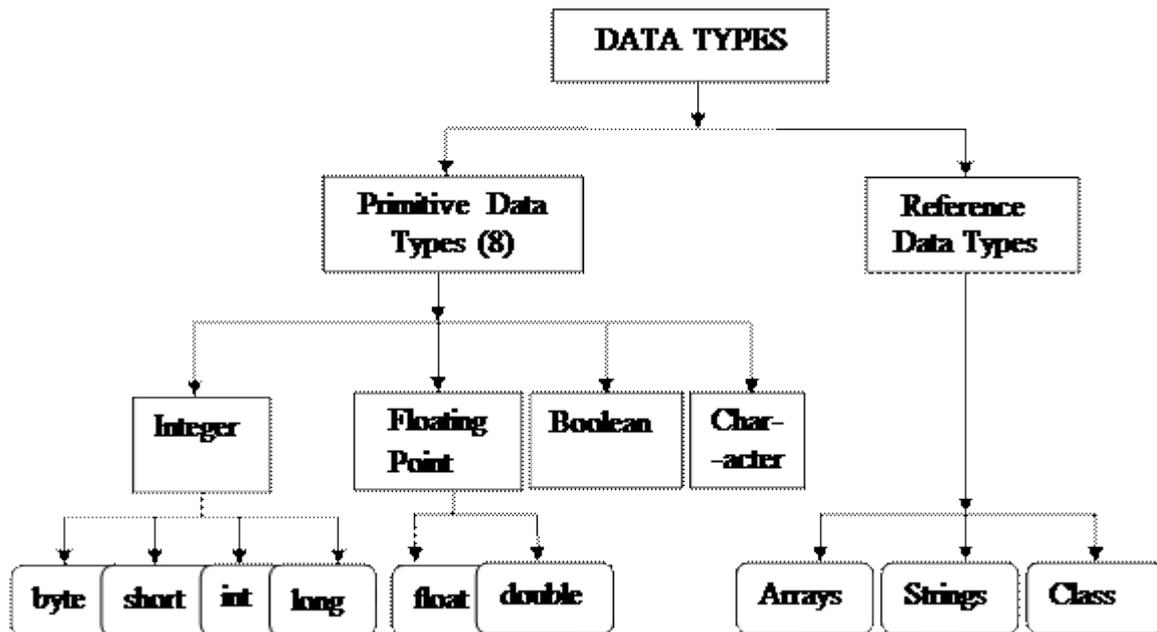
float	32bits	-3.4E+38 to +3.4E+38 (39 digits)
double	64bits	-1.7E+308 to +1.7E+308

**Boolean primitive data type**

Type	Range
boolean	true or false

**Character primitive data type**

Type	Size	Range
char	16bits	any Unicode character in single quotes



11. Explain the dynamic initialization using scanner class?

**A scanner class is a class in java.util package. It helps to take input from the user.**

**Syntax : Scanner sc=new Scanner(System.in);**

12. What are the default values of the primitive data types?

**The default values (initial value or)of byte, short int are 0(zero) and long is 0L, float 0.0f/F, double 0.0d/D, char is \u0000 and Boolean is false, String is ""**

13. What are declaration and initialization of variable?

Declaring a variable with data type is called declaration.

Eg: int a;

Giving values to variable is called initialization

Eg: int a =10;

**Write these questions / ans on the copy and revise the same. It includes first 4 chapters.**

**Class 9**

**Chapter 4 Physics**

1. What do you mean by atmospheric pressure?

Ans:- The thrust exerted per unit area on the earth surface due to column of air is called atmospheric pressure on the surface of earth .

2. Name the physical quantity which is expressed in the unit "atm" state its value in pascal ?

Ans:- Atmospheric pressure,1 atm =  $1.013 \times 10^5$  Pa.

3. We donot feel uneasy even under the enormous pressure of atmosphere above as well as

around us give reason.

Ans:- Because pressure of our blood balances it .The blood pressure is slightly more than the atmospheric pressure .

4. State two uses of barometer.

Ans:- 1.To measure atmospheric pressure .

2.For weather forecasting

5. Why does the liquid rise in a syringe when its piston is pulled up?

Ans:- when its piston is pulled up the pressure inside the barrel below the plunger is much less than the

atmospheric pressure acting on the liquid surface.As a result the atmospheric pressure forces the liquid to rise up in the syringe .

6. What is a barometer ? How is a simple barometer constructed ?

Ans:- An instrument used to measure the atmospheric pressure is called a barometer .

A simple barometer consists of a glass tube of about 1m length closed at one end.Fill the tube with pure mercury and

invert into a trough of mercury in such a way that open end of tube is well immersed in mercury in the trough and

tube stand vertical. Now the thumb is removed .

it is seen that the mercury level in tube falls till its height above the mercury level in trough becomes  $h=76\text{cm}$ .

7. Give two reasons for the use of mercury as a barometric liquid.'

Ans:- 1.The mercury neither wets nor sticks to the glass tube,therefore it gives accurate reading.

2.It can easily be obtained in a pure state.

8. Give two reasons why water is not a suitable barometric liquid ?

Ans:- 1.The vapour pressure of water is high,so its vapours in the vacuum space will make the reading in accurate .

2.Water sticks with the glass tube and wets it.So the reading become inaccurate.

9. Mention two demerits of a simple barometer ?

Ans:- 1.There is no protection for the glass tube.

2.It is inconvenient to move the barometer from one place to another i.e.It is not portable.

10. State two advantages of an aneroid barometer over a simple barometer?

Ans:- 1.This barometer has no liquid .

2.It is light and portable therefore it can easily be carried from one place to another.

11. State two factors which affects the atmospheric pressure as we go up?

Ans:- 1.Height of air column .

2.Density of air.

12. Why does a fountain pen leak at a high altitude ?

Ans:- When the pen is taken at an altitude,the atmospheric pressure at this altitude is low.So the excess pressure due to air inside the rubber tube forces the ink to leak out.

13. Why does nose start bleeding on high mountains?

Ans:- At high altitude since the the atmospheric is low,breathing becomes difficult and nose bleeding may occur due to excess of blood pressure over the atmospheric pressure .

14. What do the following indicate in barometer regarding weather?

(a) gradual fall in mercury level.

Ans:- Possibility of rain.

(b) Sudden fall in mercury level.

Ans:- Coming of storm or cyclone.

(c) gradual rise in the mercury level.

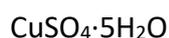
Ans:- dry weather.

## Class 9

### Chapter 1 - The Language of Chemistry Exercise Ex. 1(C)

#### Question 1

Calculate the molecular mass of the following:



Given atomic mass of Cu = 63.5, H = 1, O = 16, C=12, N = 14, Mg = 24, S = 32

#### Solution 1

Molecular mass of  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

$$63.5 + 32 + (4 \times 16) + (10 \times 1) + (5 \times 16)$$

$$= 63.5 + 32 + 64 + 10 + 80$$

$$= 249.5$$

#### Question 2

Fill in the blanks:

- Dalton used symbol \_\_\_\_\_ for oxygen \_\_\_\_\_ for hydrogen.
- Symbol represents \_\_\_\_\_ atom(s) of an element.
- Symbolic expression for a molecule is called \_\_\_\_\_ . .
- Sodium chloride has two radicals. Sodium is a \_\_\_\_\_ radical while chloride is \_\_\_\_\_ radical.

- e. Valency of carbon in  $\text{CH}_4$  is \_\_\_\_\_, in  $\text{C}_2\text{H}_6$  \_\_\_\_\_, in  $\text{C}_2\text{H}_4$  \_\_\_\_ and in  $\text{C}_2\text{H}_2$  is \_\_\_\_\_.
- f. Valency of Iron in  $\text{FeCl}_2$  is \_\_\_\_\_ and in  $\text{FeCl}_3$  it is \_\_\_\_\_ .
- g. Formula of iron (III) carbonate is \_\_\_\_\_ .

### Solution 2

- a. Dalton used symbol [O] for oxygen,[H] for hydrogen.
- b. Symbol represents gram atom(s) of an element.
- c. Symbolic expression for a molecule is called molecular formula.
- d. Sodium chloride has two radicals. Sodium is a basic radical, while chloride is an acid radical.
- e. Valency of carbon in  $\text{CH}_4$  is 4, in  $\text{C}_2\text{H}_6$ 4, in  $\text{C}_2\text{H}_4$ 4 and in  $\text{C}_2\text{H}_2$  is 4.
- f. Valency of iron in  $\text{FeCl}_2$  is 2 and in  $\text{FeCl}_3$  it is 3.
- g. Formula of iron (III) carbonate is  $\text{Fe}_2[\text{CO}_3]_3$ .

### Question 3

Complete the following table.

Acid Radicals						
	Chloride	Nitrate	<u>Sulphate</u>	Carbonate	Hydroxide	P
Basic Radicals						
Magnesium	MgCl <sub>2</sub>	Mg(NO <sub>3</sub> ) <sub>2</sub>	MgSO <sub>4</sub>	MgCO <sub>3</sub>	Mg(OH) <sub>2</sub>	M
Sodium						
Zinc						
Silver						
Ammonium						
Calcium						
Iron (II)						
Potassium						

Solution 3

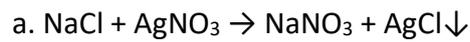
Acid Radicals						
	Chloride	Nitrate	<u>Sulphate</u>	Carbonate	Hydroxide	Phosphate
Basic Radicals						
Magnesium	MgCl <sub>2</sub>	Mg(NO <sub>3</sub> ) <sub>2</sub>	MgSO <sub>4</sub>	MgCO <sub>3</sub>	Mg(OH) <sub>2</sub>	Mg <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>
Sodium	<u>NaCl</u>	NaNO <sub>3</sub>	Na <sub>2</sub> SO <sub>4</sub>	Na <sub>2</sub> CO <sub>3</sub>	<u>NaOH</u>	Na <sub>3</sub> PO <sub>4</sub>
Zinc	ZnCl <sub>2</sub>	Zn(NO <sub>3</sub> ) <sub>2</sub>	Zn(SO <sub>4</sub> ) <sub>2</sub>	ZnCO <sub>3</sub>	Zn(OH) <sub>2</sub>	Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>
Silver	<u>AgCl</u>	AgNO <sub>3</sub>	Ag <sub>2</sub> SO <sub>4</sub>	Ag <sub>2</sub> CO <sub>3</sub>	<u>AgOH</u>	Ag <sub>3</sub> PO <sub>4</sub>
Ammonium	NH <sub>4</sub> Cl	NH <sub>4</sub> NO <sub>3</sub>	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub>	NH <sub>4</sub> OH	(NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub>
Calcium	CaCl <sub>2</sub>	CaCO <sub>3</sub>	CaSO <sub>4</sub>	CaCO <sub>3</sub>	Ca(OH) <sub>2</sub>	Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>
Iron (II)	FeCl <sub>2</sub>	Fe(NO <sub>3</sub> ) <sub>2</sub>	FeSO <sub>4</sub>	FeCO <sub>3</sub>	Fe(OH) <sub>2</sub>	Fe <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>
Potassium	<u>KCl</u>	KNO <sub>3</sub>	K <sub>2</sub> SO <sub>4</sub>	K <sub>2</sub> CO <sub>3</sub>	KOH	K <sub>3</sub> PO <sub>4</sub>

#### Question 4

Sodium chloride reacts with silver nitrate to produce silver chloride and sodium nitrate

- Write the equation.
- Check whether it is balanced, if not balance it.
- Find the weights of reactants and products.
- State the law which this equation satisfies.

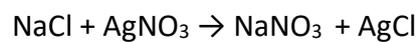
#### Solution 4



b. It is a balanced equation.

c. Weights of reactants: NaCl - 58.44, AgNO<sub>3</sub> - 169.87

Weights of products: NaNO<sub>3</sub> - 84.99, AgCl - 143.32



$$(23+35.5) + (108+14+48) \rightarrow (23+14+48) + (108+35.5)$$

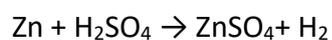
$$58.5 + 170 \rightarrow 85 + 143.5$$

$$228.5 \text{ g} \rightarrow 228.5 \text{ g}$$

d. Law of conservation of mass: Matter is neither created nor destroyed in the course of a chemical reaction.

Question 5

What information does the following chemical equation convey?



Solution 5

This equation conveys the following information:

- i. The actual result of a chemical change.
- ii. Substances take part in a reaction, and substances are formed as a result of the reaction.
- iii. Here, one molecule of zinc and one molecule of sulphuric acid react to give one molecule of zinc sulphate and one molecule of hydrogen.
- iv. Composition of respective molecules, i.e. one molecule of sulphuric acid contains two atoms of hydrogen, one atom of sulphur and four atoms of oxygen.
- v. Relative molecular masses of different substances, i.e. molecular mass of  
 $Zn = 65$   
 $H_2SO_4 = (2+32+64) = 98$   
 $ZnSO_4 = (65+32+64) = 161$   
 $H_2 = 2$
- vi. 22.4 litres of hydrogen are formed at STP.

#### Question 6

What information do the following chemical equations convey?  $Mg + 2HCl \rightarrow MgCl_2 + H_2$

#### Solution 6

This equation conveys the following information:

- i. Magnesium reacts with hydrochloric acid to form magnesium chloride and hydrogen gas.
- ii. 24 g of magnesium reacts with  $2(1 + 35.5) = 73$  g of hydrochloric acid to produce  $(24 + 71)$ , i.e. 95 g of magnesium chloride.
- iii. Hydrogen produced at STP is 22.4 litres.

#### Question 7

What are polyatomic ions? Give two examples.

### Solution 7

A polyatomic ion is a charged ion composed of two or more covalently bounded atoms.  
Examples: Carbonate ( $\text{CO}_3^{2-}$ ) and sulphate ( $\text{SO}_4^{2-}$ )

### Question 8

Name the fundamental law that is involved in every equation.

### Solution 8

Fundamental laws which are involved in every equation:

- i. A chemical equation consists of formulae of reactants connected by a plus sign (+) and arrow ( $\rightarrow$ ) followed by the formulae of products connected by the plus sign (+).
- ii. The sign of an arrow ( $\rightarrow$ ) is to read 'to form'. It also shows the direction in which the reaction is predominant.

The fundamental law followed by every equation is 'Law of Conservation of Mass'.

### Question 9

What is the valency of :

fluorine in  $\text{CaF}_2$

### Solution 9

Valency of fluorine in  $\text{CaF}_2$  is -1.

### Question 10

What is the valency of :

sulphur in  $\text{SF}_6$

### Solution 10

Valency of sulphur in  $\text{SF}_6$  is -6.

### Question 11

What is the valency of :

phosphorus in  $\text{PH}_3$

### Solution 11

Valency of phosphorus in  $\text{PH}_3$  is +3.

### Question 12

What is the valency of :

carbon in  $\text{CH}_4$

### Solution 12

Valency of carbon in  $\text{CH}_4$  is +4.

### Question 13

What is the valency of :

nitrogen in the following compounds:

(i)  $\text{N}_2\text{O}_3$  (ii)  $\text{N}_2\text{O}_5$  (iii)  $\text{NO}_2$  (iv)  $\text{NO}$

(ii)  $\text{MnO}_2$  (2)  $\text{Cu}_2\text{O}$  (3)  $\text{Mg}_3\text{N}_2$

### Solution 13

Valency of nitrogen in the given compounds: (2)(1)  $\text{Mn}=4$  (2)  $\text{Cu}=1$  (3)  $\text{Mg}=2$

- i.  $\text{N}_2\text{O}_3 = \text{N}$  is +3
- ii.  $\text{N}_2\text{O}_5 = \text{N}$  is +5
- iii.  $\text{NO}_2 = \text{N}$  is +4
- iv.  $\text{NO} = \text{N}$  is +2

### Question 14

Why should an equation be balanced? Explain with the help of a simple equation.

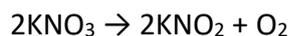
### Solution 14

According to the law of conservation of mass, 'matter can neither be created nor can it be destroyed'. This is possible only if the total number of atoms on the reactants side is equal to the total number of atoms on the products side. Thus, a chemical reaction should always be balanced.

e.g.  $\text{KNO}_3 \rightarrow \text{KNO}_2 + \text{O}_2$

In this equation, the number of atoms on both sides is not the same, and the equation is not balanced.

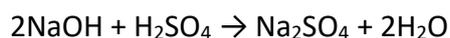
The balanced form of this equation is



#### Question 15

Write the balanced chemical equations of the following reactions. sodium hydroxide + sulphuric acid  $\rightarrow$  sodium sulphate + water

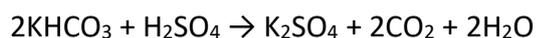
#### Solution 15



#### Question 16

Write the balanced chemical equations of the following reactions. potassium bicarbonate + sulphuric acid  $\rightarrow$  potassium sulphate + carbon dioxide + water

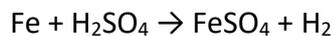
#### Solution 16



#### Question 17

Write the balanced chemical equations of the following reactions. iron + sulphuric acid  $\rightarrow$  ferrous sulphate + hydrogen.

#### Solution 17

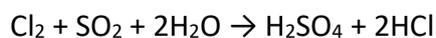


#### Question 18

Write the balanced chemical equations of the following reactions.

chlorine + sulphur dioxide + water  $\rightarrow$  sulphuric acid + hydrogen chloride

#### Solution 18



#### Question 19

Write the balanced chemical equations of the following reactions.

silver nitrate  $\rightarrow$  silver + nitrogen dioxide + oxygen

#### Solution 19

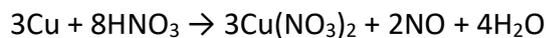


#### Question 20

Write the balanced chemical equations of the following reactions.

copper + nitric acid  $\rightarrow$  copper nitrate + nitric oxide + water

Solution 20



Question 21

Write the balanced chemical equations of the following reactions.

ammonia + oxygen  $\rightarrow$  nitric oxide + water

Solution 21

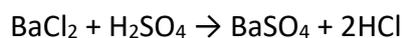
Selina Solutions Icse Class 9 Chemistry Chapter - The Language Of Chemistry

Question 22

Write the balanced chemical equations of the following reactions.

barium chloride + sulphuric acid  $\rightarrow$  barium sulphate + hydrochloric acid

Solution 22

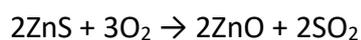


Question 23

Write the balanced chemical equations of the following reactions.

zinc sulphide + oxygen  $\rightarrow$  zinc oxide + sulphur dioxide

Solution 23

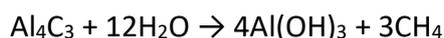


Question 24

Write the balanced chemical equations of the following reactions.

aluminium carbide + water  $\rightarrow$  aluminium hydroxide + methane

Solution 24

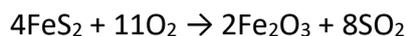


Question 25

Write the balanced chemical equations of the following reactions.

iron pyrites( $\text{FeS}_2$ ) + oxygen  $\rightarrow$  ferric oxide + sulphur dioxide

Solution 25

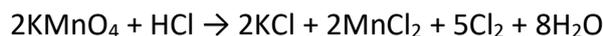


Question 26

Write the balanced chemical equations of the following reactions.

potassium permanganate + hydrochloric acid  $\rightarrow$  potassium chloride + manganese chloride + chlorine + water

Solution 26



Question 27

Write the balanced chemical equations of the following reactions.

aluminium sulphate + sodium hydroxide  $\rightarrow$  sodium sulphate + sodium meta aluminate + water.

Solution 27



Question 28

Write the balanced chemical equations of the following reactions.

aluminium + sodium hydroxide + water  $\rightarrow$  sodium meta aluminate + hydrogen

Solution 28



Question 29

Write the balanced chemical equations of the following reactions.

potassium dichromate + sulphuric acid  $\rightarrow$  potassium sulphate + chromium sulphate + water + oxygen.

Solution 29



Question 30

Write the balanced chemical equations of the following reactions.

potassium dichromate + hydrochloric acid  $\rightarrow$  Potassium chloride + chromium chloride + water + chlorine

Solution 30



Question 31

Write the balanced chemical equations of the following reactions.

sulphur + nitric acid  $\rightarrow$  sulphuric acid + nitrogen dioxide + water.

Solution 31



Question 32

Write the balanced chemical equations of the following reactions.

sodium chloride + manganese dioxide + sulphuric acid  $\rightarrow$  sodium hydrogen sulphate + manganese sulphate + water + chlorine.

Solution 32



Question 33

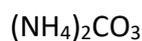
Define atomic mass unit.

Solution 33

Atomic mass unit (amu) is equal to one-twelfth the mass of an atom of carbon-12 (atomic mass of carbon taken as 12).

Question 34

Calculate the molecular mass of the following:



Given atomic mass of Cu = 63.5, H = 1, O = 16, C = 12, N = 14, Mg = 24, S = 32

Solution 34

Molecular mass of  $(\text{NH}_4)_2\text{CO}_3$

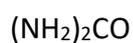
$$= (2 \times 14) + (8 \times 1) + 12 + (3 \times 16)$$

$$= 28 + 8 + 12 + 48$$

$$= 96$$

Question 35

Calculate the molecular mass of the following:



Given atomic mass of Cu = 63.5, H = 1, O = 16, C = 12, N = 14, Mg = 24, S = 32

Solution 35

Molecular mass of  $(\text{NH}_2)_2\text{CO}$

$$= (14 \times 2) + (4 \times 1) + 12 + 16$$

$$= 28 + 4 + 12 + 16$$

$$= 60$$

Question 36

Calculate the molecular mass of the following:



Given atomic mass of Cu = 63.5, H = 1, O = 16, C = 12, N = 14, Mg = 24, S = 32

Solution 36

Molecular mass of  $\text{Mg}_3\text{N}_2$

$$= (3 \times 24) + (2 \times 14)$$

$$= 72 + 28$$

$$= 100$$

Question 37

Choose the correct answer from the options given below.

Modern atomic symbols are based on the method proposed by

- i. Bohr
- ii. Dalton
- iii. Berzelius
- iv. Alchemist

Solution 37

- iii. Berzelius

Question 38

Choose the correct answer from the options given below.

The number of carbon atoms in a hydrogen carbonate radical is

- i. One
- ii. Two
- iii. Three
- iv. Four

Solution 38

i. One

Question 39

Choose the correct answer from the options given below.

The formula of iron (III) sulphate is

- i.  $\text{Fe}_3\text{SO}_4$
- ii.  $\text{Fe}(\text{SO}_4)_3$
- iii.  $\text{Fe}_2(\text{SO}_4)_3$
- iv.  $\text{FeSO}_4$

Solution 39

iii.  $\text{Fe}_2(\text{SO}_4)_3$

Question 40

Choose the correct answer from the options given below.

In water, the hydrogen-to-oxygen mass ratio is

- i. 1: 8
- ii. 1: 16
- iii. 1: 32
- iv. 1: 64

Solution 40

i. 1:8

Question 41

Choose the correct answer from the options given below.

The formula of sodium carbonate is  $\text{Na}_2\text{CO}_3$  and that of calcium hydrogen carbonate is

- i.  $\text{CaHCO}_3$
- ii.  $\text{Ca}(\text{HCO}_3)_2$
- iii.  $\text{Ca}_2\text{HCO}_3$
- iv.  $\text{Ca}(\text{HCO}_3)_3$

Solution 41

- ii.  $\text{Ca}(\text{HCO}_3)_2$

### **Chapter 1 - The Language of Chemistry Exercise Ex. 1(A)**

Question 1

What is a symbol? What information does it convey?

Solution 1

A symbol is the short form which stands for the atom of a specific element or the abbreviations used for the names of elements.

- i. It represents a specific element.
- ii. It represents one atom of an element.
- iii. A symbol represents how many atoms are present in its one gram (gm) atom.
- iv. It represents the number of times an atom is heavier than one atomic mass unit (amu) taken as a standard.

Question 2

Why is the symbol S for sulphur, but Na for sodium and Si for silicon?

Solution 2

In most cases, the first letter of the name of the element is taken as the symbol for that element and written in capitals (e.g. for sulphur, we use the symbol S). In cases where the first letter has already been adopted, we use a symbol derived from the Latin name (e.g. for sodium/Natrium, we use the symbol Na). In some cases, we use the initial letter in capital

together with a small letter from its name (e.g. for silicon, we use the symbol Si).

### Question 3

Write the full form of IUPAC. Name the elements represented by the following symbols:

Au, Pb, Sn, Hg

### Solution 3

The full form of IUPAC is International Union of Pure and Applied Chemistry.

Names of the elements:

Au - Gold

Pb - Lead

Sn - Tin

Hg - Mercury

### Question 4

If the symbol for Cobalt, Co, were written as CO, what would be wrong with it?

### Solution 4

Co stands for Cobalt. If we write CO, then it would mean that it is a compound containing two non-metal ions, i.e. carbon and oxygen, which forms carbon monoxide gas.

### Question 5

$2\text{H}_2$

### Solution 5

$2\text{H}_2$  stands for two molecules of hydrogen.

### Question 6

What is meant by atomicity? Name the diatomic element.

### Solution 6

The number of atoms of an element that join together to form a molecule of that element is known as its atomicity.

Diatomic molecules:  $\text{H}_2$ ,  $\text{O}_2$ ,  $\text{N}_2$ ,  $\text{Cl}_2$

### Question 7

Explain the terms 'valency' and 'variable valency'.

Solution 7

- i. Valency of Na is +1 because it can lose one electron.
- ii. Valency of O is -2 because it can accept two electrons.

Variable valency: It is the combining capacity of an element in which the metal loses more electrons from a shell next to a valence shell in addition to electrons of the valence shell.

Question 8

How are the elements with variable valency named? Explain with an example.

Solution 8

If an element exhibits two different positive valencies, then

- i. for the lower valency, use the suffix -OUS at the end of the name of the metal
- ii. for the higher valency, use the suffix -IC at the end of the name of the metal.

Example:

Question 9

Give the formula and valency of:

- a. aluminate .....
- b. chromate .....
- c. aluminium .....
- d. cupric .....

Solution 9

#### Question 10

What is the significance of formula?

#### Solution 10

Significance of the molecular formula:

- It represents both molecule and molecular mass of the compound.
- It represents the respective number of different atoms present in one molecule of the compound.
- It represents the ratios of the respective masses of the elements present in the compound.

#### Question 11

What do you understand by the following terms?

Acid radical

#### Solution 11

Acid radical: The electronegative or negatively charged radical is called an acid radical.

Examples:  $\text{Cl}^-$ ,  $\text{O}^{2-}$

#### Question 12

What do you understand by the following terms?

Basic radical

#### Solution 12

Basic radical: The electropositive or positively charged radical is called a basic radical.

Examples:  $\text{K}^+$ ,  $\text{Na}^+$

#### Question 13

Select the basic and acidic radicals in the following compounds.

- $\text{MgSO}_4$
- $(\text{NH}_4)_2\text{SO}_4$
- $\text{Al}_2(\text{SO}_4)_3$
- $\text{ZnCO}_3$
- $\text{Mg}(\text{OH})_2$

#### Solution 13

#### Question 14

Write chemical formula of the sulphate of Aluminium, Ammonium and Zinc.

#### Solution 14

Valencies of aluminium, ammonium and zinc are 3, 1 and 2, respectively.

The valency of sulphate is 2.

Hence, chemical formulae of the sulphates of aluminium, ammonium and zinc are  $\text{Al}_2(\text{SO}_4)_3$ ,  $(\text{NH}_4)_2\text{SO}_4$  and  $\text{ZnSO}_4$ .

#### Question 15

The valency of an element A is 3 and that of element B is 2. Write the formula of the compound formed by the combination of A and B.

#### Solution 15

Formula of the compound =  $\text{A}_2\text{B}_3$

#### Question 16

Match the following:

#### Solution 16

#### Question 17

Write the basic radicals and acidic radicals of the following and then write the chemical formulae of these compounds.

- Barium sulphate
- Bismuth nitrate
- Calcium bromide
- Ferrous sulphide
- Chromium sulphate

- f. Calcium silicate
- g. Potassium ferrocyanide
- h. Stannic oxide
- i. Magnesium phosphate
- j. Sodium zincate
- k. Stannic phosphate
- l. Sodium thiosulphate
- m. Potassium manganate
- n. Nickel bisulphate

Solution 17

Question 18

Write the chemical names of the following compounds:

- a.  $\text{Ca}_3(\text{PO}_4)_2$
- b.  $\text{K}_2\text{CO}_3$
- c.  $\text{K}_2\text{MnO}_4$
- d.  $\text{Mn}_3(\text{BO}_3)_2$
- e.  $\text{Mg}(\text{HCO}_3)_2$
- f.  $\text{Na}_4\text{Fe}(\text{CN})_6$
- g.  $\text{Ba}(\text{ClO}_3)_2$
- h.  $\text{Ag}_2\text{SO}_3$
- i.  $(\text{CH}_3\text{COO})_2\text{Pb}$
- j.  $\text{Na}_2\text{SiO}_3$

Solution 18

Chemical names of compounds:

- a.  $\text{Ca}_3(\text{PO}_4)_2$  - Calcium phosphate
- b.  $\text{K}_2\text{CO}_3$  - Potassium carbonate
- c.  $\text{K}_2\text{MnO}_4$  - Potassium manganate
- d.  $\text{Mn}_3(\text{BO}_3)_2$  - Manganese (II) borate
- e.  $\text{Mg}(\text{HCO}_3)_2$  - Magnesium hydrogen carbonate
- f.  $\text{Na}_4\text{Fe}(\text{CN})_6$  - Sodium ferrocyanide
- g.  $\text{Ba}(\text{ClO}_3)_2$  - Barium chlorate
- h.  $\text{Ag}_2\text{SO}_3$  - Silver sulphite
- i.  $(\text{CH}_3\text{COO})_2\text{Pb}$  - Lead acetate
- j.  $\text{Na}_2\text{SiO}_3$  - Sodium silicate

#### Question 19

Give the names of the following compounds.

- a.  $\text{NaClO}$
- b.  $\text{NaClO}_2$
- c.  $\text{NaClO}_3$
- d.  $\text{NaClO}_4$

#### Solution 19

- a.  $\text{NaClO}$  - Sodium hypochlorite
- b.  $\text{NaClO}_2$  - Sodium chlorite
- c.  $\text{NaClO}_3$  - Sodium chlorate
- d.  $\text{NaClO}_4$  - Sodium perchlorate

#### Question 20

Complete the following statements by selecting the correct option :

The formula of a compound represents

- i. an atom

- ii. a particle
- iii. a molecule
- iv. a combination

Solution 20

- iii. The formula of a compound represents a molecule.

Question 21

Complete the following statements by selecting the correct option :

The correct formula of aluminium oxide is

- i.  $\text{AlO}_3$
- ii.  $\text{AlO}_2$
- iii.  $\text{Al}_2\text{O}_3$

Solution 21

- iii. The correct formula of aluminium oxide is  $\text{Al}_2\text{O}_3$ .

Question 22

Complete the following statements by selecting the correct option :

The valency of nitrogen in nitrogen dioxide ( $\text{NO}_2$ ) is

- i. one
- ii. two
- iii. three
- iv. four

Solution 22

- iv. The valency of nitrogen in nitrogen dioxide ( $\text{NO}_2$ ) is four.

Question 23

Give the names of the elements and number of atoms of those elements present in the

following compounds.

- a. Sodium sulphate
- b. Quick lime
- c. Baking soda ( $\text{NaHCO}_3$ )
- d. Ammonia
- e. Ammonium dichromate

Solution 23

- a. Sodium sulphate  $\text{Na}_2\text{SO}_4$

There are two sodium atoms, one sulphur atom and four oxygen atoms.

- b. Quick lime -  $\text{CaO}$

There is one calcium atom and one oxygen atom.

- c. Baking soda -  $\text{NaHCO}_3$

There is one sodium, carbon and hydrogen atom and three oxygen atoms.

- d. Ammonia -  $\text{NH}_3$

There is one nitrogen atom and three hydrogen atoms.

- e. Ammonium dichromate -  $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$

There two ammonium atoms, two chromium atoms and seven oxygen atoms.

Question 24

The formula of the sulphate of an element M is  $\text{M}_2(\text{SO}_4)_3$

Write the formula of its

- a. Chloride
- b. Oxide
- c. Phosphate
- d. Acetate

Solution 24

The valency of metal M is 3. So, the formulae are as follows:

- a. Chloride -  $\text{MCl}_3$
- b. Oxide -  $\text{M}_2\text{O}_3$
- c. Phosphate -  $\text{M}(\text{PO}_4)$
- d. Acetate -  $\text{M}(\text{CH}_3\text{COO})_3$

## Chapter 1 - The Language of Chemistry Exercise Ex. 1(B)

### Question 1

What is a chemical equation? Why it is necessary to balance it?

### Solution 1

A chemical equation is the symbolic representation of a chemical reaction using the symbols and formulae of the substances involved in the reaction.

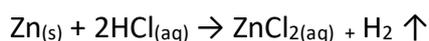
A chemical equation needs to be balanced because a chemical reaction is just a rearrangement of atoms.

Atoms themselves are neither created nor destroyed during the course of a chemical reaction.

The chemical equation needs to be balanced to follow the law of conservation of mass.

### Question 2

State the information conveyed by the following equation:



### Solution 2

A solid metal zinc reacts with hydrochloric acid in the aqueous state to produce zinc chloride in the aqueous state and hydrogen gas.

### Question 3

What is the limitation of the reaction given in question 2?

### Solution 3

- The chemical equation given in question 2 does not give the time taken for the completion of the reaction.
- Also, it does not give information about whether heat is absorbed or evolved during the reaction.

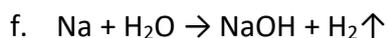
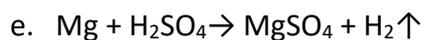
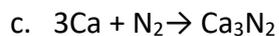
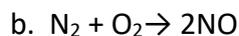
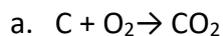
### Question 4

Write the chemical equations for the following word equations and balance them.

- Carbon + Oxygen  $\rightarrow$  Carbon dioxide
- Nitrogen + Oxygen  $\rightarrow$  Nitrogen monoxide
- Calcium + Nitrogen  $\rightarrow$  Calcium nitride
- Calcium oxide + Carbon dioxide  $\rightarrow$  Calcium carbonate
- Magnesium + Sulphuric acid  $\rightarrow$  Magnesium sulphate + Hydrogen

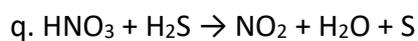
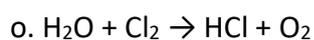
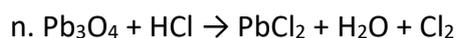
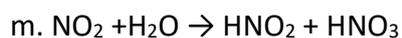
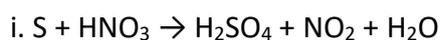
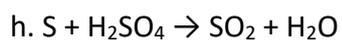
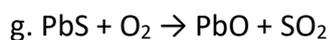
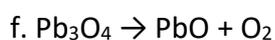
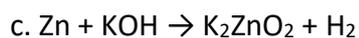
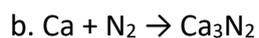
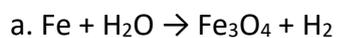
f. Sodium reacts with water to form sodium hydroxide and hydrogen

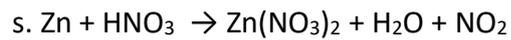
Solution 4



Question 5

Balance the following equations:



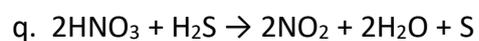
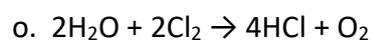
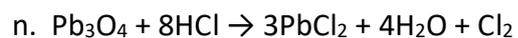
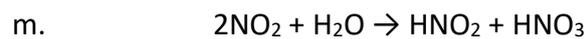
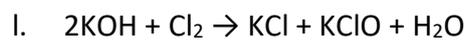
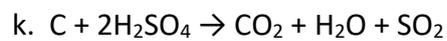
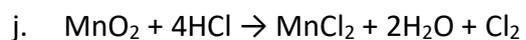
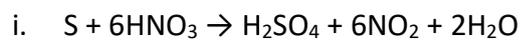
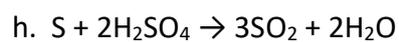
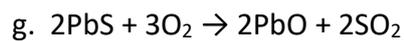
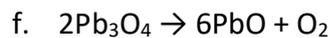
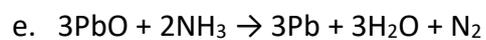
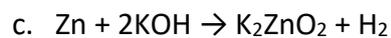
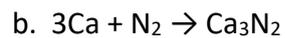
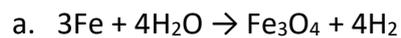


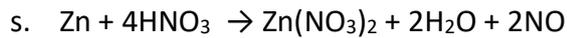
Solution 5

Balanced chemical equations:

Solution 5

Balanced chemical equations:





Class 9<sup>th</sup>

History and Civics Harappan Civilisation

I. Short answer questions:

Question 1. what is meant by the term civilisation?

Answer :

Civilisation is defined as an advanced stage of human cultural development it implies the use of superior technology and complex economic relationships. Following are the traits which mark a civilisation:

1. Surplus food
2. Division of labour
3. System of writing
4. Development of technology

Question2. mention any three features that led to the emergence of civilisation

Answer:

1. The ruins of the sites reveal that the harappan people were primarily urban and their cities were designed skillfully.
2. The unique features of the city was its elaborate drainage system. A brick-lined drainage channel flowed alongside every street.
3. The great bath was also unearthed. The pool was filled with water taken from a well nearby. The walls of the pool were made.

Question 3.

What are known as bronze age civilisation?

Answer:

Man learnt the art of mixing copper with tin or zinc to produce the alloy called bronze. Bronze is hard and more ductile than copper and is therefore, more suitable for the manufacture of tool and weapons. Because of the importance of bronze in the growth of the civilisations, these civilisations are known as the bronze age civilisation.

Question 4

Name the important sources of information on the harappan civilisation

Answer:

The archeological remains

Seals, sculptures

Question 5.

Why did ancient man start using bronze for making tools and weapons

Answer:

Ancient man start using bronze for making tools ans weapons because bronze is harder and more ductile than copper. Therefore, it is more suitable for the manufacture of tools and weapons.

Question 6.

Why is harappan civilisation called so?

Answer:

The harappan civilisation is called so because the harappan site was the first to be discovered in 1921 at the modern site of harappa situated in the province of west punjab in pakistan.

Question 7.

What types of weights and measures did the indus people use?

Answer:

The indus people used sets of cubical stone weights. The basic unit was 16(equal to modern 14 grams). the larger weights were multiples of 16 like 32,48,64,128 and so on. The smaller ones were all fractions of 16.

Question 8.

Name one important public building of indus valley civilisation and its importance.

Answer:

The great bath is one of the largest public buildings at mohen-jo-daro. It was used by a large group of people while performing some religious rituals.

Question 9.

Name the process by which sculpture in metal was done

Answer:

It was known as lost wax process.

question 10.

Question what do you know about the indus script?

Answer:

Indus scripts has not been deciphered as yet. So the only source of script are some seals and copper tablet. Seals display some sort of pictorial writing. Besides this similar inscriptions have been found engraved on copper tablets with figures of men and animals.

Question 11.

Mention the types of dress worn by the indus valley people.

Answer:

Most people used cotton clothes. Rich people also used woollen clothes in winter. The women's dress included skirts, cloaks and scarfs and the men's dress was dhoti and shawl. Spinning wheels and needles of that time prove the art of spinning was practiced by the people.

Question 12

State two features of the trade in the indus valley civilisation.

Answer:

1. the harappan carried on considerable trade in stone, metal, shell etc.
2. They however, did not use metal money but carried on all exchange through barter system

Question13.

Name three animals depicted on pashupati seal

Answer:

Seals of pashupati shows a three faced deity wearing a buffalo-horned head dress, seated cross legged on a throne and surrounded by an elephant, a tiger, a buffalo and a rhinoceros, with two deer at his feet.

Question 14.

State any two causes that led to the decline of the harappan civilisation

Answer:

1. Floods and earthquake: it is held by some scholars that floods in mohenjo-daro led to the abandonment.
2. Attack: some historians believed that the invading aryaans destroyed the indus valley

civilisation.

Question 15.

In what two respects is harappan civilisation our greatest heritage?

Answer:

The harappan civilisation present a basic ground of indispensable heritage which imparts a solid imprint on the latter civilisation e.g the way of making baked pottery, bricks, beads jewellery etc the cultivation of cotton was adopted by the Egyptians after several centuries.

Question 16.

Give two characteristic features of the citadel

Answer:

It owed its height to the building constructed on mud brick platforms. The citadel had the houses of ruling class and important building like the great bath, the granary, the assembly hall and the workshops.

Question 17.

How were seals used? What information do they give about harappan trade?

Answer:

The seals were used by traders to stamp their goods. After a bag with goods was tied, a layer of wet clay was applied on the knot, and the seal was passed on it. These seals were found in different regions. This indicates that the harappan trade had spread over a vast area.

Question 18

Briefly describe granaries at harappa.

Answer:

In harappa there were two rows of six granaries each. To the south of the granaries at harappa working floors consisting of rows of circular brick platforms were discovered. It is believed that these floors were meant for threshing grain because wheat and barley were found in the crevices of the floors.

Question 19.

Briefly describe the ornaments.

Answer:

Ornaments were worn by both men and women. Some of the common ornaments were necklaces, finger-rings, bangles, armlets, anklets, nose rings, fan shaped gead dress and earrings. They were made gold, silver, precious stones and ivory.

Question 20.

Briefly describe the dancing girl.

Answer.

The bronze statue of a dancing girl, found at Mohenjo-daro, is a masterpiece of art and it shows a high degree of development in art of sculpture. The figurine shows vigour, variety and ingenuity. The right arm of the dancing girl rests on the hip and the left arm is heavily banded. It holds a small bowl against her left leg.

Question 21.

Mention the evidences which suggest that the Harappan people had trade relations with other countries.

Answer ;

1. The Mesopotamian records from about 2350 BC refer to trade relations with *Meluha* (name given to Indians)
2. Objects of Sumerian origin found at the ruins of the Indus cities indicate that their trade relations between these countries were actively practised into.
3. The seal bearing a mastless ship holds the evidence of popularity of the sea routes

NOTE: these include some internal part also.

Chapter 2. Vedic period

Question 1 name the categories of Vedic literature. Why was early Vedic literature known as Shruti?

Answer:

Vedic literature is divided into two categories:

1. Early Vedic literature (Shruti)
2. Later Vedic literature (Samhita)

It is believed that four Vedas and its parts (the Brahmanas, the Aranyakas, the Upanishads)

are given by god to sages by hearing(shruti means which is heard) and so it is called Shruti.

Question 2.

Name the four vedas and state what the hymns in each veda deal with?

Answer:

Four vedas:

1. The Rig veda.
2. The sama veda
3. The Yajur veda
4. The Atharva veda

1. The hymns of rig veda dedicated by the sages to the gods. It contains the famous gayatri mantra.

2. the hymns of sama veda sung at the time of the sacrifice by the priests

3. the hymns of Yajur veda deals with rituals performed at the time of Yajnas.

5. the hymns of Atharva veda deals with the power of ghosts, spirits, gyan, karma and upasna.

Question 3.

What are upnishads?

Answer

The Upnishads are philosophical commentaries on the vedas. These form the basic source of indian philosophy. They are said to form the foundation on which later additions to vedic literature rest.

Question 4

What are dharmashatras?

Answer

The law- books called the dharmashatras and the smritis together with their commentaries are called dharmshastras.

Question 5

What is known as bhagwad gita?

Answer:

Bhagwad gita is the compilation of the text, teachings imparted by lord krishna to arjun explaining the importance of Karma or duty, immortal soul, the right way of life. It also

includes the glimpse of mahabharat battle. It is a sacred book of hindus.

Question 6.

Mention the importance of the Epics as a source of information about the aryan.

Answer.

1. these inform about the political, social and cultural organisation of the epic age.
2. these provide information about aryan kingdom.
3. These reveal the high ideals of family life of the aryan.

Question 7

Which battle is known as the mahabharata

Answer: the battle between kurus and pandavas along the battlefield of kurukshetra is known as the mahabharats.

Question 8

Give two features of painted grey ware.

Answer:

The PGW is a very fine, smooth and even-coloured pottery. It was made out of well worked, high quality clay with geometric patterns painted on it in black colour. Floral pattern and sun symbols are seen in some cases. The pottery include open mouthed bowls and dishes.

Question 9

How did trade become a pivot(central point) around which the life of the people revolved?

Answer:

During the later vedic age, trade became quite prominent; so the settlement or the towns and cities developed around the main trade centres. Thus, the city life moved according to the activities associated with the trade.

Question 10

What was the role of iron?

Answer

Iron played a significant role in the lives of peasants as the use iron became popular for making agricultural tools. Iron ploughshares and metal tools were used and a variety of crops cultivated.

Question 11.

State the difference in the position of women between the early vedic age and later vedic

age.

Answer:

During the early vedic period women were respected. The institution of marriage had become sacred.

The daughters were given freedom to choose their husbands.

In the later vedic age, there was significant decline in the status of women. Their participation in yajnas was not considered necessary. They did not enjoy the right to property. Man's opinion was respected. As a result the freedom to choose the husbands by women was curtailed.

Question 12

What are varnas? Name them

Answer;

Varna was a division on the basis of skin colour. In vedic age it became popular as the society was divided into four varnas. Brahmins, Kshatriya, vaishyas and shudras.

Question 13.

Name the four ashrams into which the human life span was divided, indicating the time span for each

Answer:

The four ashramas are Brahmacharaya, Grihastha, Vanaprasthas and sanyasa

1. Brahmacharya ashrama: it lasted upto the age of 25 years. During this period, the pupil was expected to acquire knowledge in the gurukul and observe strict discipline.
2. Grihastha ashrama: during this period, man was supposed to marry and raise a family. This period lasted from the age of 25-50 years.
3. Vanaprastha ashrama: it lasted from the age of 50-75 years. This period man was expected to retire from worldly life and acquire philosophical knowledge.
4. Sanyasa ashrams: the last stage lasts from the age of 75 to 100 years this period of renunciation

Question 14.

State the change that occurred in the position of brahmins in the later vedic age?

Answer:

In the later vedic age brahmins or the priests performed religious rituals. The caste system became rigid. The priests came to be considered as gods on earth.

Question 15.

State three important changes that took place in the society in the process of its transition from early vedic period to the later vedic period.

Answer:

Three changes:

1. Single family converted to joint family.
2. Equal rights enjoyed by women changed to declination in status of women.
3. General caste system converted to rigid caste system.

Question16

Difference between the economy of early vedic age and later vedic age.

Answer

Early vedic age:

In the beginning the main occupation was domestication of animals and agriculture was secondary.

Cattle was the important source of wealth.

Many engaged in trade and commerce. Dyeing, embroidery;carpentry, weaving, pottery, crafts in gold and iron were important occupations.

Later vedic age:

Agriculture became the chief accupation while domestication of animals also continued.

Land was the important source of wealth.

Traders guilds had come up and trade had become very important. Besides occupation of earlier period, many new occupations like physicians, musicians, and many other profession emerged.

[HOME](#)

**CLASS - 9 - ENGLISH LANGUAGE**

**Book - Total English-9**

**CHAPTER - 1 (Already solved in the book)**

**CHAPTER - 2**

**ASSIGNMENT (pg. 36)**

**Answers: (A)**

1. An

2. A \_\_\_x

3. an

4. x \_\_\_x

5. a \_\_\_a

6. x \_\_\_x \_\_\_a

7. a \_\_\_x

8. an

9. a

10. a

**(B)** 1. The

2. The \_\_\_x

3. the \_\_\_the

4. The \_\_\_the

5. The \_\_\_the

6. x \_\_\_the

7. x \_\_\_a

8. The \_\_\_the

9. The \_\_\_x \_\_\_the

10. The \_\_\_x

**Ques 5 (a)**

1. Made

2. could resist

3. to trickle

4. had built
5. perfected
6. building
7. taking
8. sharing

**(b)**

1. with
2. across
3. at
4. down
5. through
6. about
7. up
8. from

**(c)**

1. I will find him wherever he goes.
2. Here is the lady whose daughter is a tennis player.
3. The thief escaped in the dark.
4. She came to school though she had high fever today.

**(d)**

1. You had better to come back tomorrow.
2. It seemed that he was warming up.
3. The musician's performance on the stage was admirable.
4. It was dangerous to cross the railway lines to get to the station.
5. No sooner had the chief guest arrived than we all stood up.

OR

No sooner did the chief guest arrive than we all stood up.

6. Having featured his leg, Satish was forbidden to go out by the doctor.

7. She invited us for dinner on Sunday.

OR

She invited us to have dinner with her on Sunday.

8. People say that he has been in the Indian Army.

### **CHAPTER- 3**

#### **ASSIGNMENT (pg. 53)**

1. Are
2. Was
3. Was
4. Has
5. Wait
6. Is
7. Deserve
8. Is
9. Is
10. make
11. is
12. was

#### **Word Economy (pg. 56)**

1. inimitable
2. inarticulate
3. inaudible
4. incombustible
5. impassable
6. incommunicative
7. Impotent

8. indelible
9. incorrigible
10. inaccessible

**Ques 5(pg. 64)**

(a)

1. invented
2. connecting
3. produced
4. to create
5. found
6. burnt
7. experimented
8. helped

(b)

1. from
2. in
3. out
4. up
5. Through
6. up
7. at.
8. across

(c)

1. The police will soon find out the snatcher of the lady's purse.
2. He does not know that there is something in store for him.
3. It was careless of me to forget my passport.
4. She has to tell her mother about her going there.

(d)

1. It is compulsory for us to study a third language up to class VIII.
2. My uncle is so old that he cannot learn new things.
3. Upon arriving I had a cup of tea.
4. He aims at becoming rich therefore he works hard.
5. His music must be listened to by us.
6. The harsh weather prevented the ship from sailing / to sail.
7. My shirt was washed before it was returned.
8. He asked Uma if she was going for the picnic the next day.

#### **CHAPTER 4**

#### **ASSIGNMENT (pg 69)**

1. have been
2. has \_\_\_\_ entered
3. have been fasting
4. has not visited
5. have been doing
6. have been waiting
7. has \_\_\_\_ announced
8. has already written
9. has been talking
10. have finished

Ques 5.

**(a)**

1. to send
2. attacked
3. was surrounded
4. could manage
5. built
6. thought

7. hidden
8. destroyed

**(b)**

1. up
2. up
3. after
4. back
5. upon
6. down
7. to
8. against

**(c)**

1. The train will stop if you pull the chain.
2. This was what she said.
3. As I have completed my studies, I am looking for a job

OR

Having completed my studies, I am looking for a job.

4. We can travel either by bus or train.

**(d)**

1. After dressing up, Rima had her breakfast.
2. The little girl hid herself lest she should be seen
3. The officer examined the documents with care.
4. Neelam exclaimed that the sun looked very beautiful that day.
5. The last time I missed a match was 2 years ago.
6. Beena is the most melodious singer in the world.
7. Not until you pay the money you will not get the camera back.
8. John isn't as clever as handsome he is.

**CHAPTER 5 (pg 94)**

**Ques. 5**

**(a)**

1. race / run
2. were placed
3. allowed
4. was called
5. were added
6. went
7. throw
8. were revived

**(b)**

1. with
2. upon
3. at
4. of
5. over
6. in
7. out
8. through

**(c)**

1. Nobody has an idea what happened in the meeting.
2. Take a check as the cash may not be sufficient.
3. The book is so simple that even a child can read it.
4. Your phone call came after I had left the house.

**(d)**

1. Sunita was cycling so fast that she could not stop at once.
2. It was stupid of me to forget his name.

3. I am so tired that I cannot walk any further.
4. Tara asked her father if she could have a new dress.
5. People knew him to be a kind man.
6. She ought to have left earlier.
7. Unless we like the book, we won't buy it.
8. Besides treating him well he helped him too.

Mock Lesson Plan for Class 1, Class 2, Class 3, Class 4, Class 5, Class 6, Class 7, Class 8, Class 9 & Class X