

OBJECTIVE TYPE QUESTIONS

1. Match the following.

a)	Motilal Nehru	i)	President of the Constituent Assembly
b)	B R Ambedkar	ii)	Member of the Constituent Assembly
c)	Rajendra Prasad	iii)	Chairman of the Drafting Committee
d)	Sarojini Naidu	iv)	Prepared a Constitution for India in 1928

2. What does 'apartheid' mean?

- (a) gender discrimination
- (b) caste discrimination
- (c) racial discrimination
- (d) none of these

3. Who were called the blacks in South Africa?

- (a) natives of South Africa
- (b) Europeans
- (c) people of mixed races
- (d) All of these

4. Which group of people in South Africa was classified as coloured?

- (a) Natives of South Africa
- (b) Europeans
- (c) People of mixed races
- (d) All of these

5. Which of these was the most salient underlying conflict in the making of a democratic Constitution in South Africa?

- (a) between South Africa and its neighbouring countries

(b) between men and women

(c) between the white minority and the black majority

(d) between the coloured minority and the black majority

6. Which of the following statements about the Constituent Assembly is incorrect?

- (a) The drafting of Constitution was done by the Constituent Assembly (an assembly of elected representatives).
- (b) The elections to the Constituent Assembly were held in July 1946 and its first meeting was held in December 1946.
- (c) This assembly had 299 members.
- (d) The Constitution of India was adopted on 26 January 1950.

7. In the question given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

Assertion (A): Every document presented and every word spoken in the Constituent Assembly has been recorded and preserved. These are called Constituent Assembly Debates.

Reason (R): These debates provide the reasons behind every provision (arrangement) of the Constitution and helps in interpreting the Constitution.

- (a) A is correct but R is incorrect.
- (b) A and R are both correct but are not related.
- (c) Both A and R are correct and R is the correct reason for A.
- (d) Both A and R are correct but R is not the correct reason for A.

8. Correct and rewrite the following statement.

At the midnight of 26 April 1994, the

new national flag of the Republic of South Africa was unfurled. The multi-racial government was ended and a new apartheid government was formed.

9. Here are some of the guiding values of the Indian Constitution and their meaning. Match them correctly.

a)	Sovereign	i)	Government will not favour any religion.
b)	Republic	ii)	People have the supreme right to make decisions.
c)	Fraternity	iii)	Head of the state is an elected person.
d)	Secular	iv)	People should live like brothers and sisters.

10. Which of the following statements is true about Nelson Mandela?

- He was a South African leader who fought for rights of blacks and equality among black and white people.
- He was sentenced to life imprisonment in 1964 for opposing the apartheid system in South Africa and was released after 28 years from jail.
- He became the first President of the new democratic South Africa.
- All of these

11. The the struggle against the policies of segregation in South Africa. This struggle included workers' unions, the Communist Party and many sensitive whites.

Answers :

- (a) – iv); b) – iii); c) – i); d) – ii)
- (c) racial discrimination
(Apartheid - a system of **discrimination on the basis of skin colour**. This system

was followed by the South African government where the **blacks were ill-treated by whites**.)

- (a) natives of South Africa (people born in South Africa / associated with South Africa by birth)
- (c) people of mixed races
- (c) between the white minority and the black majority
- (d) The Constitution of India was adopted on 26 January 1950.

(The Constitution of India was adopted on 26 November 1949 and it came into effect on 26 January 1950.)

- (c) Both A and R are correct and R is the correct reason for A.
- At the **midnight of 26 April 1994**, the **new national flag of the Republic of South Africa was unfurled**. The **apartheid government ended** and a multi-racial government (a government made up of people of different races) was formed.

- (a)-ii, (b)-iii, (c)-iv, (d)-i
- (d) All of these
- ANC (African National Congress)

SHORT ANSWER QUESTIONS

- What do you mean by Constitutional amendments?

OR

What provisions have been made to incorporate changes in the Constitution? Why?

- Ans. • The Constitution of India is a very lengthy and detailed document. It is important to amend it or **make changes in it as per the present times** to keep it updated.
- The Constitution makers felt that these changes have to be in accordance to the **people's aspirations (desires / hopes) and changes in society**.
 - The makers of the Constitution

did not consider the Constitution as an **unalterable/unchangeable law**. So, they made provisions to incorporate changes from time to time. These changes are called **constitutional amendments**. (Constitutional amendments are basically changes in the constitution made by the supreme legislative body i.e. parliament in a country.)

2. Why do we need a constitution?

- Ans. • A constitution generates a degree of **trust and coordination** which is necessary for different kinds of people (people of different caste, religion, class, language, culture) living together.
- It specifies how the **government will be constituted** (formed) and who will have power to take which decisions.
 - It lays down **limits on the powers of the government** and tells us about the rights of the citizens.
 - It expresses the **aspirations (expectations / hopes) and desires of the people** about creating a good society.

LONG ANSWER QUESTIONS

1. How was apartheid system practised in South Africa?

OR

‘The apartheid system was particularly oppressive for the blacks.’ Justify the statement.

- Ans. • The **whites** (Europeans) **divided people on the basis of their skin colour**.
- The whites treated all non-whites (blacks, coloured and migrated Indians) as **inferiors**.
 - The non-whites **did not have the right to vote**.
 - They were **not allowed to live in areas where the whites lived**.

- They **could not work in areas where the whites lived and worked**. They **could only work in white areas if they had a permission/permit**.
- Whites and blacks had **separate trains, taxis, cinema halls, theatres, beaches, swimming pools, buses, hotels, hospitals, schools and colleges, libraries and the public toilets**. This practice was called **segregation**.
- The **non-whites were not even allowed to visit the churches** where the whites prayed/worshipped.
- They **could not form associations/unions or protest** against the unfair treatment.

2. What were the problems faced by India while making the Constitution?

- Ans. • In India, **people of different religions, languages, cultures and beliefs live together**. Therefore, making/framing the Constitution for such a huge and diverse country was very **difficult**.
- Earlier people of India were **under the rule of the British**. After **independence** people slowly started emerging as **free citizens** which took some time (from subjects to citizens).
 - Then due to the **partition of the country** (India and Pakistan) many people were killed. It was a difficult phase for the country both emotionally and financially.
 - The British had left the decision to the **princely states** whether they wanted to **join India or Pakistan or remain independent**. The merger of these princely states was also an uncertain task.
 - When the Constitution was being written, the future of the country did not look as secure as it does today. **The Constitution makers had to keep in mind the present**

and the future of India. They had to ensure that the **country remained united after the Constitution came into effect/force.**

3. Why is the Constitution of India acceptable to Indians even today?

OR

Give reasons for accepting the Constitution which was made by the Constituent Assembly more than 50 years ago?

- Ans. • The Constitution does not reflect only the views of its members (ones who drafted it). **It expresses a broad set of common views and opinions.**
- Many countries make changes in their Constitution because the basic rules are not acceptable by major social groups or political parties. But in our country over the last half century **no large political party or social group has ever questioned the Constitution**, which is an achievement.
 - At that time as there was no universal adult franchise (i.e., the right to vote), the members of the Constituent Assembly were not chosen directly by the people of India. The members were elected by Provincial (State) Legislatures, which **ensured a fair share of all the regions of the country** (this means **people from different states, languages, religions, class** were selected and the **Assembly represented the people of India**).
 - The Constituent Assembly worked in a **systematic, open and consensual** (with the agreement of all/majority) manner. Several rounds of thorough discussions took place and several amendments (changes) were considered in the Constitution and then our Constitution was formed.
- Therefore, instead of the

Constitution of India being framed more than 50 years ago, it is still accepted even today.

4. "The familiarity with political institutions of the colonial rule helped to develop an agreement over the institutional design." Justify the statement.

- Ans. • The British rule gave voting rights to a few people. Learning from this, the **Election Commission** was set up later and voting rights were given to all.
- **Elections** were held in 1937 (before independence) to Provincial Legislatures and Ministries all over British India. The experience gained by Indians in the working of these institutions was very useful for the country. It helped in **setting up the institutions of our country** and also its working.
 - The Indian Constitution adopted many institutional details and procedures from the British rule like the **Government of India Act, 1935** (this act had many important aspects like introduction of direct elections).
 - The ideals of **French Revolution**, the practice of **parliamentary democracy in Britain**, the **Bill of Rights in the US** and the **socialist revolution in Russia** inspired our leaders. They tried to take the best from all and shape a system based on social and economic equality (where all citizens get equal status in society and financial gaps are negligible).
 - Indian leaders were not just copying the colonial rules or what others had done. **Each rule was questioned at every step and then it was decided whether it suits our country or not.**
5. Answer the questions on the basis of the paragraph given below.

The South African example is a good way to understand why we need a constitution and what do constitutions do. The oppressor and the oppressed in this new democracy were planning to live together as equals. It was not going to be easy for them to trust each other. They had their fears. They wanted to safeguard their interests. The black majority was keen to ensure that the democratic principle of majority rule was not compromised. They wanted substantial social and economic rights. The white minority was keen to protect its privileges and property. After long negotiations both parties agreed to a compromise. The whites agreed to the principle of majority rule and that of one person one vote. They also agreed to accept some basic rights for the poor and the workers. The blacks agreed that majority rule would not be absolute. They agreed that the majority would not take away the property of the white minority. This compromise was not easy. How was this compromise going to be implemented? Even if they managed to trust each other, what was the guarantee that this trust will not be broken in future? The only way to build and maintain trust in such a situation is to write down some rules of the game that everyone would abide by. These rules lay down how the rulers are to be chosen in future. These rules also determine what the elected governments are empowered to do and what they cannot do. Finally, these rules decide the rights of the citizen. These rules will work only if the winner cannot change them very easily. This is what the South Africans did. They agreed on some basic rules. They also agreed that these rules will be supreme, that no government will be able to ignore these. This set of basic rules is called a constitution.

(a) **What compromises did the whites make?**

Ans. • The whites agreed to the **principle**

of majority rule.

- They agreed to the condition of **one person one vote.**
- They also agreed to accept some **basic rights for the poor and the workers.**

(b) **What compromises did the blacks make?**

- Ans: • Blacks agreed that the **majority rule will not be rigid.** It would be flexible.
- They agreed that the **majority would not take away the privileges and property of the whites.**

(c) **What is a constitution?**

Ans: There are some **set of rules** that the citizens and the government have to follow. All such written rules that are accepted by all the people living together in a country are called constitution. The constitution which is the **supreme law of the country** decides/determines the rights of the citizens, the powers of the government and how the government should work.

OBJECTIVE TYPE QUESTIONS

1. The Northern Plains of India are densely populated because they have
 - (a) rich alluvial soil and enough water for irrigation
 - (b) favourable climate
 - (c) good agricultural production
 - (d) all of the above
2. Rivers in their lower course divide into various channels due to deposition of silt.
These channels are called :
 - (a) tributaries
 - (b) main river
 - (c) distributaries
 - (d) none of the above
3. This island in Lakshadweep has a bird sanctuary.
 - (a) Kalpati Island
 - (b) Minicoy Island
 - (c) Chetlat Island
 - (d) Pitti Island
4. Which group of islands of India is believed to be an elevated part of a submarine mountain range?
5. Name the island group of India that is composed of small coral islands.
6. Which of the following statements is incorrect about bhangar?
 - (a) It is formed of older alluvium.
 - (b) It presents a terrace-like feature.
 - (c) It is fertile and ideal for agriculture.
 - (d) It lies above the floodplains of the rivers.
7. Correct the given statements and rewrite them.
 8. Kavaratti island is the administrative headquarters of Andaman and Nicobar Islands.
 8. Fill in the blanks with the correct terms.
The Northern Plains are divided into four sections according to the variations (differences) in relief features (high and low areas). They are,, and
 9. In the question given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.
Assertion (A): The rivers of the Indian desert disappear into the sand.
Reason (R): They do not have enough water to reach the sea.
 - (a) Both A and R are correct and R is the correct reason for A.
 - (b) Both A and R are correct but R is not the correct reason for A.
 - (c) Both A and R are correct but not related to each other.
 - (d) Both A and R are incorrect.

Answers :

1. (d) all of the above
2. (c) distributaries
3. (d) Pitti Island
4. Andaman and Nicobar Islands
5. Lakshadweep Islands
6. (c) It is fertile and ideal for agriculture.
(Bhangar consists of small rocks and pebbles which make it unfit for agricultural purposes)
7. Kavaratti Island is the administrative headquarters of Lakshadweep.
8. bhabhar, terai, bhangar, khadar
9. (a) Both A and R are correct and R is the correct reason for A.

SHORT ANSWER QUESTIONS

1. What is a peninsular plateau? Explain with an example.

Ans. • A plateau is a raised **piece of land with a flat top** and looks like a table. Hence, a plateau is often called a **tableland**.

- When a **landmass (a piece of land)** is **surrounded by water bodies on three sides**, it is called a **peninsula**. When a **plateau is surrounded by water bodies on three sides**, it is known as a **peninsular plateau**.
- The Indian Peninsular Plateau is surrounded by the **Bay of Bengal** in the **east**, the **Arabian Sea** in the **west** and the **Indian Ocean** in the **south**.

2. List the three sections into which the Northern Plains of India are divided.

Ans. The Indian Northern Plains are divided into :

- **The Ganga Plain:** This plain extends **between the Ghaggar and Teesta rivers**. It is spread over the states of North India, Haryana, Delhi, U.P., Bihar, partly Jharkhand and West Bengal.
- **The Punjab Plain:** The **Western part** of the **Northern Plain** is referred to as the Punjab Plain. Formed by the Indus and its tributaries (Jhelum, Ravi, Beas, Chenab and Satluj), the larger part of this plain lies in Pakistan. This section of the plain has many doabs (land that lies between two rivers).
- **The Brahmaputra Plain:** This plain is located to the **east of the Ganga plain**, and lies mostly in Assam.

3. What are the characteristic features of the Central Highlands?

Ans: • The Central Highlands lie to the **north of river Narmada**, covering a **major portion of the Malwa plateau** and the **Chotanagpur plateau** of the Peninsular plateau.

- The rivers of this area, Ken, Chambal, Sind, Betwa and Damodar, flow from **south-west to north-east** indicating the slope of the land.

- The Central Highlands are **wider in the west but narrower in the east**. The eastward extensions of the plateau are known as **Bundelkhand** and **Baghelkhand**. Further eastward, the extension takes it to the Chotanagpur Plateau.

4. Write a short note on the Indian Desert with reference to its location, climate, vegetation and relief.

Ans: • The Indian desert lies **towards the western margins of the Aravali Hills** –i.e. in Rajasthan.

- It is a **sandy plain** covered with sand dunes and barchans (crescent-shaped dunes).
- It receives **very low rainfall**- below 150 mm per year.
- It has **arid climate** (it receives less than 10 inches of rainfall in a year) and has very low vegetation cover. Due to scarcity (shortage) of water, only a few plants such as cactus can survive in deserts.
- During the **rainy season**, **few streams** appear. River Luni is the only large river in this region.

5. Which are the major physiographic divisions of India?

Ans: The major physiographic divisions of India are:

- (a) The Himalayan Mountains
- (b) The Northern Plains
- (c) The Peninsular Plateau
- (d) The Indian Desert
- (e) The Coastal Plains
- (f) The Islands

LONG ANSWER QUESTIONS

1. Differentiate between Eastern and Western Ghats.

Western Ghats	Eastern Ghats
The Western Ghats mark the western edges of the plateau.	The Eastern Ghats mark the eastern edges of the plateau.
The Western Ghats are parallel and the hill ranges are continuous with no gaps.	The Eastern Ghats are irregular and have gaps through which rivers flow into the Bay of Bengal.
The Western Ghats have passes (routes through mountain ranges)–Thal, Bhore and Pal Ghats.	Eastern Ghats have no passes .
The Western Ghats are higher than the Eastern Ghats – average height of the Western Ghats is 900-1600 metres	The average height of Eastern Ghats is 600 metres
The Western Ghats cause orographic rain (the rain produced when a mountain forces moisture-laden wind upward)	The Eastern Ghats do not cause orographic rain .
The highest peaks include the Anai Mudi and the Doda Betta .	Mahendragiri is the highest peak in the Eastern Ghats.

2. Differentiate between the Western and Eastern coastal plains.

Ans:

Western Coastal Plain	Eastern Coastal Plain
The Western Coastal Plain lies between the Western Ghats and the Arabian Sea .	The Eastern Coastal Plain lies between the Eastern Ghats and the Bay of Bengal .
The Western Coastal Plain is narrow .	The Eastern Coastal Plain is wide and level .

The Western Coastal Plain has three sections .	The Eastern Coastal Plain has two divisions .
The northern part is called Konkan , the central stretch is called Kannad Plain and the southern part is called the Malabar Coast .	The northern part is referred to as the Northern Circar and the southern part is known as the Coromandel Coast .
There are no deltas in the Western Coastal Plains.	In the Eastern Coastal Plains, rivers like Mahanadi, Krishna, Kaveri, Godavari form deltas .

3. Write about the physical features of the Deccan Plateau.

- Ans:
- The Deccan Plateau is a **part of the Peninsular Plateau**. It is triangular in shape and lies to the south of river Narmada.
 - It is **higher in the west** and slopes gently towards the east. When we move from west to east, the important ranges of the Deccan plateau are Garo, Khasi and Jaintia hills.
 - In the **northern part** of the plateau, **lies the Satpura range**, while in the eastern part, lie the Mahadev and Kaimur hills and the Maikal range.
 - The **Aravali hills** are located on the western and north-western margins.
 - The **plateau also extends** (to cover a wide area) in the **northeast**, locally known as the Meghalaya, Karbi-Anglong Plateau and North Cachar Hills. It is separated by a fault (a crack in the earth's crust) from the Chotanagpur Plateau.
 - The plateau has **black soil** which has been formed by lava that came out during volcanic activity. This black

soil area is known as the **Deccan Trap**.

- This area is **rich in minerals** and hence, very important for industrial development.

4. Name and describe the three parallel ranges of the Himalayas.

Ans: The three ranges are Himadri, Himachal and Shiwaliks.

Himadri

- It is known as the **Great or Inner Himalayas** and is the most continuous range consisting of the highest peaks with an average height of 6,000 metres. It contains all the prominent Himalayan peaks such as Mt K2, Mount Everest and Mount Kanchenjunga.
- The core of this part of Himalayas is made of granite. It remains covered with **snow throughout the year**, and a number of glaciers descend (slope downwards) from this range.

Himachal

- It is also known as **lesser Himalaya** and their altitude varies between 3700 and 4500 metres.
- This range consists of the famous **valley of Kashmir**, the **Kangra and Kullu Valley in Himachal Pradesh**, and is also well-known for its hill stations.

Shiwaliks

- They extend over a width of 10-50 km and have an altitude varying between 900 and 1100 metres.
- These **valleys are covered** with **thick gravel** (small stones or rocks collected together) and alluvium. The longitudinal valley lying between lesser Himalaya and the Shiwaliks are known as Duns. **Dehra Dun, Kotli Dun and Patli Dun** are some of the well-known Duns.

5. Read the text and answer the questions that follow.

The land of India displays great physical variation. Geologically, the Peninsular Plateau constitutes one of the ancient landmasses on the earth's surface. It was supposed to be one of the most stable land blocks. The Himalayas and the Northern Plains are the most recent landforms. From the view point of geology, Himalayan Mountains form an unstable zone. The whole mountain system of Himalaya represents a very youthful topography with high peaks, deep valleys and fast flowing rivers. The northern plains are formed of alluvial deposits. The peninsular plateau is composed of igneous and metamorphic rocks with gently rising hills and wide valleys.

(a) How does India display great physical variation?

Ans. India has a variety of physical features in the form of mountains, plateaus and plains.

(b) How do the Himalayas represent a youthful topography?

Ans: The Himalayas have high peaks, deep valleys and fast flowing rivers that show its youthful topography.

(c) Name the landmasses of India that are supposed to be the (i) most stable (ii) most unstable.

Ans: (i) The landmass that is supposed to be the most stable is the Peninsular Plateau.

(ii) The landmass that is supposed to be the most unstable is the Himalayas.

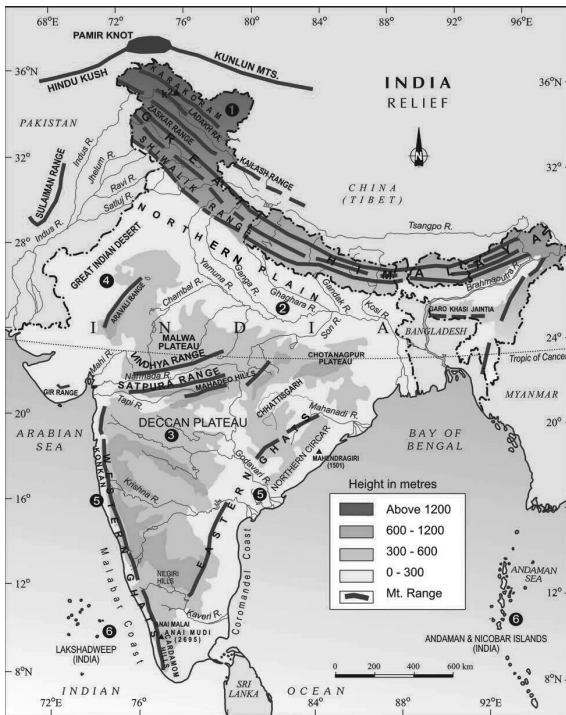
MAP BASED QUESTION

On an outline map of India, show the following:

- (i) Mountain and hill ranges – the Karakoram, the Zaskar, the Jaintia, the Vindhya range, the Aravali, and the Cardamom hills.
- (ii) Peaks – K2 and the Anai Mudi.

- (iii) Plateaus– Chotanagpur and Malwa
- (iv) The Indian Desert, Western Ghats, Lakshadweep Islands

Ans:



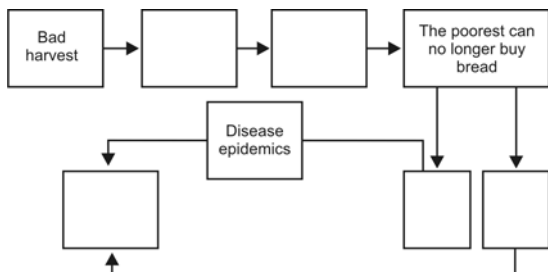
1

The French Revolution

OBJECTIVE TYPE QUESTIONS

- What was the most important privilege enjoyed by the first two estates?
- Fill in the boxes with appropriate terms from among the following :

Food riots, scarcity of grains, increased number of deaths, rising food prices, weaker bodies.



- Find the incorrect option.
 - In *The Spirit of the Laws*, Montesquieu proposed division of power within the government between the legislature, executive and judiciary.
 - Rousseau proposed a form of government based on a social contract between people and their representatives.
 - In his two *Treatises Of Government*, Locke sought to refute the doctrine of the divine and absolute right of the monarch.
 - The ideas envisaging a society based on freedom and equal laws and opportunities for all, were put forward by the common people.

- Read the questions given below.

There are two statements marked as Assertion (A) and Reason (R).

Read the statements and choose the correct options.

Assertion (A) From the very beginning

women were active participants in the events which brought about many important changes in the French society.

Reason (R) They hoped that their involvement would pressurise the revolutionary government to introduce measures to improve their lives.

- Both (A) and (R) are true and (R) is the correct explanation of (A).
- Both (A) and (R) are true but (R) is not the correct explanation of (A).
- (A) Is true, (R) is false.
- (A) Is false , (R) is true.

5.



Which of these best signifies the picture?

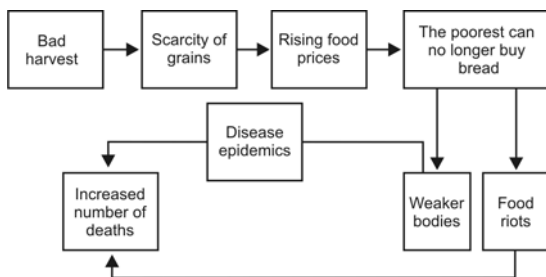
- Symbol of royal power
 - Symbol of eternity
 - Strength lies in unity
 - Personification of law
- How were the ideas of philosophers spread among the common people?
 - How did the king of France raise and impose taxes?
 - What is *Marseillaise*?
 - It is the National Anthem of France.
 - It is a patriotic song composed by the poet Roget de L'Isle.

- (c) It is a song sung for the first time by volunteers from Marseilles as they marched into Paris.
- (d) All of the above
9. Arrange the following in the correct sequence:
- France becomes a republic.
 - Napoleon becomes emperor of France.
 - Louis XVI becomes king of France and faces an empty treasury.
 - A constitution is framed to limit the powers of the king.
- Options:
- (ii) - (iii) - (iv) - (i)
 - (iii) - (iv) - (i) - (ii)
 - (i) - (ii) - (iii) - (iv)
 - (i) - (iii) - (ii) - (iv)
10. Correct the following statement and rewrite:
- Napoleonic armies came to be viewed everywhere as an invading force. He was finally defeated at Brussels in 1817.

Answers :

1. The most important privilege enjoyed by the first two estates was the **exemption from payment of taxes.**

2.



3. iv. The ideas envisaging a society based on freedom and equal laws and opportunities for all, were put forward by the common people. (philosophers)
4. i. Both (A) and (R) are true and (R) is

the correct explanation of (A).

5. ii Symbol of eternity (snake biting its tail to form a ring)
6. • The ideas of philosophers were discussed intensively in **salons** and **coffee-houses** and spread among people through **books** and **newspapers**.
- They were frequently **read aloud** in groups for those who could not read or write.
7. • In France, during the Old Regime, the **monarch did not have the power to impose taxes** according to his will alone.
- He had to call a meeting of the **Estates General** which would then **pass his proposals for new taxes**.
8. (d) All of the above
9. (b) (iii) - (iv) - (i) - (ii)
(1774 - 1791 - 1792 - 1804)
10. Napoleonic armies came to be viewed everywhere as an invading force. He was finally defeated at Waterloo in 1815.

SHORT ANSWER QUESTIONS

1. Which three causes led to the 'subsistence crisis' in France during the Old Regime?

OR

What is 'subsistence crisis'? Explain any three factors responsible for the same.

Ans. 'Subsistence crisis' can be defined as an extreme situation where the **basic means of livelihood are endangered.**

During the Old Regime, France faced a 'subsistence crisis' because-

- (i) The population of France had increased from 23 million in 1715 to 28 million in 1789. **The growing population led to a rapid increase in the demand for foodgrains.** But the **production of grains could not keep pace with the demand**, leading to a **rapid rise in the price of bread** (staple diet of the majority).

(ii) Most **workers got fixed wages** which did not keep pace with the **rising prices of objects of daily use**. So, the **gap between the poor and rich increased**.

(iii) Things became worse when **drought or hail reduced or destroyed the harvest**, causing further shortage of food grains.

2. **Discuss the ideas and thoughts expressed by the following political thinkers.**

(a) John Locke

(b) Jean Jacques Rousseau

(c) Montesquieu

Ans. (a) In his 'Two Treatises of Government', Locke sought to **refute the doctrine of the divine or absolute right of the monarch** (political and religious belief that the monarch's right to rule is the direct will of God and hence, nothing on earth can have authority over it).

(b) Rousseau carried the idea forward, proposing a form of government **based on a social contract between people and their representatives**. The contract is an agreement among them (people and their representatives) to form the society in which they live.

(c) In 'The Spirit of the Laws', Montesquieu proposed a **division of power within the government between the legislative, the executive and the judiciary**.

3. **Which groups of French society benefited from the revolution? Which groups were forced to relinquish power? Which sections of society would have been disappointed with the outcome of the revolution?**

Ans. • The **third estate** benefited from the revolution as it led to the abolition of the feudal system of obligations and taxes. This included peasants, labourers, doctors, lawyers, traders and businessmen.

- The king accepted that his powers would from now on be checked by a **constitution**. Members of the clergy and nobility were forced to give up their privileges and lands owned by the Church were confiscated.

- **People of the first and second estates** would have been disappointed as they had to give up their power and privileges.

4. **Which rights were established as 'natural and inalienable' right?**

Ans. • The Constitution of 1791 began with a **Declaration of the Rights of Man and Citizen**. Rights such as the right to life, freedom of speech, freedom of opinion, equality before law, were established as 'natural and inalienable' rights.

- **This meant that they belonged to each human being by birth and could not be taken away.**

- It was the duty of the state to protect each citizen's natural rights.

5. **What was the significance of the political symbols used in the eighteenth century?**

Ans. • In the eighteenth century, **a majority of men and women could not read or write**.

- So, **images and symbols were frequently used instead of printed words to communicate** important ideas and messages.

- These images and symbols became the **political symbols** of the time as they conveyed their ideas, thoughts and messages.

For example, the **broken chain** and **red Phrygian cap** are symbols of liberty (freedom), while the bundle of rods or fasces is a depiction that strength lies in unity.

6. **What was the status of education among women during 18th century France?**

OR

How did women suffer in France during the Old Regime?

- Ans. • Most women of the third estate had to **work for a living and their wages were lower than those of men.**
- Most women **did not have access to education and job training.** Only daughters of nobles or wealthier members of the third estate could study at a convent, after which their families arranged marriage for them.
 - **Working women also had to care for their families,** that is, cook, fetch water, queue up for bread and look after the children.

7. What were the demands of women who formed political clubs?

- Ans. • In order to discuss and voice their interests, women **started their own political clubs and newspapers.** About sixty women's clubs came up, The Society of Revolutionary and Republican Women being the most famous of them.
- One of their main demands was that women enjoy the **same political rights as men.**
 - Women were disappointed that the Constitution of 1791 reduced them to passive citizens and they **demand the right to vote, to be elected to the Assembly and to hold political office.** Only then, they felt, would their interests be represented in the new government.

8. Read the sources given below and answer the questions that follow:

Source A: Account of lived experience in the Old Regime

He who decides to be served and waited upon by slaves, ill-treated slaves at that, must be fully aware that by doing so he is placing his property and his life in a situation which is very different from that he would be in, had he chosen the

services of free and well-treated men. And he who chooses to dine to the accompaniment of his victims' groans, should not complain if during a riot his daughter gets kidnapped or his son's throat is slit.

Source B: Distribution of Duties

Has Nature entrusted domestic duties to men? Has she given us breasts to nurture babies? No. She said to Man: Be a man. Hunting, agriculture, political duties ... that is your kingdom. She said to Woman: Be a woman ... the things of the household, the sweet duties of motherhood – those are your tasks. Shameless are those women, who wish to become men. Have not duties been fairly distributed?

Source C: Impact of French Revolution

The ideas of liberty and democratic rights were the most important legacy of the French Revolution. These spread from France to the rest of Europe during the nine teenth century, where feudal systems were abolished. Colonised peoples reworked the idea of freedom from bondage into their movements to create a sovereign nation state.

Source A: Account of lived experience in the Old Regime

(1) Who is the writer criticising?

- Ans. The writer, Arthur Young, is criticising the social system, particularly the noblemen and clergy, which is based on injustice and says it will not last long and its consequences will be disastrous (causing great damage) for the exploiters (people who make use of something in an unfair manner).

Source B: Distribution of Duties

(2) According to the writer, what are the duties entrusted to men and women? Do you agree with this view?

- Ans. According to the writer, Jacobin politician Chaumette, man's sphere is outside the house, which includes hunting, agriculture and political

duties. On the other hand, women are given domestic duties like tasks of the household and those of motherhood (looking after children).

No, I don't agree with this view. Now a days, women are as educated as men and can perform all tasks that men do, with ease, and vice versa.

Source C: Impact of French Revolution

(3) How did the French Revolution inspire colonised people?

Ans. Colonised people reworked the ideals of liberty and democratic rights, the most important legacy of the French Revolution, into their movements to create a sovereign (independent) nation state.

9. (a) What was the triangular slave trade?

(b) Why was it important?

Ans. (a) Triangular slave trade was the **slave trade between Europe, Africa and Americas**.

(b) The colonies in the Caribbean (Martinique, Guadeloupe and San Domingo) were important suppliers of commodities such as tobacco, indigo, sugar and coffee. But the Europeans were reluctant to work in distant and unfamiliar lands. This meant shortage of labour on the plantations. This shortage was met by the triangular slave trade between Europe, Africa and Americas. British ships set out from England carrying goods to Africa. Here goods were exchanged for slaves who were then sold to plantation owners in Americas.

LONG ANSWER QUESTIONS

1. Trace the events that led to the fall of Bastille.

Ans. • On the morning of **14 July 1789**, the **King commanded his troops to move into the city of Paris**. A rumour spread that the King had ordered his

troops to open fire upon the citizens.

- As a result, some **7,000 men and women gathered at the town hall** where they decided to form a people's militia (army of civilians, formed to rebel). They **broke into a number of government buildings in search of arms**.
- Finally, a group of several hundred people stormed the fortress-prison, the **Bastille**, since it was hated by all as it stood for the despotic power (cruel, oppressive and absolute power) of the King.
- In the **armed fight** that followed, the **commander of the Bastille was killed and the prisoners released**.
- The **fortress was demolished** and its stone fragments were sold in the markets to all those who wished to keep a souvenir (thing kept as a reminder) of its destruction.

2. In 1774, Louis XVI ascended the throne of France. Upon his accession to the throne, the king found an empty treasury. Enumerate various reasons responsible for the financial drain of France.

OR

Why was the French government forced to increase taxes?

- Ans.** • In 1774, **Louis XVI** of the Bourbon family of kings **ascended the throne of France**.
- Upon his accession, the new King found an empty treasury. The reasons for this were:
 - Long years of **war had drained the financial resources** of France.
 - Added to this was the cost of **maintaining an extravagant court** at the immense palace of Versailles.
 - Under Louis XVI, **France helped the thirteen American colonies to gain independence** from their common enemy, Britain.

- The **war added more than a billion livres to a debt** that had already risen to more than 2 billion livres.
- **Lenders**, who gave the state credit, now began to **charge 10 percent interest** on loans.

- So, the **French government** was obliged to spend an increasing percentage of its budget **on interest payments alone**.
- To meet its regular expenses, the state was forced to increase taxes.
- But, **even this measure was not sufficient** because only members of the third estate paid taxes.
(18th century French society was divided into three states:
first– clergy
second–nobility
third–peasants, labourers, artisans, businessmen, lawyers, doctors)

3. Write a note on the peasants who were a part of the third estate in 18th century France.

- Ans. • Peasants in the French society belonged to the **third estate**.
- 90 percent of the total population was made up of peasants, though only a **small number of them owned the land they cultivated**.
 - They worked **under the nobility and the Church, and also paid feudal dues to them**.
 - Peasants were **obliged to render service to the lord**, to work in his house and fields, to serve in the army, or to participate in building roads.
 - They also **paid a tax to the Church**, known as **tithe** (tax levied by the Church, comprising one-tenth of the agricultural produce) and a direct tax to the king, known as **taille** (tax paid directly to the state). Besides, they also paid **taxes on articles of everyday consumption** like salt.

- Thus, the **burden of financing the activities of the state through taxes was borne by the third estate**, in general, and peasants in particular.

4. Write a note on the middle class that emerged in France in the 18th century.

- Ans. • **Peasants and workers had participated in revolts against the increasing taxes and food scarcity**. However, they lacked the **means and programme** required to carry out full-scale measures that would bring about a change in the social and economic order.
- **This was left to those groups within the third estate** who had become prosperous and had access to education and new ideas.
 - The eighteenth century witnessed the **emergence of social groups** termed the **middle class**.
 - The **middle class** earned their **wealth** through an **expanding overseas trade, and from the manufacture of goods** such as woollen and silk textiles.
 - In addition to merchants and manufacturers, the third class included **professionals** such as lawyers and administrative officials.
 - The middle class **believed that no group should be privileged by birth** and that a person's standing must depend on his / her merit. They wanted a society based on freedom and equal laws and opportunities for all.

5. Describe the circumstances leading to outbreak of revolutionary protest in France.

- Ans. • On May 5 1789, **King Louis XVI** called a meeting of the **Estates General** (a political body that made laws; the three estates sent their representatives to it) to increase taxes.
- Earlier, **voting in the Estates**

General had been conducted according to the principle that each estate had one vote.

- **Members of the third estate now demanded that voting should be conducted by the assembly as a whole, where each member would have one vote** (this was one of the democratic principles talked about by philosophers like Rousseau in his book *The Social Contract*).
- However, the **king rejected** this demand.
- Members of the third estate formed a **National Assembly** and took the '**Tennis Court Oath**', vowing to not separate till they had drafted a constitution that would keep the powers of the king in check.
 - They wanted to **remove the special rights of the nobles and clergy**.
 - They were led by **Mirabeau** (a noble who believed that the society of feudal privilege had to be done away with; he brought out a journal and delivered powerful speeches) and **Abbé Sieyès** (originally a priest, he wrote an influential pamphlet called 'What is the Third Estate?')
- Due to a severe winter, the harvest was bad and this led to **an increase in the price of bread. Bakers often exploited the situation** and hoarded supplies. Because of this, women had to spend long hours in queues, after which crowds of angry women stormed into the shops.
- At the same time, **the king ordered troops to move into Paris**. On 14 July, an agitated crowd stormed and destroyed the fortress-prison, Bastille.
- In the countryside, **rumours** spread that lords of the manor (an estate consisting of the lord's lands and

his mansion) had hired brigands (members of gangs that attack and rob people) who were on their way to destroy the ripe crops.

- Out of **fear, peasants** grabbed hoes and pitchforks and **attacked chateaux** (castles or stately residences belonging to a king or nobleman).
- They **looted hoarded grain** and burnt down documents containing records of manorial dues (fees that peasants owe to their landlords who are nobles).

6. How would you explain the rise of Napoleon?

- Ans. • After Robespierre's '**Reign of Terror**' ended, the **wealthier middle classes seized power** and introduced a **new constitution** which denied the vote to non-propertied sections of society.
- A **Directory** (an executive of five members) was formed so that power did not remain with one individual.
 - The **Directors had arguments** with the legislative council (a group of people who have the power to make and change laws). This created a **political disturbance in France**.
 - **Napoleon Bonaparte** took advantage of the situation and came to power as a **military dictator** (a ruler whose army has complete power over a country) in 1804.
 - After crowning himself as the king, Napoleon went out to **conquer neighbouring European countries** and creating kingdoms where he placed members of his family.
 - He was seen as a **moderniser of Europe**. He brought in many laws such as the **protection of private property and a uniform system of weights and measures given by the decimal system**.

- He was also seen by many as a person who would bring freedom for the people.

7. What were the main features of the Constitution of 1791?

- Ans.
- The powers of the government were divided between the legislature, executive and judiciary.
 - **Legislature**– National Assembly
 - **Executive**– King and Ministers
 - **Judiciary**– Judges
 - The Constitution of 1791 vested the powers to make laws in the **National Assembly**, which was indirectly elected.
 - That is, citizens voted for a group of **electors**, who in turn chose the Assembly.
 - **Not all citizens had the right to vote.**
 - **Only men above 25 years** of age who paid taxes, equal to at least 3 days of a labourer's wage, were given the status of **active citizens**, that is, they were entitled to vote.
 - The remaining men and all women were classed as **passive citizens**.
 - To **qualify as an elector** and then as a **member of the Assembly**, a man had to belong to the **highest bracket of tax payers**.

8. The situation in France continued to be tense since France became a Constitutional Monarchy. Discuss.

- Ans.
- The situation in France continued to be **tense during the years after it became a Constitutional Monarchy** because although Louis XVI had signed the Constitution, he entered into secret negotiations with the King of Prussia.
 - **Rulers of other neighbouring countries too were worried by the developments** in France and made plans to send troops to put down the events that had been taking

place there.

- Before this could happen, the **National Assembly** voted in April 1792, to declare **war against Prussia and Austria**.
- Thousands of **volunteers thronged** from the provinces **to join the army**.
- They saw this as a **war of the people against kings** and aristocracies all over Europe.

9. Who were the Jacobins? Why were they called sans-culottes?

- Ans.
- **Political clubs** became important places for people who wished to discuss government policies and plan their own forms of action.
 - The most successful of these clubs was that of the **Jacobins**, led by **Maximilian Robespierre**, whose members belonged mainly to the less prosperous sections of the society.
 - They included small shopkeepers, artisans such as shoemakers, pastry cooks, watch-makers, printers, as well as servants and daily-wageworkers.
 - A **large group among the Jacobins** decided to start wearing **long striped trousers** similar to those worn by dockworkers (people employed in a port to load and unload ships).
 - This was to set themselves apart from the fashionable sections of society, especially nobles, who wore knee breeches.
 - It was a way of proclaiming the **end of the power** wielded by the **wearers of knee breeches**.
 - These Jacobins came to be known as **sans-culottes**, literally meaning 'those without knee breeches'.
 - Sans-culottes men wore, in addition, the **red caps** that symbolised liberty. Women, however, were not allowed to do so.

10. Enumerate the series of events that took place in France in 1792-1793.

- Ans. • In the summer of 1792, the Jacobins **planned an insurrection** (violent uprising against an authority or government) as the people of Paris were angered by the short supplies and high prices of food.
- On the morning of August 10, they **stormed the Palace of the Tuileries**, massacred the king's guards and held the king hostage for several hours.
 - Later, the Assembly **voted to imprison the royal family**.
 - Elections were held and from now on, all men of 21 years and above, regardless of wealth, got the right to vote. The **newly elected assembly** was called the **Convention**.
 - On 21 September 1792, it **abolished monarchy** and declared France a **Republic**. **Hereditary monarchy** (type of government where a monarch becomes the monarch because he or she is related to the last monarch) **was also abolished**.
 - **Louis XVI was sentenced to death** by a court on the charge of treason (crime of betraying one's country). On 21 January 1793, he was executed publicly at the Place de la Concorde. The queen, Marie Antoinette met with the same fate shortly.

11. Robespierre followed a policy of severe control and punishment. Explain.

OR

Explain the 'Reign of Terror' in brief.

- Ans. • The period from 1793 to 1794 is referred to as the 'Reign of Terror' as the Jacobins formed the government with **Maximilian Robespierre** as their leader.
- Robespierre followed a policy of strict control and punishment.

- Ex-nobles, clergy, members of other political parties and his own party, **who were against his methods, were arrested, taken to prison** and then tried by a revolutionary tribunal (body established to settle disputes). If found guilty, they were guillotined (beheaded).
- Robespierre's government issued laws that placed a **maximum limit on wages and prices**. Meat and bread were rationed.
- **Peasants were forced to transport their grain** to the cities and **sell it at prices fixed by the government**. Expensive white flour was banned and citizens were required to eat the ***pain d'égalité*** (equality bread), a loaf made of wholewheat.
- **Equality was practised through speech and address**. Instead of traditional *Monsieur* (Sir) and *Madame* (Madam), all French men and women were called *Citoyen* and *Citoyenne* (Citizen).
- **Churches were shut down** and their buildings were converted into barracks or offices.
- Finally, Robespierre was arrested in July 1794 and sent to the guillotine. The **Reign of Terror ended** with his death.

12. List the laws that the revolutionary government introduced to help improve the lives of French women.

- Ans. • Together with the **creation of state schools**, **schooling** was made **compulsory** for all girls.
- Their fathers could **no longer force** them into **marriage** against their will.
 - **Marriage** was made into a **contract** entered into freely and **registered under civil law**.
 - **Divorce** was made **legal**, and could be applied for by both women and

men.

- Women could now **train for jobs** and were free to choose the profession they wanted to take up.
- Though the government during the Reign of Terror issued laws ordering the closure of women's clubs, women's struggle for equal rights and wages continued, and it was in **1946 that they finally got the right to vote.**

13. Read the following extract taken from the textbook and answer the questions that follow:

'The task of representing the people has been given to the rich ... the lot of the poor and oppressed will never be improved by peaceful means alone. Here we have absolute proof of how wealth influences the law. Yet laws will last only as long as the people agree to obey them. And when they have managed to cast off the yoke of the aristocrats, they will do the same to the other owners of wealth.'

(i) Which section of the society is representing the people?

Ans: The task of representing the people has been given to the rich.

(ii) According to the writer, under what condition will laws last?

Ans. According to the writer, the task of representing the people has been given to the rich. This is proof of how wealth influences the law. He says that laws will only last till the time people agree to obey them i.e., laws will last till the time people chose to follow them.

(iii) What developments does the writer anticipate in the future?

Ans. The author anticipates another revolution in which the poor would rebel against the rich and overthrow them, just like they had the noblemen and clergy.

14. Mention the important law that came into effect soon after the attack on Bastille. What was its impact?

Ans. • The important law that came into effect soon after the attack on Bastille was the **abolition of censorship.**

- In the Old Regime, all **written material** and **cultural activities** like books, news papers and plays could be published or performed **only after the approval of the king.**

- But after the **abolition of censorship**, people were **free to express themselves and give their opinions**, on events and changes that were happening in France.

- Moreover, the Declaration of Rights of Man and Citizen, proclaimed **freedom of speech and expression to be a natural and inalienable right.**

- Once the law came into effect:

- Newspapers, pamphlets, books and printed pictures, describing and discussing the events and changes taking place in France, flooded the towns of France from where they travelled rapidly in to the countryside.

- With the freedom of press, opposing views of events could be expressed and each side sought to convince the others of its position through the medium of print.

- Plays, songs and festive processions, **attracted large number of people as this was one way they could understand** and identify with the ideals such as liberty, justice, and equality, that political philosophers wrote about in texts, that only a handful of educated people could read.

3

Atoms and Molecules

MULTIPLE CHOICE QUESTIONS

- The symbol of the element zinc is
(a) Zi (b) Zc (c) zn (d) Zn
- The number of atoms present in a molecule is known as its
(a) inertness (b) mass ratio
(c) atomicity (d) atomic mass
- Which of the following elements is monoatomic?
(a) argon (b) helium
(c) oxygen (d) both (a) and (b)
- Which of the following is a polyatomic ion?
(a) NO_3^- (b) Cl^- (c) Br^- (d) H^+

Answers: 1. (d) 2. (c) 3. (d) 4. (a)

ASSERTION-REASON TYPE QUESTIONS

In the following questions, two statements are given, one labelled assertion (A) and the other labelled reason. Select the correct answer to these questions from these codes (i), (ii), (iii) and (iv) as given below:

- Both (A) and (R) are true and (R) is the correct explanation of Assertion.
- Both (A) and (R) are true and (R) is not the correct explanation of Assertion.
- (A) is true, but (R) is false.
- (A) is false but (R) is true.

- Assertion:** Atomic radius is measured in nanometres.

Reason: Atoms are very small in size.

Ans. (i)

- Assertion:** H_2O is a triatomic molecule.

Reason: The molecule that consists of two atoms is triatomic.

Ans. (iii)

Explanation: The molecule that consists of three atoms is triatomic. Since, H_2O contains 3 atoms it is triatomic.

PASSAGE BASED QUESTIONS

Read the following passage and answer the given questions:

In our daily life, we measure different things and these measurements have specific units. There are specific SI units for different measurable quantities. For example, SI unit of temperature is Kelvin and length is metre. Similarly, mole is the SI unit of amount of substance. One mole always consists of a fixed number of particles (atoms, molecules, ions) that is 6.022×10^{23} . This number is exactly equal to the number of atoms that are present in 12 g of Carbon. So, one mole of any element contains Avogadro number of atoms that is 6.022×10^{23} atoms of that element.

- Which quantity is measured in mole?**

Ans. Amount of substance

- Define one mole.**

Ans. The amount of substance that contains the same number of particles (atoms, ions or molecules) as atoms in 12 grams of carbon-12 is called one mole.

- What is Avogadro constant?**

Ans. The number of atoms in exactly 12 g of carbon-12, i.e., 6.022×10^{23} is Avogadro constant.

- How many atoms of copper are there in 1 mole of copper?**

Ans. 6.022×10^{23} atoms

VERY SHORT ANSWER QUESTIONS

- Define valency.**

Ans. The combining capacity of an element is called its valency.

- Which postulate of Dalton's atomic theory can explain the law of definite proportions?**

Ans. The postulate of Dalton's atomic theory that explains the law of definite proportions is - The relative number and kinds of atoms are constant in a given compound.

- State the law of conservation of mass.**

Ans. Law of conservation of mass states that mass can neither be created nor destroyed in a chemical reaction.

4. State the law of constant proportions.

Ans. Law of constant proportions states that in a chemical substance, the elements are always present in definite proportions by mass. It is also known as law of definite proportions.

5. Which postulate of Dalton's atomic theory is the result of the law of conservation of mass?

Ans. The postulate of Dalton's atomic theory that is the result of the law of conservation of mass is – Atoms are indivisible particles that cannot be created or destroyed in a chemical reaction.

6. What is one atomic mass unit?

Ans. One atomic mass unit is a mass unit equal to exactly one-twelfth ($1/12^{\text{th}}$) of the mass of one atom of carbon-12.

7. Calculate the number of atoms in 0.1 mole of carbon.

Ans. Given, number of moles of carbon atoms = 0.1
We know that, number of moles (n)

$$= \frac{\text{Given number of particles (N)}}{\text{Avogadro number (N}_0\text{)}}$$

or Number of particles (atom) = Number of moles $\times$ Avogadro number

$$N = n \times N_0 = 0.1 \times 6.022 \times 10^{23} = 6.022 \times 10^{22}$$

Thus, 0.1 mole of carbon contains 6.022×10^{22} atoms.

SHORT ANSWER QUESTIONS

1. In a reaction, 5.3 g sodium carbonate reacts with 6 g acetic acid. The products are 2.2 g carbon dioxide, 0.9 g water and 8.2 g of sodium acetate. Show that these observations are in agreement with the law of conservation of mass.

Sodium carbonate + Acetic acid $\longrightarrow$ Sodium acetate + Carbon dioxide + Water

Ans. According to law of conservation of mass,

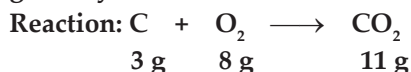
Total mass of reactants = Total mass of products

$$\text{Mass of reactants} = 5.3 \text{ g} + 6 \text{ g} = 11.3 \text{ g}$$

$$\text{Mass of products} = 8.2 \text{ g} + 2.2 \text{ g} + 0.9 \text{ g} = 11.3 \text{ g}$$

Here, mass of reactants (11.3 g) is equal to the mass of products (11.3 g). Therefore, this shows that the reaction is in agreement with law of conservation of mass.

2. When 3.0 g carbon is burnt in 8 g oxygen, 11 g carbon dioxide is produced. What will be the mass of carbon dioxide formed when 3 g carbon is burnt in 50.00 g oxygen? Which law of chemical combination will govern your answer?



Ans. When 3 g of carbon is burnt in 50 g oxygen, only 8 g oxygen is consumed in the reaction and remaining 42 g O_2 left unused. Therefore, 11 g of CO_2 is formed in this case also. Since, carbon and oxygen has combined in a fixed proportion by mass, this reaction is governed by the law of constant proportions.

3. Write down the formulae of (a) Sodium oxide (b) Aluminium chloride (c) Sodium sulphide (d) Magnesium hydroxide.

Ans. (a) Symbol $\begin{array}{cc} \text{Na} & \text{O} \\ \swarrow \searrow & \\ \text{Charge } 1+ & 2- \end{array}$ (b) Symbol $\begin{array}{cc} \text{Al} & \text{Cl} \\ \swarrow \searrow & \\ \text{Charge } 3+ & 1- \end{array}$
Formula : Na_2O Formula : AlCl_3

(c) Symbol $\begin{array}{cc} \text{Na} & \text{S} \\ \swarrow \searrow & \\ \text{Charge } 1+ & 2- \end{array}$ (d) Symbol $\begin{array}{cc} \text{Mg} & \text{OH} \\ \swarrow \searrow & \\ \text{Charge } 2+ & 1- \end{array}$
Formula : Na_2S Formula : Mg(OH)_2

4. Write down the names of compounds represented by the following formulae: (a) $\text{Al}_2(\text{SO}_4)_3$ (b) CaCl_2 (c) K_2SO_4 (d) KNO_3

Ans. (a) Aluminium sulphate (b) Calcium chloride (c) Potassium sulphate (d) Potassium nitrate

5. Calculate the molecular masses of (a) C_2H_6 (b) C_2H_4 (c) NH_3

Ans. (a) Molecular mass of C_2H_6 (ethane)
= (2 $\times$ Atomic mass of carbon)
+ (6 $\times$ Atomic mass of hydrogen)
= (2 $\times$ 12) + (6 $\times$ 1) = 24 + 6 = 30 u
(b) Molecular mass of C_2H_4 (ethene)
= (2 $\times$ Atomic mass of carbon)
+ (4 $\times$ Atomic mass of hydrogen)
= (2 $\times$ 12) + (4 $\times$ 1) = 24 + 4 = 28 u
(c) Molecular mass of NH_3 (ammonia)
= (Atomic mass of nitrogen)
+ (3 $\times$ Atomic mass of hydrogen)
= 14 + (3 $\times$ 1) = 14 + 3 = 17 u

6. Calculate the formula unit mass of (a) ZnO (b) Na₂O. (Given atomic masses of Zn = 65 u, Na = 23 u, O = 16 u)

Ans. (a) Formula unit mass of ZnO (zinc oxide)
= Atomic mass of zinc + Atomic mass of oxygen = 65 + 16 = 81 u

(b) Formula unit mass of Na₂O (sodium oxide) = 2 × Atomic mass of sodium + Atomic mass of oxygen = (2 × 23) + 16 = 46 + 16 = 62 u

7. What is the mass of 10 moles of sodium sulphite (Na₂SO₃)?

Ans. Given, number of moles = 10

Molar mass of Na₂SO₃ = 2 × Atomic mass of Na + Atomic mass of S + 3 × Atomic mass of O

$$= 2 \times 23 + 32 + 3 \times 16$$

$$= 46 + 32 + 48 = 126 \text{ g}$$

We know that, **Number of moles (n)**

$$= \frac{\text{Given mass (m)}}{\text{Molar mass (M)}}$$

So, mass of 10 moles of sodium sulphite = n × M

$$= 10 \times 126 = 1260 \text{ g}$$

Thus, the mass of 10 moles of sodium sulphite (Na₂SO₃) is 1260 g.

8. Calculate the number of aluminium ions present in 0.051 g aluminium oxide.

Ans. Given, mass of aluminium oxide (Al₂O₃) = 0.051 g

Molar mass of (Al₂O₃) = 2 × atomic mass of Al + 3 × atomic mass of O

$$= (2 \times 27) + (3 \times 16)$$

$$= 54 + 48 = 102 \text{ g}$$

Number of aluminium ions in 102 g of Al₂O₃ = 2 × 6.022 × 10²³

[Al₂O₃ contains 2 Al³⁺ ions. Therefore, we multiply 6.022 × 10²³ by 2]

$$= 12.044 \times 10^{23}$$

Number of aluminium ions in 0.051 g of

$$(\text{Al}_2\text{O}_3) = \frac{12.044 \times 10^{23} \times 0.051}{102 \text{ g}}$$

$$= 0.006022 \times 10^{23} \text{ Al}^{3+} \text{ ions}$$

$$= 6.022 \times 10^{20} \text{ Al}^{3+} \text{ ions}$$

Thus, the number of aluminum ions present in 0.051 g of Al₂O₃ is 6.022 × 10²⁰.

9. Calculate the number of particles in each of the following: (a) 46 g Na atoms (number from mass) (b) 8 g O₂ molecules (number of molecules from mass).

Ans. (a) Given, mass (m) of Na = 46 g

$$\text{We know that, } \frac{\text{Given mass (m)}}{\text{Molar mass (M)}} = \frac{\text{Given number of particles (N)}}{\text{Avogadro number (N}_0\text{)}}$$

Here, number of particles is number of atoms.

The **Number of atoms**

$$= \frac{\text{Given mass}}{\text{Molar mass}} \times \text{Avogadro number}$$

$$\text{or } N = \frac{m}{M} \times N_0$$

$$N = \frac{46}{23} \times 6.022 \times 10^{23}$$

[∵ Molar mass of sodium is 23]

$$N = 1.2044 \times 10^{24}$$

Thus, the number of atoms in 46 g of Na is 1.2044 × 10²⁴.

- (ii) Given, mass of oxygen molecules = 8 g

Here, number of particles is number of molecules.

We know that, the **number of molecules**

$$= \frac{\text{Given mass}}{\text{Molar mass}} \times \text{Avogadro number}$$

$$\text{or } N = \frac{m}{M} \times N_0$$

∴ Atomic mass of oxygen = 16 u

∴ Molar mass of O₂ molecules = 2 × 16 = 32g

$$N = \frac{8}{32} \times 6.022 \times 10^{23}$$

$$N = 1.5055 \times 10^{23}$$

$$N = 1.51 \times 10^{23}$$

Thus, the number of molecules in 8 g O₂ is 1.5 × 10²³.

10. Calculate the number of moles for the following: (a) 52 g He (finding mole from mass) (b) 12.044 × 10²³ number of He atoms (finding mole from number of particles).

Ans. (a) Given, mass of He = 52 g

We know that, Atomic mass of He = 4 u

∴ Molar mass of He = 4 g
Thus, the **number of moles (n)**

$$= \frac{\text{Given mass (m)}}{\text{Molar mass (M)}}$$

$$\text{or } n = \frac{m}{M} = \frac{52}{4} = 13$$

Thus, there are 13 moles in 52 g He.

- (b) Given, number of He atoms (N) = 12.044×10^{23} ,

We know that, number of atoms in 1 mole He (N_0) = 6.022×10^{23}

Number of moles (n)

$$= \frac{\text{Given number of particles (N)}}{\text{Avogadro number (N}_0\text{)}}$$

$$\text{or } n = \frac{N}{N_0} = \frac{12.044 \times 10^{23}}{6.022 \times 10^{23}} = 2$$

Thus, there are 2 moles in 12.044×10^{23} He atoms.

11. Which has more number of atoms, 100 grams sodium or 100 grams iron (given, atomic mass of Na = 23 u, Fe = 56 u)?

Ans. Given mass of sodium = 100 g

Molar mass of sodium (Na) = 23 g

Here, number of particles is number of atoms.

We know that, **number of atoms**

$$= \frac{\text{Given mass}}{\text{Molar mass}} \times \text{Avogadro number}$$

$$\text{or } N = \frac{m}{M} \times N_0$$

$$N = \frac{100}{23} \times 6.022 \times 10^{23}$$

$$N = 26.196 \times 10^{23}$$

The number of atoms in 100 grams of sodium is 26.196×10^{23}

Given mass of iron = 100 g

Molar mass of iron (Fe) = 56 g

Here, number of particles is number of atoms.

Number of atoms

$$= \frac{\text{Given mass}}{\text{Molar mass}} \times \text{Avogadro number}$$

$$\text{or } N = \frac{m}{M} \times N_0$$

$$N = \frac{100}{56} \times 6.022 \times 10^{23} = 1.79 \times 6.022 \times 10^{23}$$

$$N = 10.779 \times 10^{23}$$

100 g sodium contains 26.196×10^{23} atoms whereas 100 g iron contains 10.779×10^{23} atoms.

∴ 100 g sodium contains more number of atoms than 100 g of iron.

LONG ANSWER QUESTION

Calculate the mass of the following:

- (a) 0.5 mole of N_2 gas (b) 0.5 mole of N atoms (c) 3.011×10^{23} number of N atoms (d) 6.022×10^{23} number of N_2 molecules.

Ans. (a) Given, Number of moles of N_2 gas (n) = 0.5

Molar mass of $N_2 = 2 \times 14 = 28$ g

We know that, **number of moles (n) =**
Given mass (m)

Molar mass (M)

Mass = Molar mass $\times$ Number of moles

or $m = M \times n = 28 \times 0.5 = 14$ g

Thus, mass of 0.5 moles of N_2 gas is 14 g.

- (b) We know that, **Mass = Molar mass $\times$ Number of moles**

Molar mass of N = 14 g

Number of moles of N atoms (given) = 0.5

$$m = M \times n = 14 \times 0.5 = 7 \text{ g}$$

Thus, mass of 0.5 mole of N atoms is 7g.

- (c) The **number of moles, n**

$$= \frac{\text{Given number of particles}}{\text{Avogadro number}} = \frac{N}{N_0}$$

$$= \frac{3.011 \times 10^{23}}{6.022 \times 10^{23}} = 0.5$$

We know that, $m = M \times n$

$$= 14 \times 0.5 = 7 \text{ g}$$

Thus, mass of 3.011×10^{23} N atoms is 7 g.

- (d) Given, number of molecules of N_2 gas = 6.022×10^{23}

We know that, **Given mass (m)**
Molar mass (M)

$$= \frac{\text{Given number of particles (N)}}{\text{Avogadro number (N}_0\text{)}}$$

$$\text{or } m = M \times \frac{N}{N_0} \Rightarrow = 28 \times \frac{6.022 \times 10^{23}}{6.022 \times 10^{23}}$$

$$= 28 \times 1 = 28 \text{ g}$$

Thus, mass of 6.022×10^{23} N_2 molecules is 28 g.

OBJECTIVE TYPE QUESTIONS

1. What is the fixed capital for setting up a small scale industry?

(a) Machinery (b) Money
(c) Labour (d) All of these

Ans. (a) Machinery

2. Wages are given to the landless labourers in the form of

(a) Cash (b) Kind
(c) Meals (d) All of these

Ans. (d) All of these

3. Which of the following is a non-farm activity?

(a) Dairy (b) Shop-keeping
(c) Transportation (d) All of these

Ans. (d) All of these

4. Which of the following is a working capital?

(a) Machines (b) Tools
(c) Cash (d) Building

Ans. (c) Cash

5. Which of the following areas of India have low levels of irrigation?

(a) Riverine plains
(b) Coastal regions
(c) Deccan plateau
(d) Both b and c

Ans. (c) Deccan plateau

6. The introduced the Indian farmers to the High Yielding Variety seeds (HYVs).

(a) White Revolution
(b) Green revolution
(c) Forest policies
(d) Agricultural development policy

Ans. (b) Green revolution

7. In the questions given below, there are two statements marked as Assertion (A)

and Reason (R). Read the statements and choose the correct option.

(I) Assertion (A): We must take care of the environment to ensure future development of agriculture. Scientific reports indicate that the modern farming methods have overused the natural resource base.

Reason (R): In many areas, Green Revolution is associated with the loss of soil fertility due to increased use of chemical fertilisers.

- (a) Both A and R are correct but R is not the correct reason for A.
(b) Both A and R are correct and R is the correct reason for A.
(c) A and R are not interconnected.
(d) A is correct but R is not correct.

Ans. (b) Both A and R are correct and R is the correct reason for A.

(II) Assertion (A): The landless labourers must regularly look for work.

Reason (R): Small farmers along with their families cultivate their own fields.

- (a) Both A and R are correct but R is not the correct reason for A.
(b) Both A and R are correct and R is the correct reason for A.
(c) Both A and R are correct but not interconnected.
(d) A is correct but R is not correct.

Ans. (c) Both A and R are correct but not interconnected.

8. Correct the given statements and rewrite them.

(a) Marginal farmers come either from landless families or families cultivating small plots of land.

Ans: Farm labourers come either from landless families or families cultivating small plots of land.

- (b) **The continuous use of pesticides for tubewell irrigation has led to the depletion of the water-table.**

Ans: The continuous use of **groundwater** for tubewell irrigation has led to the depletion of the water-table.

9. **Which of the following statements is true about the farm labourers?**

- (a) **They are employed permanently.**
- (b) **The wages change from one farm activity to another.**
- (c) **The wages are paid according to the provisions made by the government.**
- (d) **They work on their own piece of land.**

Ans: (b) The wages change from one farm activity to another.

10. **Define yield.**

Ans. Crop produced on a given piece of land during a single season is known as yield.

SHORT ANSWER QUESTIONS

1. **Highlight the basic constraints in raising production from a farm.**

Ans. The basic constraints (difficulties) in raising production from a farm are:

- (a) **The land for cultivation is fixed.**
- (b) **No land is left for agriculture.**
- (c) **The land that was lying waste has already been used for agriculture.**

2. **State the importance of growing more than one crop on a piece of land.**

Ans. Growing **more than one crop** on a piece of land is important because:

- (a) **It retains the fertility** of the soil.
- (b) **It gives employment** to many people throughout the year.
- (c) **It benefits the farmers economically** as it gives them money.

3. **What can be done to increase the non-farm activities in the Indian villages?**

Ans. The things that can be done to increase the non-farm activities in the Indian villages are:

- (a) **Banks should give loans at low interest rates** so that the villagers

can start some small-scale businesses (produce things at home to be sold in the market) and can earn money.

- (b) **Government should start schemes** like small-scale industries, computer training centres, and courses that can prepare people to work in various fields (like tailoring or typing), that can give them jobs and help them to earn money.

- (c) **Government should provide facilities for transportation and selling of locally manufactured (made) goods in the villages to the cities.**

4. **How did the spread of electricity help farmers?**

Ans. The spread of electricity has helped the farmers a lot:

- (a) **Irrigation was done through electric run tube wells, that reduced the farmers' dependence on rainfall. This helped in irrigating (watering) large areas of land.**

- (b) **Irrigation improvement allowed farmers to grow three different crops in a year.**

- (c) **It helped to increase farm production in the village.**

5. **Why are wages of farm labourers less than minimum wages?**

Ans. Wages of farm labourers are less than minimum wages because:

- (a) **There is a heavy competition for work** among the farm labourers.
- (b) **Due to this competition, many farm labourers agree to work on low wages.**

5. **Read the given extracts given below and answer the questions that follow.**

Source – A

Mishrilal has purchased a mechanical sugarcane crushing machine run on electricity and has set it up on his field. Sugarcane crushing was earlier done with the help of bullocks, but people prefer to do it by machines these days. Mishrilal also buys sugarcane from other farmers

and processes it into jaggery. The jaggery is then sold to traders at Shahpur. In the process, Mishrilal makes a small profit.

- (i) **What capital does Mishrilal need to set up his jaggery manufacturing unit?**

Ans: Mishrilal needs fixed and working capital. **Fixed capital** in the form of the **sugarcane crushing machine** and **working capital** in the form of **money** to buy sugarcane and to pay electricity bill.

- (ii) **Who provides labour in his case?**

Ans: **Labour** is provided by **Mishrilal** himself.

- (iii) **Why did Mishrilal not sell jaggery to people of his own village?**

Ans: He sells his jaggery to traders for a **small profit** which he may not get from his village. Moreover, he sells his stock to traders in bulk so he does **not need a storage space** to store it.

Source – B

Kishora is a farm labourer. Like other such labourers, Kishora found it difficult to meet his family's needs from the wages that he received. A few years back Kishora took a loan from the bank. This was under a government programme which was giving cheap loans to poor landless households. Kishora bought a buffalo with this money. He now sells the buffalo's milk. Further, he has attached a wooden cart to his buffalo and uses it to transport various items. Once a week, he goes to the river to bring clay for the potter. Or sometimes he goes to Shahpur with a load of jaggery or other commodities. Every month he gets some work in transport. As a result, Kishora is able to earn more than what he used to do some years back.

- (i) **What is Kishora's fixed capital?**

Ans: Kishora's **fixed capital** consist of his **buffalo** and his **wooden cart**.

- (ii) **What do you think will be his working capital?**

Ans: His **working capital** would be the **bank loan**.

- (iii) **In how many production activities is Kishora involved?**

Ans: He is involved in **selling milk** and **transportation**.

- (iv) **Would you say that Kishora has benefitted from better roads?**

Ans: Yes, we can say that Kishora has benefitted from better roads in Palampur because he provides **transportation services** also and better roads means more quick, easy and comfortable journey to a place.

6. **The following table shows the production of wheat and pulses in India after the Green Revolution in units of million tonnes. Answer the questions based on the table.**

Year	Production of Pulses	Production of Wheat
1965	10	10
1970	12	24
1980	11	36
1990	14	55
2000	11	70
2010	18	87
2012	18	94
2013	19	96
2014	17	87
2015	17	94
2016	23	99
2017	24	97

7. **Was the Green Revolution equally successful for both the crops? Discuss.**

Ans: No, the **Green Revolution** was **not equally successful for both the crops** as it can be seen in the table that the production of pulses increased from 10 million tonnes in 1965 to only 24 million tonnes in 2017 whereas the production of wheat increased from 10 million tonnes in 1965 to 97 million tonnes in 2017. **The Green Revolution was more beneficial for the production of wheat.**

LONG ANSWER QUESTIONS

1. **List and explain the four requirements for production of goods and services.**

Ans. We need four important things for production:

- (a) **Land and other things that we get from nature** (natural resources) like water, forests and minerals.
- (b) **Labour**, i.e., **people who will do the work**. Some activities need people who are highly educated to do some special tasks easily. Other activities need people to do manual work (work that is done by hand).
- (c) **Physical capital**, i.e., **the different kinds of inputs** (things that are put in to make something successful) that **are required at every stage of production**. The items that come under physical capital are:
 - (i) **Tools, machines and buildings**: Tools could be simple tools, e.g., a farmer's plough or an advanced machine like computer. **These machines, tools and buildings do not get used up (finished) during production and can be used for many years**. They are called **fixed capital**.
 - (ii) **Raw material and money in hand**: To produce anything, we need raw material. This could be clay for a potter or paper used by a kite maker. Money is also required to do payment (like wages for workers) and to buy raw material. This is called **working capital**. **This type of capital is used up when things are produced**.
 - (d) **Knowledge and enterprise** (the activity of thinking new ideas and making them successful): **These are required to be able to use land, labour and physical capital and produce something either to use it yourself or sell it in the market**. This is known as **human capital** for example, expertise (expert knowledge in something) in accounts or sales.

2. What is Green Revolution? What are its drawbacks?

Ans. The Green Revolution was a revolution in which the production of crops (especially

wheat and rice) **increased with the use of high yielding varieties (HYVs) of seeds, modern methods and technology, irrigation facilities, pesticides and fertilisers**, it came to be known as **Green Revolution**. Now, the same farm could **produce much more** than it was possible earlier. Farmers then had a larger quantity of grains to sell in the market.

The drawbacks of Green Revolution are:

- (a) It needs **more water** than traditional (old type) farming.
- (b) It **needs more chemical fertilisers and pesticides** to give best results. This makes the **soil infertile**.
- (c) The continuous use of tubewells to take out water from the ground (groundwater) has made the **water table** (the level of water that is under ground) **fall**.

3. Name the non-farming activities in a village and describe them.

- Ans.**
- (a) **Dairy**: This is a very common non-farming activity. Milk from cows and buffaloes is taken to large villages where the milk is collected in collection centres, from where the milk is transported to different villages, and cities.
 - (b) **Small-scale manufacturing**: This kind of production takes place with very simple machines mostly in homes. Most of the work is done by family members.
 - (c) **Shop-keeping**: These are small general stores that sell items such as rice, wheat, sugar, tea, oil, soap, pens, notebooks and even cloth.
 - (d) **Transport**: There are many types of vehicles that run on village roads. People driving these vehicles (like tongas, tractors, buses and rickshaws) carry people and things from one place to another.

4. Highlight five differences between traditional and modern methods of farming.

Ans.

Traditional methods	Modern methods
(a) Seeds used are simple and traditional .	(a) HYV seeds are used.
(b) Irrigation is done through wells and tanks .	(b) Irrigation is done through dams, tubewells and canals .
(c) Natural fertilisers are used.	(c) Chemical fertilisers are used.
(d) Traditional tools are used, e.g., ploughs drawn by oxen.	(d) Tractors are used.
(e) Manual (Human) labour is used for all activities.	(e) Modern machinery (like threshers) is used for all activities.

5. How do the medium and large farmers obtain capital for farming? How is it different from the small farmers?

Ans. Small, medium and large farmers obtain capital in different ways:

- (a) **Medium and large farmers** have their own savings from farming because they have a good surplus (additional) crop from their lands.
- (b) Medium and large farmers **sell this surplus crop in the market and earn more money**.
- (c) They **deposit some of the amount in their bank accounts** for the next season crop.
- (d) On the other hand, **small farmers have to borrow money from large farmers or traders**. The **rate of interest** on such loans is **very high**. (Nowadays, there are many banks that provide agricultural loans to small farmers on very low interest rate.)

MULTIPLE CHOICE QUESTIONS

- Which of the following tissues is an animal tissue?
(a) parenchyma (b) sclerenchyma
(c) collenchyma (d) epithelial tissue
- Cartilage is not found in
(a) nose (b) ear
(c) kidney (d) larynx
- Contractile proteins are found in
(a) blood (b) muscles
(c) bones (d) cartilage
- Nervous tissue is not found in
(a) brain (b) spinal cord
(c) tendon (d) nerves

Answers: 1. (d) 2. (c) 3. (b) 4. (c)

ASSERTION REASON TYPE QUESTIONS

In the following questions, two statements are given—one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below.

- Both A and R are true and R is the correct explanation of the assertion.
- Both A and R are true but R is not the correct explanation of the assertion.
- A is true but R is false.
- A is false but R is true.

- Assertion:** Growth occurs only in certain regions of plants.

Reason: Meristematic tissues are present only in those regions of plants.

Ans. (i)

- Assertion:** Blood is a connective tissue.

Reason: Blood has a fluid matrix in which RBCs, WBCs and platelets are present.

Ans. (ii) **Explanation:** Blood flows to transport different substances to different cells and tissues and connects them, thus is called a connective tissue.

PASSAGE BASED QUESTIONS

Read the following passage and answer the given questions:

Early in the evolutionary history of organisms, cells aggregated to form tissues that formed various organs. As the complexity of the organisms increased, their structural organisation also became complex. There are certain organisms that perform all their functions by only one cell. On the other hand, there are organisms that have body made up of many cells. In these organisms, tissues show division of labour. Plants and animals developed different types of tissues on the basis of their requirements.

- What is a tissue?**

Ans. A group of cells that are similar in structure and perform a particular function is called a tissue.

- What does the term 'division of labour' in the tissue mean?**

Ans. Division of labour in tissue means that different types of tissues perform different functions.

- Give an example to justify your answer in the above question.**

Ans. For example, in humans, blood that is a connective tissue flows to transport oxygen and muscular tissue contracts and relaxes to bring about movement

- Name any two plant tissues.**

Ans. Xylem, Phloem

VERY SHORT ANSWER QUESTIONS

- Which tissue makes up the husk of coconut?**

Ans. Sclerenchymatous tissue

- Name the three types of simple tissues in plants.**

Ans. Parenchyma, collenchyma, sclerenchyma

- Name the parenchyma that contains chlorophyll. Write its function.**

Ans. **Chlorenchyma** contains chlorophyll. It helps in **photosynthesis**.

4. Write the location of collenchyma.

Ans. Leaf stalks below the epidermis

5. Where is adipose tissue found?

Ans. Adipose tissue is found below the skin and between the internal organs.

6. What is the specific function of cardiac muscles?

Ans. Cardiac muscles present in the heart show rhythmic contraction and relaxation throughout life so that the heart can pump blood in the body.

7. Presence of which substance makes the cork cells impervious to water and gases?

Ans. Suberin

8. Name the regions in which parenchyma tissue is present.

Ans. It is present in the soft parts of the plant like leaves.

9. Name the two kidney-shaped cells that enclose stomata.

Ans. Guard cells

10. What are the functions of stomata?

Ans. Exchange of gases and transpiration take place through stomata.

11. Aquatic plants, like water hyacinth, float in water. Give reason.

Ans. Aquatic plants, like water hyacinth, float in water due to the presence of large air cavities in their **aerenchyma tissue**.

SHORT ANSWER QUESTIONS

1. Name the following:

- (a) Tissue that forms the inner lining of our mouth
- (b) Tissue that stores fat in our body
- (c) Tissue present in hard covering of seeds and nuts
- (d) Tissue present in the respiratory tract

Ans. (a) Squamous epithelium

- (b) Adipose tissue
- (c) Sclerenchyma
- (d) Columnar epithelial tissue

2. Identify the type of tissue in the following: skin, bark of tree, bone, lining of kidney tubule, vascular bundle.

Ans. Skin—Stratified squamous epithelium, Bark of tree—Cork, Bone—Connective tissue, Lining of kidney tubule— Cuboidal epithelium, Vascular bundle— xylem and phloem

3. What are the functions of areolar tissue?

Ans. It fills the space inside the organs. It supports internal organs. It helps in the repair of tissues.

4. Differentiate between meristematic and permanent tissues in plants.

Meristematic tissues	Permanent tissues
The tissues that divide throughout their life are called meristematic tissues .	The tissues that lose their ability to divide and take up a specific role are called permanent tissues .

5. Give reason for the following:

- (a) Meristematic cells lack vacuoles.
- (b) A layer of thick waxy cutin is present on the epidermis of desert plants.

Ans. (a) The main function of vacuoles is to store important substances and give rigidity and turgidity to the cell. As meristematic cells keep on dividing their entire life and do not need to store substances so, they lack vacuole.

(b) A layer of thick waxy cutin is present on the epidermis of desert plants to prevent the loss of water through transpiration.

6. Give suitable reason for the following:

- (a) Animals of colder regions have thick layer of fat under their skin.
- (b) Intercellular space is absent in sclerenchyma tissue.

Ans. (a) Animals of colder regions have thick layer of fat under their skin to protect them from the cold as **fat acts as an insulator** and keeps them warm.

- (b) Sclerenchyma tissue gives mechanical strength to the plants. Therefore, cell walls are thickened due to the deposition of lignin. Thus, due to thick cell walls, intercellular space is absent.

7. Differentiate between bone and cartilage.

Bone	Cartilage
It is a rigid and non-flexible tissue.	It is a soft and flexible tissue.
It has a hard matrix that is composed of calcium and phosphorus compounds .	It has a solid matrix that is composed of proteins and sugars .
It forms the framework that supports the body.	It smoothens the bone surface at joints.

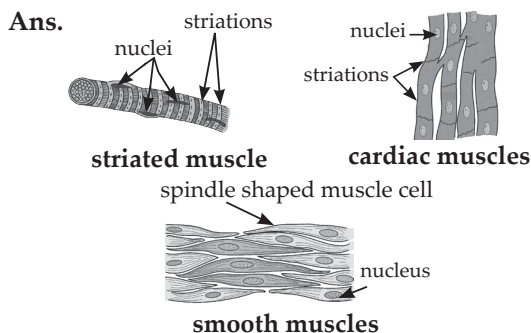
8. State any two differences between tendon and ligament.

Tendon	Ligament
It joins muscles to bones.	It joins bones to bones.
It is tough and less elastic .	It is soft and very elastic .

9. How are simple permanent tissues different from complex permanent tissues in plants?

Simple permanent tissues	Complex permanent tissues
The tissues that are made up of only one type of cells are called simple permanent tissues .	The tissues that are made up of more than one type of cells are called complex permanent tissues .

10. Diagrammatically show the difference between the three types of muscle fibres.



11. Compare the three types of meristems on the basis of their location and functions.

Ans.

Apical meristem	Lateral meristem	Intercalary meristem
Location: It is present at the growing tips of stem and the root. Function: It increases the length of the stem and the root.	Location: It is present below the bark of the plant and in the vascular bundle. Function: It increases the thickness (or girth) of the stem and the root.	Location: It is present near the node. Function: It increases the length of the stem and branches.

LONG ANSWER QUESTIONS

1. (a) Why are xylem and phloem called complex tissues?

(b) How are they different from each other?

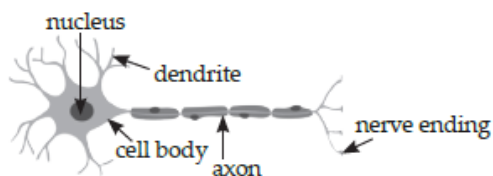
Ans. (a) Xylem and phloem are **made up of different types of cells** thus, they are called **complex permanent tissues**.

Xylem	Phloem
(i) It conducts water and minerals from roots to leaves .	It conducts food from leaves to different parts of the plant.
(ii) It consists of xylem vessels, tracheids, xylem parenchyma and xylem fibres .	It consists of sieve tubes, sieve cells, companion cells, phloem fibres and phloem parenchyma .
(iii) Many cells are dead cells when they mature .	Except phloem fibres , all cells are living cells .

2. Describe the structure and function of neuron. Also, draw a labelled diagram.

Ans. **Structure:** Neurons are **long cells**. A neuron consists of a **cell body** with a **nucleus** and **cytoplasm**. Each neuron

has a single long part, called the **axon** and many short, branched parts called **dendrites** that arise from the cell body. Many nerve fibres together form a nerve.



Function: Neurons transmit messages in the form of **electrical signals** called **nerve impulses** from one part of the body to another.

3. What is the role of epidermis in plants?

Ans. Role of epidermis: (i) It protects the parts of plant. (ii) Gaseous exchange and transpiration take place through stomata present in it. (iii) In aerial parts of the plants, epidermis secretes a waxy, water-resistant layer on the outer surface. This prevents loss of water and mechanical injury. It also stops the entry of parasitic fungi so as to prevent infection. (iv) It becomes thick and prevent water loss in plants living in very dry habitats. In desert plants, there is a waterproof layer of cutin on the epidermis that prevents transpiration. (v) Epidermal cells of the roots help in absorption of water.

4. Differentiate between striated, unstriated and cardiac muscles on the basis of cell structure, striations and nature.

Ans. Parameter	Striated/Skeletal/Voluntary muscles	Smooth/Unstriated/Involuntary muscles	Cardiac muscles
Cell Structure	Cells are long, cylindrical, unbranched and multinucleate. Nucleus is present at the periphery.	Cells are long with pointed ends and uninucleate. Nucleus is present at the centre.	Cells are cylindrical, and branched and uninucleate. Nucleus is present at the centre.
Striations	Alternate light and dark striations are present.	Light and dark striations are absent.	Faint alternate light and dark striations are present.
Nature	They work according to our will.	They do not work according to our will.	They do not work according to our will.

5. Compare any two of the simple plant tissues on the basis of following: nature of cell, shape of cells, intercellular space, cell wall and function.

Ans. Parameter	Parenchyma	Collenchyma	Sclerenchyma
Nature of cells	Cells are living.	Cells are living.	Cells are dead.
Shape of cells	Cells are generally spherical.	Cells are elongated.	Cells are long and narrow.
Cell wall	Cell wall is thin.	Cell wall is irregularly thick at corners.	Cell wall is thick due to deposition of lignin.
Intercellular space	Cells are loosely arranged with large intercellular spaces.	Very little intercellular space is present.	No intercellular space is present.
Function	It generally stores food.	It gives flexibility to the plant and allows the plant parts like stem to bend without breaking.	It makes the plant parts hard and stiff; and gives strength.

(compare any two)