

**Question:1**

Mention four natural resources that helped life to originate and survive on the earth.

**Solution:**

Resources that helped life to originate and survive on the earth are:

- (i) Air
- (ii) Water
- (iii) Soil
- (iv) Minerals.

**Question:2**

Natural resources are both living and non-living. Do you agree? Give examples of each.

**Solution:**

Yes, natural resources are both living and non-living.

Living natural resources are plants and animals.

Non-living natural resources are air, water, soil, and minerals.

**Question:3**

The amount of groundwater on the earth will always remain the same. Do you agree? Give reasons.

**Solution:**

Yes, groundwater is a renewable source. But today we are using it more than it is renewing, so the water level is decreasing day by day.

**Question:4**

How has the increase in human population and its needs affected natural resources?

**Solution:**

As the population on earth is increasing day by day, therefore their requirements are also increasing. So, more resources are used day by day. It affects the number of natural resources available to them.

**Question:5**

Sunlight and groundwater are both renewable resources. What is the difference between them?

**Solution:**

Sunlight	Groundwater
Sunlight gets replenished at an infinite rate, that means sunlight will not get exhausted even if we increase the consumption rate.	Groundwater gets replenished at a constant rate and if we use it indiscriminately then at someday, the whole supply of groundwater may get exhausted.

**Question:6**

Name three fuels we get by digging into the earth. What is the common name gives to them? Why is this name given?

**Solution:**

Three fuels obtained by digging into the earth are:

- (i) Petrol
- (ii) LPG
- (iii) Kerosene

They all are commonly known as petroleum.

They are so called because they are obtained from underground rocks. They are a mixture of several hydrocarbons.

**Question:7**

All fossil fuels are made up of compounds of carbon and hydrogen. Do you agree? Give reasons.

**Solution:**

Yes, all fossil fuels are composed of hydrocarbons i.e. carbon and hydrogen. Fossil fuels were formed as a result of plants or animals that died millions of years ago and were buried inside the earth for a long period of time. Over millions of years, heat and pressure changed the dead organisms into fossil fuels. As the most abundant elements in the living organisms (Plants or animals) are carbon and hydrogen, that's why all fossil fuels are made up of compounds of carbon and hydrogen.

**Question:8**

Which is a better fuel—coal or coke? Why?

**Solution:**

Coke is a better fuel because it is almost the purest form of carbon. It burns without the smoke and has a high calorific value.

**Question:9**

While refining petroleum. Which property is used to separate petroleum into its various fractions?

**Solution:**

As the number of carbon atoms increases, the boiling point also increases. This property is used to separate petroleum into its various fractions.

**Question:10**

Nowadays, a number of vehicles run on CNG. What is the full form of CNG? What is the advantage of using CNG over petrol or diesel?

**Solution:**

CNG is compressed natural gas. Advantages of CNG over petrol and diesel is that CNG is a non-polluting fuel for vehicles.

**Question:11**

Renewable resources need to be conserved because

- (a) we are using them faster than they are replenished by nature.
- (b) they are slowly disappearing from the earth.
- (c) if we overuse them nature will stop replacing them.
- (d) all of these

**Solution:**

- (d) all of these

Renewable resources need to be conserved because non-renewable resources such as coal, petroleum and natural gas take millions of years to form naturally. Moreover, they cannot be replaced as quickly as they are being consumed.

**Question:12**

It is an important fraction of petroleum. It is further distilled to get lubricating oil and paraffin wax.

- (a) petroleum gas
- (b) heavy oil
- (c) anthracite
- (d) residue

**Solution:**

- (d) residue

Residue is that component of petroleum which is collected at the bottom of the tower. It can be further distilled separately to obtain lubricating oil and paraffin wax.

**Question:13**

Coal mainly contains

- (a) carbon.
- (b) carbon and hydrogen.
- (c) carbon, hydrogen and nitrogen.
- (d) carbon, nitrogen and oxygen.

**Solution:**

- (a) carbon

Coal is mainly composed of carbon. It may also contain varying amounts of hydrogen, oxygen, nitrogen and sulphur.

**Question:14**

Which of the following is regarded as the best variety of coal?

- (a) bituminous
- (b) lignite
- (c) anthracite
- (d) peat

**Solution:**

- (c) anthracite

Anthracite coal has the highest carbon content and is the cleanest form of coal.

**Question:15**

Which of the following is a non-polluting fuel for vehicles?

- (a) petrol
- (b) diesel
- (c) kerosene
- (d) CNG

**Solution:**

- (d) CNG

CNG is a natural gas stored under high pressure. Burning of natural gas produces nitrogen oxides, sulphur dioxide, carbon dioxide and carbon monoxide in low quantities than that produced during the burning of coal or oil. Thus, it is a non-polluting fuel.

**Question:16**

In destructive distillation, coal is heated strongly to about

- (a) 5000 °C.
- (b) 1000 °C.
- (c) 100 °C
- (d) 10,000 °C.

**Solution:**

- (b) 1000°C

In destructive distillation of coal, coal is heated at 1000°C in the absence of air to produce coal tar, coal gas, coke and liquor ammonia as main by products.

**Question:17**

Which of these is not a natural source of energy?

- (a) coal
- (b) petroleum
- (c) electricity
- (d) sun

**Solution:**

- (c) electricity

Electricity is generated by man using natural resources; therefore, it is not a natural source of energy.

**Question:18**

Fossil fuels are

- (a) renewable but exhaustible.
- (b) renewable and inexhaustible.
- (c) non-renewable but can be recycled.
- (d) non-renewable and cannot be recycled.

**Solution:**

(d) non-renewable and cannot be recycled

Fossil fuels are non-renewable and cannot be recycled because they are formed extremely slowly (in millions of years) from dead remains of living organisms and their rate of consumption is more than their rate of replenishment.

**Question:19**

Which of these is not a fossil fuel?

- (a) CNG
- (b) LPG
- (c) petrol
- (d) hydrogen

**Solution:**

(d) Hydrogen

Fossil fuels are the fuels that are formed naturally from the dead remains of living organisms in millions of years. They include natural gas, petroleum and coal.

Hydrogen is not a fossil fuel because it is not formed by a natural process.

**Question:20**

Which of these is obtained by destructive distillation of coal?

- (a) LPG
- (b) coal gas
- (c) CNG
- (d) methane

**Solution:**

(b) Coal gas

In destructive distillation of coal, coal is heated at high temperature in the absence of air to produce coal tar, coal gas, coke and liquor ammonia as its main by-products.

**Question:21**

Are natural resources living, non-living or both?

**Solution:**

Natural resources are both living and non-living.

Natural resources refers to resources that are present in our nature, gifted by God and can be freely used, for example, soil, air, sunlight, water, plants, animals etc.

**Question:22**

Petroleum is a renewable resource, as it is naturally renewed in a million years. True or false?

**Solution:**

True. Although petroleum is a renewable resource, its regeneration takes millions of years. Its rate of depletion is much higher than its rate of formation. As we have limited sources of petroleum, we should use it judiciously.

**Question:23**

The process of conversion of wood into coal is called \_\_\_\_\_

**Solution:**

The process of conversion of wood into coal is called carbonisation.

**Question:24**

\_\_\_\_\_ is the variety of coal with maximum carbon content.

**Solution:**

Anthracite is the variety of coal with maximum carbon content.

**Question:25**

Petroleum and natural gas were formed from dead \_\_\_\_\_

**Solution:**

Petroleum and natural gas were formed from dead remains of living organisms.

**Question:26**

In fractional distillation, hydrocarbons with the \_\_\_\_\_ (highest/lowest) boiling points condense first.

**Solution:**

In fractional distillation, hydrocarbons with the lowest boiling points condense first.

**Question:27**

Name two fuels obtained from petroleum, which can be used as domestic fuels.

**Solution:**

1. LPG: Liquefied petroleum gas is a non-poisonous colourless gas, commonly known as cooking gas. It can be stored in cylinders and is drawn out and used as gas.
2. Kerosene: Kerosene is a flammable pale yellow or colourless oily liquid with a non pleasant odour. It is used as a fuel in lamps and domestic heaters or furnaces.

**Question:28**

Which fuel is used in jet aeroplanes?

**Solution:**

Kerosene is used as a fuel in jet aeroplanes.

Kerosene is a flammable pale yellow or colourless oily liquid with a unpleasant odour. It is obtained from petroleum.

**Question:29**

Name one non-polluting fuel for vehicles.

**Solution:**

Compressed Natural Gas (CNG) is a non-polluting fuel for vehicles. Burning of natural gas produces nitrogen oxides, sulphur dioxides, carbon dioxide and carbon monoxide in very small amounts. Thus, it does not cause pollution.

**Question:30**

What is the colour of the crude oil pumped out from a well?

**Solution:**

Petroleum, also called crude oil, is a thick dark coloured oily liquid. Most of the chemicals present in crude oil are slightly colourless or yellow except bitumen, which brings dark color to crude oil.

**Question:31**

Which petroleum product is used for surfacing roads?

**Solution:**

Bitumen is an oil-based substance and is used for surfacing roads. It is a semi solid product obtained from the refining of petroleum.

**Question:32**

Name the petroleum product used to manufacture candles, vaseline, grease, polish, etc.

**Solution:**

Paraffin wax, a white or colourless soft solid extracted from petroleum, is used to manufacture candles, vaseline, grease and polish.

**Question:33**

Which is the ultimate source of the energy of fossil fuels?

**Solution:**

Solar energy is the ultimate source of the energy for fossil fuels.

Plants absorb sun's energy through photosynthesis when they are alive and the animals that eat them, get the energy from plants. This energy stays trapped in them for millions of years and gets converted into fuel. Thus, the energy released when fuel is burnt, originally comes from the sun.

**Question:34**

The fuel obtained from coal that is almost pure form of carbon is \_\_\_\_\_

**Solution:**

The fuel obtained from coal that is almost pure form of carbon is coke.

Coke is a fuel with high carbon content and few impurities. It is made from destructive distillation of coal.

**Question:35**

Differentiate between renewable and non-renewable resources, giving two examples of each.

**Solution:**

Renewable resources	Non-renewable resources
Resources that are present in infinite amounts (for example, the sun, wind) and can be replaced or reproduced within a reasonable time (for example, wood because we can plant trees) are called renewable resources	Resources that are present in a finite amount and cannot be replaced or reproduced within a reasonable time are called non-renewable resources. For example, fossil fuels and minerals which take millions of years to form and cannot be formed artificially.
They can last for ever with limited use.	They will finally get exhausted.
They are both living (like forest) and non-living (like water).	They are non-living (like coal, petroleum) resources.

**Question:36**

What are fossil fuels?

**Solution:**

Fuels that are formed from the dead remains of living organisms by natural processes are called fossil fuels. They take millions of years to form.

Petroleum, coal and natural gas are fossil fuels, which are formed after dead remains of living organisms get buried under the sea and earth through natural processes like compression.

**Question:37**

Why should fossil fuels not be wasted?

**Solution:**

Fossil fuels such as coal, petroleum and natural gas take millions of years to form naturally. They cannot be replaced as fast as they are being consumed. Moreover, it is not possible to make new fossil fuels artificially. If they are overused, they will get exhausted as they are available in nature in limited amount. That is why, they should not be wasted.

**Question:38**

How is coke obtained?

**Solution:**

Coke is a hard porous black substance which is obtained by destructive distillation of coal.

**Question:39**

What are the advantages of using natural gas as a fuel?

**Solution:**

Following are the advantages of using natural gas as a fuel:

1. It is easy to transport through pipes and cylinders.
2. It does not cause pollution on usage.
3. It can be directly burnt in homes and factories for cooking and other purposes.

**Question:40**

Why is there a rapid increase in our energy consumption?

**Solution:**

There is a rapid increase in our energy consumption because of the following reasons:

1. World's population is increasing, which means energy requirements are also increasing. People need more energy to cook food, to heat their homes etc., which means more energy is being used.
2. With the development of countries, energy consumption also increases because people use more devices which need energy, both for functioning and manufacturing.

**Question:41**

Why are fossil fuels our most important source of energy today?

**Solution:**

Matter that stores energy is called fuel.

We depend most on fossil fuels for many energy uses because fossil fuels can be burnt, shipped and stored. The energy from fossil fuels is both concentrated and portable. Fossil fuel releases tremendous amount of energy on burning. Natural gas provides cleaner burning and coal is available in abundance.

**Question:42**

What is the main purpose of petroleum refining?

**Solution:**

Petroleum or crude oil is a complex mixture of organic liquids. Crude oil is of little use in industrial applications. Petroleum refining is done to convert crude oil into more useful products such as petrol, kerosene, LPG, diesel, waxes, asphalt etc.

**Question:43**

If a resource is renewable, it can still get exhausted. Discuss with two examples.

**Solution:**

A renewable resource is any resource that can "renew" itself within a person's life span. But most renewable resources become exhaustible if we use them faster than they are renewed or replaced by nature.

Examples:

Ground water is a renewable resource. In recent years, there is a decline in its level because its usage is faster than its replacement. This has led to the drying of wells.

Forests or trees are being cut down to fulfil our need of wood for furniture, paper etc. It usually takes 25 years or more for a tree to grow to its original state. If new trees do not grow up and replace the older trees as fast as the older trees are cut down, sooner or later they would be exhausted.

**Question:44**

Why is topsoil considered a non-renewable resource even though it is constantly being formed by weathering of rocks?

**Solution:**

Topsoil is considered a non-renewable resource because its rate of erosion is faster than its rate of regeneration. Although topsoil does build up over time through weathering of rocks and minerals and decaying of organic matter, it does not build up to an appreciable amount in a person's lifetime.

**Question:45**

Why do we feel the need for conservation more today than our ancestors did?

**Solution:**

Our ancestors had modest energy requirements, mostly for cooking, lighting and heating. In today's society, energy consumption by humans has increased manyfold as compared to energy consumed by early humans because people have progressed. Developed nations use more energy especially for transportation and industry. Most of the energy we use today comes from fossil fuels which are non-renewable on a human time scale. That is why, there is more need for energy conservation today than early times.

**Question:46**

How was coal formed?

**Solution:**

Coal was formed by the dead remains of the plants by the process of carbonisation. Millions of years ago, dead flora and fauna in forests got buried under soil, rocks and other land masses due to earthquakes, volcanic eruptions and floods. With the passage of time, more soil layers got deposited on it and they were compressed and went deeper and deeper beneath the earth. This raised the temperature and pressure beneath the soil. This initiated the process of burning these dead remains. Slowly, all the vegetation got converted into coal, which is a rich form of carbon.

**Question:47**

What are the important uses of coke?

**Solution:**

Uses of coke:

1. It is used in industries for manufacturing of steel and for the extraction of many metals.
2. It is used in thermal power plants to produce electricity.
3. It is used as a domestic fuel for cooking and heating.

**Question:48**

How was petroleum formed?

**Solution:**

Petroleum was formed by the dead remains of the sea animals which got trapped under soil and clay and more deposits were formed with time. Due to depth, the temperature and pressure raised and over the years, they got converted into petroleum oil. Since, oil is lighter than water, it did not mix with water and arose to the superficial rocks, which did not allow it to pass through them.

**Question:49**



Name four important products of petroleum and give their uses.

**Solution:**

Various constituents of petroleum oil obtained during fractional distillation in oil refineries are:

1. Liquid Petroleum Gas (LPG): It is primarily used as domestic fuel. Now, it is also used as fuel in vehicles and industry because it is less polluting and easy to transport.
2. Petrol: It is a black liquid used as fuel in light vehicles like scooters, cars, etc. It is also used as aviation fuel and for dry cleaning of fabrics.
3. Kerosene: It is used as fuel in stoves, lamps and jet aircrafts.
4. Diesel: It is used as fuel for heavy vehicles and electric generators.

**Question:50**

What are the advantages of using energy judiciously?

**Solution:**

Advantages of judicious use of energy:

1. Fossil fuels are primary source of energy today. If they are used indiscriminately, they will be exhausted because they are available in limited amount. It takes millions of years to form fossil fuels and it is not possible to make new fossil fuels artificially. Therefore, they should be wisely used and not wasted.
2. Judicious use of energy today will help future generations to use the available resources.

**Question:51**

How is destructive distillation of coal carried out? What are the products obtained and their main uses?

**Solution:**

Destructive distillation of coal is carried out by heating coal strongly to  $1000^{\circ}\text{C}$  in the absence of air. When coal is heated without air, it does not burn but breaks down to produce following by-products:

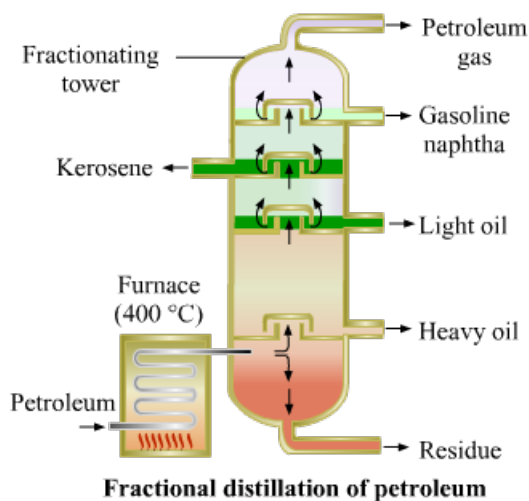
- (a) Coke: It is used in industries for manufacturing of steel and extraction of many metals. It is used as a domestic fuel for cooking and heating.
- (b) Coal tar: It can be used to make soap, fats, dyes, plastics perfumes, drugs, pesticides, explosives etc.
- (c) Coal gas: It is used as fuel in coal processing plants and in various other industrial units situated near coal processing plants.
- (d) Ammonia: It is used for making nitrogenous fertilisers.

**Question:52**

How is refining of petroleum carried out? Name the important products obtained.

**Solution:**

Refining of petroleum is carried out by fractional distillation of crude oil.



Process of fractional distillation of crude oil is as follows:

- Crude petroleum is heated and converted into gas.
- The gases enter the bottom of a long column (fractional distillation column), which is filled with trays or plates.
- The gases rise in the column, and gets cooled and condenses when they reach their boiling points
- The trays collect various liquid fractions which may pass to the condensers, which cool them further and go to the storage tanks.
- The small chains, usually gaseous molecules, come out at the top, while the liquid medium chain molecules come out at the middle and the solid remains at the bottom.

Important products obtained are kerosene, petrol, diesel, bitumen, LPG( liquefied petroleum gas), paraffin wax, lubricating oil and asphalt.

#### Question:53

List five things that you can do to help in preventing an energy crisis.

#### Solution:

Following ways and measures can help in preventing an energy crisis:

1. Vehicles should be driven at constant and moderate speed.
2. Engines should be switched off at traffic lights and other temporary halts.
3. Vehicle pooling can reduce number of vehicles plying on road, which, in turn, will lead to less consumption of fuel.
4. At home, gas stoves should be cleaned properly and burners should not be left burning unnecessarily.

#### Question:54

How is CNG obtained? What are its main uses?

#### Solution:

CNG is obtained from the deposits of natural gas close to the earth's surface (usually dwarfed by nearby oil deposits). Deeper deposits formed at higher temperatures and under more pressure have more natural gas than oil. Once the natural gas reserve is discovered, it is extracted from the ground by a pipeline and sent to power plants, factories and processing plants. Here, it is cleaned, separated and converted into CNG (by storing under high pressure), a usable fuel for homes and businesses.

Uses of CNG:

1. It is very easy to transport through pipes and cylinders.
2. It does not cause pollution on usage, while other petrochemicals like petrol and diesel do.
3. It can be directly used in homes and factories for cooking and other purposes.

#### Question:55

If a resource can be replaced within ten years by natural processes, would you classify it as renewable or non-renewable?

**Solution:**

If a resource can be replaced within ten years by natural processes, it can be classified as renewable. Renewable resource is a resource that can renew itself within a person's life span, while a non-renewable resource takes millions of years to form.

**Question:56**

All renewable resources are inexhaustible. Do you agree? Give reasons.

**Solution:**

Renewable resources are resources that are present in infinite amounts (for example, the sun, wind) and can be replaced or reproduced at a scale comparable to its consumption (for example, wood because we can plant trees).

All renewable resources are inexhaustible, i.e., last forever with limited use.

But most renewable resources become exhaustible if we use them faster than they are renewed or replaced by nature.

**Question:57**

All combustible substances are not fuels. Why?

**Solution:**

Fuel is a substance which on burning releases a large amount of energy as heat at a reasonable cost and leaves behind little ash content. For example, coal, natural gas, petroleum nearly meet all these conditions.

Combustible substance is the one which liberates heat on burning. The amount of heat liberated is different for different substances. This determines whether or not a substance is a good fuel.

All the combustible substances are not fuels because many of them produce less amount of heat for a particular amount of energy input on burning and leave behind high ash content; for example, paper, cloth, etc.

**Question:58**

Can fossil fuels be made in the laboratory?

**Solution:**

Fossil fuels can't be prepared in our laboratory because it took millions of years for dead bodies of plants and animals to get converted into fossil fuels. Moreover, necessary conditions of high temperature and pressure for the conversion of dead bodies into fossil fuel cannot be created in a laboratory.

**Question:59**

Conservation of resources means avoiding their wasteful use. Does this definition cover all aspects of conservation? Explain.

**Solution:**

Conservation of resources means not only avoiding their wasteful use but also maintaining their quality. It can also be defined as restoring, protecting and maintaining the natural ecosystem, vegetation and wildlife.

**Question:60**

In a petroleum well, crude oil is found above water. Which two properties of petroleum make it possible to form a layer of it above water?

**Solution:**

Following two properties of petroleum make it possible to form a layer of it above water:

1. Petroleum is immiscible with water, i.e., it cannot be mixed with water.
2. Petroleum oil is lighter than water, it forms a layer above water.

**Question:61**

Salma always switches off electrical appliances such as lights, fans, air conditioners, heaters, etc. When not in use. She says it saves coal and petroleum and helps the environment. Do you agree? Explain

**Solution:**

Yes, coal and petroleum products are used in the production of electricity. Which runs the electrical appliances at Salma's home. As coal and petroleum are non-renewable sources i.e. once they are used, they cannot be replaced. So, if we use coal and petroleum excessively then a point of time may come when it will not be available at all, which can create a crisis of electric energy. That's why Salma tries to save electricity, which can eventually save coal and petroleum.

## Class VIII English II

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### 3. VERBS- EXPRESSING THE PAST.

Exercise 10. Fill in the blanks with **since** or **for**:

1. Since yesterday.
2. Since last year
3. For several years
4. Since Monday last
5. Since January, 2009
6. Since he learnt swimming
7. For many weeks
8. Since Christmas
9. For a short time
10. Since the day before yesterday

Exercise 11. Fill in the blanks in the following sentence with the present perfect continuous tense of the verbs.....

1. The number of working women has been steadily increasing during the past few years.
2. The farmers have been waiting for the rain so that they can plan their crops.
3. our teachers have been taking extra classes for weak students since the beginning of the session,
4. All the drains are overflowing. I suppose it has been raining for quite some time.
5. If I have succeeded in my mission, it is because all my friends have been cooperating with me.
6. How long have you been waiting for me? Have you been standing there in the sun all the time?
7. You look sad and your eyes are red. Have you been crying?

8. I have been carefully listening to all the speeches but no speaker has so far impressed me.

Exercise 13. Fill in the blank with the correct tense present continuous or present perfect continuous of the verb....

1. She is attending classes to improve her dancing,
2. She has been learning Kathak ever since she was a child....
3. Since when have you been writing and directing plays ?
4. Our scientists have been trying to produce electricity from solar energy but haven't been very successful.
5. These days Madhu is learning dress designing at the National Institute of Fashion Technology.
6. Mukul has been successfully running an export house for the past five years.

\_\_\_\_\_ M.L

## SECTION ONE: ON BEING AN INDIAN

- A. 1. a                      2. d                      3. c                      4. a                      5. a
- B. 1. For Ruskin Bond, it is the very charm of the land that holds him back. It is not only the beauty of the physical features of the land, but also his feelings associated with it, which binds him to his surroundings.
2. India is not merely a geographically defined nation or country, it is an atmosphere. A melting pot that has the flavour of amazing diversified cultures from all over the world is special; it is like no other place in the world.
3. Ruskin Bond wants to establish the fact that even though he has foreign blood in his circumstances have made him an Indian. He was born and brought up in India and grown up amidst the Indian ambience and culture like any other Indian. He is as Indian as the local "paanwala" or the postman and identifies himself with each and every Indian. To him, home is essentially India, a place that he has always loved.
- C. Accept all relevant responses.
1. I would feel very proud and flattered if people asked me whether I was an Indian. With a civilization that is more than 5000 years old, India boasts of multiple cultural origins. Unity in diversity is unique to our nation. Today, it is an emerging global, scientific and technological super power with a diverse environment in flora and fauna.
2. Bond feels he is an Indian because he was born and brought up here. He has grown up on Indian soil and the Indian society and culture are an integral part of Bond. He feels Indian as the "paanwala" or the postman. To him, India is home and he is a true Indian in all sense of the term.
- My origin, my traditions and my culture and values all together make me feel that I am Indian. My identity as an Indian is a result of a complex interplay of various factors. My identity arises out of my everyday life. I think it is very difficult to pinpoint specific factors that make me feel an Indian, but I think my language, my family values and my interaction with the society around me make me experience my Indianness.
- D. Ruskin Bond is a European by race. However, both Bond's father and Bond were born and brought up in India and have been in the country for many years. On his mother's side, he can claim a lineage that dates back hundreds of years. This 'history', according to Bond, earned him a place on Indian soil. In spite of his origins, he is as Indian as any other native.

dweller of the land.

(Thus, history, to him, is more important than 'race'. History decides where a person has been his entire life and the way in which he has adapted to his surroundings.)

I agree with Bond that history is more important than race. With the passage of time, people all over the world have left their motherlands and have travelled to various places. They have settled in far-off lands and have made these places, their home. They have loved these lands and have lived there till the end, irrespective of where they came from.

- E. 1. paranoid      2. entitle      3. unique      4. revert      5. phenomenon  
6. distraction      7. Nordic      8. indefinable      9. mingle

F. Accept all relevant responses.

1. shallow-banked, ice-cold, fast-moving      2. Hindi-speaking, densely-populated, forward-thinking  
3. well-behaved, high-spirited, strong-willed      4. old-fashioned, open-hearted, narrow-minded  
5. well-known, worn-out, middle-aged      6. short-haired, quick-witted, friendly-looking

- G. 1. b      2. b      3. a      4. a      5. a

- H. 1. Children must go to school.  
2. The aliens may not be friendly.  
3. Could you take these dishes to the kitchen?



## SECTION TWO: THE IDEA OF INDIA

A. 1. c                      2. c                      3. c                      4. c                      5. b

B.		We, the people of India, can decide what to do and no other country can dictate terms.
	Socialist	
	Secular	
	Democratic Republic	
		Every one is equal in the eyes of law.
		People of India are free to think, express and believe in right things.
	Equality	
		People of India should live as one family and take care of one another.

- C. 1. If I were given a role in framing the rules for governing our country, I would give equality and fraternity the greatest importance. In my opinion, these two are of great importance for future generations to be able to live in harmony and to value others as individuals. Otherwise we can have hope for the future of our country.
2. Those serious and solemn words have been put into the constitution to protect and value the rights of every individual citizen of this country. So they also have a deep connection to our everyday life, we encounter many instances when basic values and rights can be endangered. Our society is extremely diverse and so is our culture. And our constitution contains edited words that have been put there to ensure that every human being in the country can live a safe and dignified life protected by the laws that are enshrined in the constitution.
- D. 1. Right refers to the freedom of an individual to say or do things which are sensitive and acceptable to others and acceptable by the law. Thus, freedom of expression is a right. We can write what we want to provided that it does not hurt another person or community and it does not undermine national or cultural values.
- Duty refers to that which every citizen is ethically bound to do. For example, it is our duty to protect wildlife and it is also our duty to respect the national anthem.
2. Our country is made up of diversity. We see diversity in languages, attire, festivals, religions, etc.

practices, cuisines and customs. The complex diversity of India has attracted millions of people around the world for ages. Most Europeans cannot understand how India can function so wonderfully with so much diversity. Yes, I think this is one of the most beautiful and interesting characteristics of our country.

Living with diversity is not easy. Differences can always become difficult to handle. People might feel animosity or aggression towards other people who speak a different language, have different religious beliefs or have different customs. We have seen how certain states have been divided to make new states because people wanted a separate identity. So diversity can give rise to problems.

In order to live peacefully in a country so diverse, we need education and wisdom. We need to have the basic values in place and children need to learn them from the beginning. These are values such as fairness, dignity, respect for another human being, tolerance and fraternity.

3. All points can be touched upon, but more focus can be laid on providing fair opportunities for all, be it housing, education or job. Poverty is an important issue and it has to be highlighted too.

- E. 1. collaborate                      2. sovereign                      3. solemnly  
4. thought                              5. dignity                         6. opportunity
- F. 1. democratic      2. equal                      3. socialistic                      4. secular                      5. liberal  
6. sovereign      7. free                      8. friendly                      9. national                      10. diverse

G. Mahatma Gandhi was born Mohandas Karamchand Gandhi in a **three-storeyed** house in Porbandar in Gujarat. The **age-old** classics of Harishchandra and Shrivankumar had a great impact on Gandhi's childhood. After studying law from England, Gandhi went to South Africa under a **year-long** contract with an Indian firm. When he was thrown off a first class compartment of a train in South Africa, he realized the ugliness of racial discrimination. A **self-questioning** Gandhi then began to analyse the position of Indians in the British empire. After his return to India, he became a **well-known** national leader in **British-ruled** India. His birthday, 2 October, is celebrated worldwide as the International Day of Non-violence.

- H. 1. I am going to the market and I will buy the medicines for you there.  
2. They are going to close the shop I will have to dashed in to buy your medicines.  
3. Harish is going to use the metro from next Monday.  
4. The Chief Guest is going to speak in Japanese, so I will not be able to understand him.  
5. Would your company agree to give a prize for our competition?  
6. I will not be able to speak at the meeting next week.
- I. 1. Sushma and Vishwas will go on a trek next week.  
2. They are going to see interesting places on the trek.  
3. They will be climbing a rocky hill one morning.  
4. They are planning to picnic at a water fall later that day.  
5. They will be going with four other friends.

- J. Accept all relevant responses.
1. I will be leaving this place in the next few minutes.
  2. I am sure I will feel hungry by the time I reach home.
  3. I am going to visit my grandmother tomorrow night.

## SECTION THREE: IN THE BAZAARS OF HYDERABAD

- A. 1. The poem is a description of the variety and beauty of products sold in a traditional Indian market like the "bazaars" of Hyderabad
2. When you read the poem, you feel as if you are walking through the bazaar because of the vividness of the images. The poet has touched all the five senses in her recreation of the sights and sounds of the Indian bazaar, thus making the readers feel that they are in the market.
3. You can see, smell, hear, taste and feel different things in the bazaar as you read because the poet has touched upon all the five senses of the human body to describe the variety of the traditional Indian bazaar.

Visual imagery is depicted by the use of vibrant colours such as silver, crimson, purple, amber, blue, azure, red and white.

Olfactory senses are stimulated by the use of the fragrances of sandalwood, henna and flowers. Auditory stimuli are created through music played by the sitar, sarangi and drums. The chanting of magical spells by magicians also serves to produce an auditory effect in the mind of the reader.

Gustatory, that is the sense of taste, is created through the portrayal of fruits such as lemon, pomegranates and plums, lentils and rice.

Finally, tactile images, relating to the sense of touch, are evoked by the frailness of the dragonfly's wings.

4. The nine vendors or sellers the poet addresses question to in the five verses sell fruits, flowers, henna, sandalwood, crimson and silver turbans, purple brocade tunics, mirrors, daggers, saffron, lentils and rice; chessmen and dice made from ivory, wristlets, anklets, scabbards, girdles, bells and garlands.

- B. Panels of amber: mirrors framed in amber

What do you call: what do you advertise as your ware?

Bells for the feet of blue pigeons: little bells which are meant to be tied on the feet of the blue pigeons

Crowns for the brow of a bridegroom: the poet asks the flower-girls as to whether they are weaving these crowns, with red and blue tassels, for the bridegroom to wear on his special day.

- C. Accept all relevant responses.

A mall is unlike a regular market place. For one, it encompasses a sophisticated shopping culture. The interiors have a distinct "foreign" feel and the ambience is more like that of a five star hotel than a market area.

1. Delightful: Visiting a mall is a delightful experience.
2. Neat: The shop is scrupulously neat and clean.
3. Grand: The entrance to the mall looks grand.

4. Glamorous: Glamorous surroundings lead to the entrance door.
5. Fashionable: The mall's interiors are lined with fashionable shops.

A visit to the mall  
 Is a delight for one and all  
 Neat and clean, glamorous and shining  
 It gets the children dancing and singing!  
 While some browse here and there,  
 Others take time to stand and stare  
 Fashionable shops, lights and all,  
 Make the mall stand, grand and tall.

- D. 1. The bazaars of Hyderabad are much more attractive than the modern shopping mall because of the sheer variety of wares that they have to offer. No shopping mall can match the richness of sights and sounds that can be found in the bazaars. The bazaars not only cater to the needs of people from all walks of life, but they also serve their requirements during different periods of their life, from birth till death. They are a part of their joys and sorrows throughout their lives. - 8 - c
2. The modern market caters to the urban Indian. They cater to the demands of the modern Indian whose requirements have undergone a sea change from the yesteryears. Thus today, the markets are flooded with imported goods, be it food, clothes, toys, cosmetics, electronic items. The mall culture has also set in, in a big way, and caters to all categories of goods under one roof.

- E. 1. Oye

Pedlars  
 Scabbards of gold for the king  
 Tunics of purple brocade  
 Daggers with handles of jade  
 Turbans of crimson and silver  
 Girdles of gold for dancers

2. Weigh, sell, grind, call, make, cry, play, chant and weave. All these words are indicative of actions that are very vibrant in nature. They signify a very busy scene bustling with enthusiasm and high-pitched activity.

## ENRICHMENT ACTIVITIES

- A. Accept all relevant responses.

To choose the right person for the job – very demanding role – teacher selects based on popularity, skills, academic performance, behaviour – secret ballot – teacher announces after counting

- B. Accept all relevant responses.

- C. 1. B                      2. A                      3. A                      4. B                      5. A  
 6. B                      7. B                      8. A

- D. Accept all relevant responses.

1. Love for one's own country
2. Be true to his country

CLASS - VIII

SUBJECT: - ENGLISH I

CHAPTER- 4 (ART Rocks)

A. Tick the most appropriate options.

1. D
2. C
3. B
4. B

B. Write true or false for these statements

1. True
2. True
3. True
4. False
5. True

C. Complete the following fact sheet about the rock shelters in bhimbetka. (Home Work)

D. Think about it. Discuss with your partner. Share your answers in class.

1. Ans- In early society the scenes are beautiful. They are all about the nature. The trees, the lakes, the hills, the ground, the grass, the fields.

The scenes are attractive because the time was slow and free of hustle. Life was valued and love was important there was no greed.

2. ans- Early humans use tools made of stones.

Their occupation was hunting.

NOTRE DAME HOLY CROSS HIGH SCHOOL

SUBJECT—BENGALI

CLASS—VI

কবিতা--অল্পদার আত্মপরিচয়

- 1) পাটনির কাজ হল খেয়া নৌকোর সাহায্যে নদী পারাপার করানো।
- 2) দেবী কালিকার এক রূপ হল অল্পপূর্ণা।
- 3) এই কবিতায় মহাদেবকে প্রত্যক্ষভাবে কোন নামে অভিহিত করা হয়নি, তবে বর্ণনার মধ্য দিয়ে কয়েকটি নাম আভাসিত হয়েছে। যেমন পঞ্চানন, ভূতনাথ, নীলকন্ঠ প্রভৃতি।
- 4) ভগিরথ যখন গঙ্গাকে মর্ত্যে আসতে রাজি করান, তখন তাঁর প্রলয়ঙ্কর জলধারায় পৃথিবীর প্লাবিত হওয়ার আশঙ্কা দেখা দেয়। শিব তখন নিজের জটাজাল বিছিয়ে দিলে পৃথিবী প্লাবনের হাত থেকে রক্ষা পায় এবং গঙ্গা শিবের জটা আশ্রয় নেন।
- 5) অল্পপূর্ণার পিতামহ হলেন দেবকুলের পিতামহ ব্রহ্মা।

1) অর্থ লেখ:---

শিরোমনি-- মাথার মণি।

জীবনস্বরূপা---- প্রাণের মত।

ফেরফার-- বিপদ আপদ।

পারাবার--- সমুদ্র।

উত্তরীলা-নামলেন।

বামাস্বর-নারী- কন্ঠ।

কু-কথা-- মন্দ কথা।

4) বিপরীত শব্দ:---

বিষ-অমৃত।

কুলীন-বঙ্গকুলীন।

বৃদ্ধ-যুবক।

স্বরা-বিলম্ব।

ভয়-নির্ভয়।

নিপুন-অশক্ত।

পাষণ-দয়ালু।

কোন্দল-মিলন।

শীঘ্র-বিলম্ব।

ভালো-মন্দ।

সংক্ষিপ্ত উত্তরধর্মী প্রশ্নাবলি(MARK-3)

1) এই কূলবধুটি হলেন দেবী অন্নপূর্ণা।

বক্তা হলেন ঈশ্বরী পাটনী।

সে সময় অভিজাত ঘরের স্ত্রীরা রাস্তায় একা বেরোতেন না। সম্ভ্রান্ত কূলবধু- বেশী দেবী অন্নপূর্ণাকে সন্ধ্যাবেলায় খেয়াঘাটের সামনে একা দাঁড়িয়ে থাকতে দেখে ঈশ্বরী পাটনী কিছুটা অবাকই হয়েছিল। তাই সে তাঁকে তাঁর পরিচয় জিজ্ঞাসা করেছে।

‘বট’ শব্দটির অর্থ: হন।

2) ‘তেঁই’ শব্দের অর্থ: ‘তিনি’। এখানে ‘তেই’ বলতে দেবী অন্নপূর্ণার স্বামী শিবকে বুঝানো হয়েছে।

‘অনেকের পতি’ কথাগুলি দুটি অর্থে ব্যবহৃত হয়েছে। প্রথমটি লঘু অর্থে দেবী অন্নপূর্ণা বলেছেন, তাঁর স্বামীর আরো অনেক স্ত্রী আছে। দ্বিতীয়টি ব্যাপক অর্থে- শিব হলেন জগৎপতি, তিনি তাঁর, যাঁরা সাধনা করেন তাঁদের প্রভু। ‘বাম’ কথাটির একটি অর্থ: বাঁ দিকে। আবার, ‘বাম’ কথাটির অন্য অর্থ: ভাগ্য অপ্রসন্ন। এখানে ‘পতি মোর বাম’ কথাটির দ্বারা অন্নপূর্ণা বোঝাতে চেয়েছেন, পতি তাঁর প্রতি মোটেই সদয় নন।

3) দেবী অন্নপূর্ণা তাঁর স্বামী শিবকে গুণহীন বলেছেন।

অন্নপূর্ণার উক্তির অর্থ দুটি। প্রথমতঃ তাঁর স্বামীর কোনো গুণ নেই, এমন স্বামীর সঙ্গে থাকতে গিয়ে তার কপাল পুড়েছে। দ্বিতীয় অর্থ: তাঁর স্বামী

বহুগুণাঙ্কিত। শিবের কপালে রয়েছে আগুনের চিহ্ন। ঐ চিহ্ন পৃথিবীর আর কোন মেয়ের স্বামীর কপালে নেই।

অন্নপূর্ণার স্বামী শিবের কপালে আগুনের চিহ্ন রয়েছে।

‘কপালে আগুন’ কথাটিকে দুটি অর্থে প্রয়োগ করা হয়েছে। একটি অর্থ: মন্দভাগ্য। অন্য অর্থ: শিবের কপালস্থিত আগুন।

4) ‘কুলীন জাতি’ বলতে বর্ণশ্রেষ্ঠ ব্রাহ্মণ- বৈদ্য- কায়স্থ প্রভৃতি জাতির মানুষদের বুঝায়।

‘কোল্ডল’ শব্দের অর্থ: কলহ, ঝগড়া।

কথাগুলির মধ্যে দিয়ে বক্তা ঈশ্বরী পাটনী একটি বিরাট সত্যকে উন্মোচিত করেছে। বড় মানুষ-- অর্থাৎ ধনী অভিজাত বংশীয়দের মধ্যেই সব কিছু নিয়ে বেশি ঝামেলা, সেই তুলনায় অপেক্ষাকৃত নিম্নবর্গীয়দের মধ্যে ঝামেলা অনেক কম। অন্নপূর্ণা অভিজাত বংশের বধু-- সেজন্যই তার এত ঝামেলা, অন্তত ঈশ্বরী পাটনীর তাই অভিমত।

রচনাধর্মী প্রশ্ন:(MARK-5)

1) অন্নপূর্ণা হলে এক দেবী। দেবী কালিকা এক রূপ ইনি।

ঈশ্বরী হলো এক মাঝি। সে গাঙ্গিনী নদীতে খেয়া- পারাপার করে।

দেবী অন্নপূর্ণা গাঙ্গিনীর তীরে এসে খেয়া পারাপার কারী নৌকার খোঁজ করলে সেখানে ঈশ্বরী পাটনীর সঙ্গে তাঁর দেখা হয়।

দেবী অন্নপূর্ণা স্বয়ং ঈশ্বরী। ঈশ্বরী পাটনীর কাছে দ্ব্যর্থব্যাঞ্জক ভাবে নিজের পরিচয় দিলেন। বললেন, তিনি স্বামীর নাম করবেন না, কারণ হিন্দু মেয়েরা স্বামীর নাম করেন না। তবে তাঁর পিতা সদ্বংশজাত এবং স্বামী অত্যন্ত কুলীন বংশের। পিতামহ তাঁর নাম ‘অন্নপূর্ণা’ রেখেছিলেন। তাঁর স্বামী অনেকের স্বামী, কিন্তু তাঁর প্রতি তিনি মোটেই পসন্দা নন। গঙ্গা নামে তাঁর এক সতীন আছে। সে-ই স্বামীর মাথায় সর্বদা থাকে। ঘরে ঘরে ভূত নাচিয়ে ফেরেন তাঁর স্বামী। ঈশ্বরীর নিজের তাই ঘর নেই। তাঁকে যে আপন ভাবে তাঁর ঘরেই তিনি যান।

দেবী অন্নপূর্ণা তাঁর নিজের স্বামী এবং পরিবার সম্বন্ধে যে কথা বলেছেন, তা শোনার আগ্রহী ছিলেন না। সে এটাকে বড় লোকের এবং অভিজাত বংশের স্বাভাবিক ঝগড়াঝাটি বলে ধরে নিল।



2) এই দুই ঈশ্বরীর একজন হল ঈশ্বরী পাটনী এবং অন্যজন হলেন দেবী অন্নপূর্ণা। ঈশ্বরী পাটনী দেবীকে দেখে বুঝল তিনি সম্ভ্রান্ত বংশীয় কুলবধু। তাঁকে নৌকায় তুলে নদী পারাপার করলে পাছে কে কি বলে, এই ভয়ে সে জানাল, পরিচয় না দিলে সে নদী- পারাপার করতে পারবে না। তখন দেবী অন্নপূর্ণা ঈশ্বরী পাটনীকে একথা বলেছিলেন।

দেবী অন্নপূর্ণা স্বয়ং ঈশ্বরী। তিনি ঈশ্বরী পাটনীর কাছে দ্ব্যর্থ- ব্যঞ্জক ভাবে নিজের পরিচয় দিলেন। বললেন, তিনি স্বামীর নাম করবেন না, কারণ হিন্দু মেয়েরা স্বামীর নাম করেন না। তবে তাঁর পিতা সত্বংশজাত এবং স্বামী অত্যন্ত কুলীন বংশের। পিতামহ তাঁর নাম 'অন্নপূর্ণা' রেখেছিলেন। তাঁর স্বামী অনেকের স্বামী, কিন্তু তাঁর প্রতি তিনি মোটেই প্রসন্না নন। গঙ্গা নামে তাঁর এক সতীন আছে। সে-ই স্বামীর মাথায় সর্বদাই থাকে। ঘরে ঘরে ভূত নাচিয়ে ফেরেন তাঁর স্বামী। ঈশ্বরীর নিজের তাই ঘর নেই, তাঁকে যে আপন ভাবে তাঁর ঘরেই তিনি যান।

3) কবি রায়গুণাকর ভারতচন্দ্র দেবী অন্নপূর্ণা সম্বন্ধে এই উক্তি করেছেন।

ভব-পারাপার' হল সংসার-সমুদ্র।

'যাঁর নামে' বলতে ঈশ্বরের নামকে বোঝানো হয়েছে।

'পারাবার' শব্দের অর্থ সমুদ্র। 'ভব' অর্থে পৃথিবী বা সংসার। সমুদ্র অনন্ত, দূস্তর এবং বিপদসংকুল। অনেক কষ্ট করে তা পার হতে হয়। সংসারও সেই রকম বিপদসংকুল। সমুদ্রের মতোই তা পার হওয়া দুঃসাধ্য। একমাত্র ঈশ্বরের অকৃপণ সাহায্য পেলে তা অনায়াসে পার হওয়া যায়।

দূস্তর সংসার-সমুদ্র পার হতে হলে ঈশ্বরের করুণা প্রয়োজন। তিনিই অনায়াসে সংসার- তরুণী পার হতে সাহায্য করেন। পাটনী কে পারাপারের জন্য যাঁকে পেলো, তিনি আর কেউ নন- স্বয়ং দেবী অন্নপূর্ণা। বিশ্বের সকলে তাঁর অনুগ্রহ লাভের জন্য ব্যাকুল। তাঁর এতটুকু সাহায্য পেলে সকলে কৃতার্থ হয়। পাটনি তাঁকেই পেল খেয়া পারাপারের জন্য বিনা আয়াসে। তাই কবি তাঁকে সৌভাগ্যবান বলেছেন।

বাকী প্রশ্নগুলি গুলি নিজে চেষ্টা কর)

\*\*\*\*\*PRITI RANI GOPE\*\*\*\*\*

## Class – VIII, Bengali

### রাজর্ষি - রবীন্দ্রনাথ ঠাকুর

#### অতি-সংক্ষিপ্ত উত্তরধর্মী প্রশ্নাবলী :

##### উত্তর-

- ১) যিনি প্রজার মঙ্গলের জন্য নিজের জীবন পাত করেন, যিনি প্রজার দুঃখকে নিজের দুঃখ বলে মনে করেন, নিজে বিলাস-ব্যসন ত্যাগ করে সাধারণ ভাবে জীবন যাপন করেন, তিনিই সত্যিকারের রাজা।
  - ২) যিনি প্রজার ধন-সম্পদ নিজের বিলাস ব্যসনে ব্যয় করেন, প্রজার রক্ত ও অর্থ যিনি শোষণ করেন, তিনি রাজা নন দস্যু।
  - ৩) গোবিন্দমাণিক্য এবং নক্ষত্ররায়ের পিতা ও পিতামহ একই ব্যক্তি, তাই বলা হয়েছে উভয়ের শিরায় একই রক্ত প্রবাহিত হচ্ছে।
  - ৪) ভ্রাতৃহের বন্ধন হলো পৃথিবীর পবিত্রতম সম্পর্ক।
  - ৫) গোবিন্দমাণিক্য জানতে পেরেছিলেন নক্ষত্ররায় তাঁকে হত্যা করে সিংহাসনে বসতে চাইছেন। এই হত্যাকাণ্ড যাতে লোকালয়ে সকলের চোখের সামনে না হয়, সেজন্য গোবিন্দমাণিক্য ভাই নক্ষত্ররায়কে নিয়ে গিয়েছিলেন গভীর বনের মধ্যে। সেখানে ভাই ভাইকে হত্যা করলে কেউ জানতে পারবে না।
  - ৬) 'ভাইয়ের নীড়' বলতে মহারাজ গোবিন্দমাণিক্য ও নক্ষত্ররায় যেখানে বাস করেন অর্থাৎ লোকালয় বা মনুষ্যবাসের স্থানকে বোঝানো হয়েছে।
  - ৭) মানুষের আবাসস্থলে ভ্রাতৃহত্যা হলে ভ্রাতৃহের পবিত্র বন্ধন শিথিল হয়ে যাবে এবং গোটা জায়গা পাপে পরিপূর্ণ হয়ে যাবে। তখন পশুদের বিচরণক্ষেত্র অরণ্যের সঙ্গে মানব সমাজের কোন পার্থক্য থাকবে না। এজন্যই গোবিন্দমাণিক্য মানুষের আবাসস্থলে রক্তপাত ঘটাতে নিষেধ করেছিলেন।
  - ৮) বক্তা হলেন মহারাজ গোবিন্দমাণিক্যের বৈমাত্রেয় ভাই নক্ষত্ররায়।
- উক্তিটির মধ্য দিয়ে বক্তার চরিত্রের দোদুল্যমানতা সংশয়াক্ষন্ন মনোভাব এবং ব্যক্তিত্বের অভাব পরিস্ফুট হয়ে উঠেছে।

##### শব্দার্থ

গলাগলি - পরস্পরের গলা জড়িয়ে, সুশোভন - অত্যন্ত সুন্দর, শীতাতুর - শীতে কাতর, কোলাহল - হইচই, উর্ধ্বশ্বাসে - হাঁফাতে হাঁফাতে, ঙ্গকুটি - ঙ্গ কোঁচকানো, নিস্তরতা - নীরবতা, মর্মভেদী - হৃদয়

##### বিপরীত শব্দ

জটিল - সরল, অভিশাপ - আশীর্বাদ, শীতাতুর - শীতসহিষ্ণু, স্বাভাবিক - অস্বাভাবিক, নিরব - সরব, উর্ধ্ব - অধঃ, প্রাচীন - নবীন, বন্ধ - খোলা, ছায়া - প্রচ্ছায়া, তলস্থিত - উপস্থিত।

## বাক্য রচনা করো

সাক্ষ্য - তিনি আজ সাক্ষ্য দিতে আদালতে গিয়েছিলেন।

গলাগলি - ছেলেগুলো গলাগলি করে দাঁড়িয়ে আছে।

শিথিল - তার সম্পূর্ণ দেহ শিথিল হয়ে পড়ল।

রুদ্ধ- রুদ্ধ নিশ্বাসে আমরা এক দৌড়ে পালিয়ে এলাম।

আশঙ্কা- অন্ধকারে এই পথে প্রতিমুহূর্তে হোঁচট খাওয়ার আশঙ্কা রয়েছে।

হৃদপিণ্ড- হৃদপিণ্ড অচল হলেই মানুষ মৃত্যুবরণ করে।

ছমছম- অমাবস্যা রাতে গাছটির নিচে দিয়ে যাওয়ার সময় গা ছমছম করছিল।

উর্ধ্বশ্বাসে- ভূতের ভয় সকলেই উর্ধ্বশ্বাসে দৌড় লাগলাম।

পরিপূর্ণ- বৃষ্টির জলে খাল-বিল সব জলে পরিপূর্ণ হয়ে গেল।

## সংক্ষিপ্ত উত্তরধর্মী প্রশ্নাবলী :

### উত্তর

১) \*নক্ষত্ররায় হলেন ত্রিপুরার মহারাজা গোবিন্দ মানিক্যের বৈমাত্রেয় ভাই।

\*দাদা মহারাজ গোবিন্দমানিক্যের সঙ্গে গভীর বনে প্রবেশের পর বনের নিস্তর পরিবেশ দেখে নক্ষত্ররায়ের গা ছমছম করছিল।

\*বন জনমানবহীন, দাদা তাকে কোথায় নিয়ে চলেছেন তা তিনি জানেন না, এজন্যই নক্ষত্ররায় ভয় পেয়েছিলেন।

\*গভীর অরণ্য পথে দিয়ে যেতে যেতে নক্ষত্ররায়ের গা ছমছম করতে লাগল। চারিদিকে অগণিত গাছের নিস্তরতার মধ্য দিয়ে নক্ষত্ররায়ের পা যেন আর চলে না। এই গভীর অরণ্যের মধ্যে রাজা তাকে কোথায় নিয়ে যাচ্ছেন তা তিনি জানেন না। তার মনে হলো, রাজা তার ষড়যন্ত্রের কথা জানতে পেরে তাকে চরম শাস্তি দিতেই বনের মধ্যে নিয়ে এসেছেন। নক্ষত্ররায় যেন উর্ধ্বশ্বাসে পালাতে পারলে বাঁচেন, কিন্তু তার মনে হলো কে যেন তার হাত পা টেনে নিয়ে যাচ্ছে, কিছুতেই তার পরিত্রাণ নেই।

২) \*মহারাজ গোবিন্দমানিক্য নক্ষত্ররায়কে গভীর বনের মধ্যে নিয়ে এসে একটি জলাশয় এর সামনে তাকে দাড় করিয়ে হঠাৎ এই প্রশ্ন করেছিলেন।

\*নক্ষত্ররায় প্রকৃতপক্ষে গোবিন্দমানিক্যকে সিংহাসনচ্যুত করার ষড়যন্ত্র করেছিলেন।

\*গোবিন্দমাণিক্যকে হত্যা করতে পারলে নক্ষত্র সিংহাসন লাভ করতে পারতেন।

৩) \*নক্ষত্ররায় মনে করলেন।

\*গোবিন্দমাণিক্য নক্ষত্ররায়কে বনের মধ্যে নিয়ে যাচ্ছিলেন। কেন এবং কোন উদ্দেশ্যে নক্ষত্ররায় তা জানেন না। রাজপুরোহিত রঘুপতির সঙ্গে তিনি রাজাকে সরানো ষড়যন্ত্র করেছিলেন। তাই রাজার সঙ্গে যেতে যেতে প্রথমেই তার মনে হলো রাজা নিশ্চয়ই তার ষড়যন্ত্রের কথা জানতে পেরেছেন।

\*রাজার কাছে ষড়যন্ত্রের অভিযোগে ধরা পড়লে নক্ষত্ররায়ের শাস্তি পাওয়ার ভয় ছিল।

\*গোবিন্দমাণিক্য কেবল অনুমান করেছিলেন যে নক্ষত্ররায় তার বিরুদ্ধে ষড়যন্ত্রে লিপ্ত আছেন। কিন্তু পরে নক্ষত্ররায়ই তাকে বলে দেন যে রঘুপতির সঙ্গে তিনি ষড়যন্ত্র করছেন।

৪) \*রাজা হলেন গোবিন্দমাণিক্য।

\*নক্ষত্ররায়কে তিনি দাঁড়াতে বললেন।

\*গভীর বন পথ দিয়ে এগোতে এগোতে এক জলাশয়ের ধারে তিনি নক্ষত্ররায়কে দাঁড়াতে বললেন।

\*রাজার কাছ থেকে ওই আদেশ শোনার পর নক্ষত্ররায়ের মনে হলো কালের স্রোত যেন বন্ধ হলো অর্থাৎ সময় যেন থমকে দাঁড়ালো। বনের গাছগুলো যেন রুদ্ধ নিশ্বাসে স্তব্ধ হয়ে চেয়ে রইলো। নক্ষত্ররায়ও গাছের মতো স্তব্ধ হয়ে সেখানে দাঁড়িয়ে পড়লেন।

৫) \*মহারাজ গোবিন্দমাণিক্য তার বৈমাত্রেয় ভাই নক্ষত্ররায়কে একথা বললেন। বন পথে যেতে যেতে এক জলাশয়ের কাছে দাঁড়িয়ে রুদ্ধবাক নক্ষত্ররায়কে তিনি একথা বলেছিলেন।

\*প্রকৃত রাজা তিনিই হতে পারেন যিনি প্রজার মঙ্গলের জন্য নিজের স্বার্থ চিন্তা ত্যাগ করেন। অপরের বিপদকে যিনি নিজের বিপদ বলে মনে করেন। প্রজার দারিদ্র্যকে যিনি নিজের দারিদ্র্য বলে গ্রহণ করেন। যিনি পৃথিবীর দুঃখ হরণ করেন, তিনি পৃথিবীর রাজা।

৬) \*গোবিন্দমাণিক্য তার বৈমাত্রেয় ভাই নক্ষত্ররায়কে একথা বললেন। বন পথে যেতে যেতে এক জলাশয়ের কাছে দাঁড়িয়ে রুদ্ধবাক নক্ষত্ররায়কে তিনি একথা বলেছিলেন।

\*তার ভাই নক্ষত্ররায় দাদা গোবিন্দমাণিক্যকে হত্যা করে সিংহাসন অধিকার করার লোভ করেছিলেন।

\*গোবিন্দমাণিক্য তাকে প্রকৃত রাজধর্ম সম্বন্ধে বলে এবং রাজা হওয়া কত কঠিন ব্যাপার তার ব্যাখ্যা দিয়ে তাকে নিবৃত্ত করতে চাইলেন।

৭) \*মহারাজ গোবিন্দমাণিক্য তার বৈমাত্রেয় ভাই নক্ষত্ররায়কে একথা বললেন। বন পথে যেতে যেতে এক জলাশয়ের কাছে দাঁড়িয়ে রুদ্ধবাক নক্ষত্ররায়কে তিনি একথা বলেছিলেন।

\* তাঁর মতে, প্রকৃত রাজা তিনিই হতে পারেন যিনি প্রজার মঙ্গলের জন্য নিজের স্বার্থ চিন্তা ত্যাগ করেন। অপরের বিপদকে যিনি নিজের বিপদ বলে মনে করেন। প্রজার দারিদ্র্যকে যিনি নিজের দারিদ্র্য বলে গ্রহণ করেন। যিনি পৃথিবীর দুঃখ হরণ করেন, তিনি পৃথিবীর রাজা।

৮) \*বক্তা হলেন নক্ষত্রায়।

\*দাদা হলেন মহারাজ গোবিন্দমাণিক্য।

\*বক্তা নক্ষত্রায় রাজপুরোহিত রঘুপতির সঙ্গে ষড়যন্ত্র করে গোবিন্দমাণিক্যকে সিংহাসনচ্যুত করে নিজে সিংহাসনে বসার চেষ্টা করেছিলেন।

\*নক্ষত্রায়ের মাথায় গোবিন্দমাণিক্যকে সরিয়ে সিংহাসনে বসার চিন্তা আসেনি। রঘুপতি তারমধ্যে এই চিন্তা ঢুকিয়ে দিয়েছিল। নক্ষত্র তাই নিজেকে নির্দোষ বলেছেন।

\*প্রকৃত দোষী হলেন রাজপুরোহিত রঘুপতি।

৯) \* মহারাজ গোবিন্দমাণিক্য তার বৈমাত্রেয় ভাই নক্ষত্রায়কে একথা বললেন। বন পথে যেতে যেতে এক জলাশয়ের কাছে দাঁড়িয়ে রুদ্ধবাক নক্ষত্রায়কে তিনি একথা বলেছিলেন।

\*রঘুপতি ছিলেন ত্রিপুরার মহারাজা গোবিন্দ মাণিক্যের রাজস্বকালের রাজ পুরোহিত।

\*রঘুপতি নক্ষত্রায়কে সঙ্গে নিয়ে গোবিন্দমাণিক্যের বিরুদ্ধে ষড়যন্ত্র করেছিলেন এবং তাকে সিংহাসনচ্যুত করার চেষ্টা করেছিলেন।

\*রঘুপতি ছিলেন দুর্জন, তাই তার সংস্পর্শ থেকে নক্ষত্রায়কে দূরে থাকার পরামর্শ দিলেন মহারাজ গোবিন্দমাণিক্য।

**Prabal Sarkar**

**Only Answers are given.**

# Class 7

## Chapter :- 5 सीखो

### अभ्यास

#### मौखिक :-

प्रश्न1. इस कविता का शीर्षक ' सीखो ' क्यों रखा गया है ?

उत्तर. इस कविता का शीर्षक सीखो इसलिए रखा गया है क्योंकि हमें प्रकृति की प्रत्येक वस्तु हमें कुछ ना कुछ शिक्षा देती है ।

प्रश्न2. प्रकृति की कौन-कौन सी चीज़े हमें क्या - क्या सीख देती है ?

उत्तर प्रकृति की वह हर एक चीज़े जिसका वर्णन इस कविता में किया गया है जैसे, फूल, तरु, दीपक आदि ।

प्रश्न3. कविता को ज़ोर-ज़ोर से लय में गाइए ।

उत्तर. कविता पड़े

#### लिखित :-

प्रश्न1. तरु की डालियाँ क्यों झुकती है ? वह हमें क्या सिखाती हैं ?

उत्तर. तरु की डालियाँ इसलिए झुकती है क्योंकि वह अपना साया हर वक्त दूसरों के लिए न्योछावर करती है और हमें यह सीख देती है के पेड़ की झुकी डालियों की तरह सबको अपने छाए के एक बंधन में रहने की सीख दे रहा है ।

प्रश्न2. सूरज की किरने किसका प्रतीक है ? वह क्या संदेश देती है ?

उत्तर. सूरज की किरने हमारे जीवन में आने वाले नई सुबह का प्रतीक है वे हमें यह संदेश देती है कि हमें अपना कार्य समय के साथ करना चाहिए ।

प्रश्न3 जलधारा और धुआँ मानव को क्या सिखाते हैं ?

उत्तर. जलधारा से हमें यह सीख मिलती है कि जीवन में हमें बिना रुके और डरे अपने लक्ष्य के तरफ बढ़ना चाहिए तथा धुआँ से हमें यह सीख मिलती है कि ऊंचाइयों की हर एक मुकाम को हमें पाने की कोशिश करते रहना चाहिए ।

प्रश्न4. कविता का प्रतिपाद्य अपने शब्दों में लिखिए ?

उत्तर. इस कविता में कवि ने बच्चों को दर्शाते हुए यह समझाने की कोशिश की है कि उनका जीवन कोमल टहनी है जैसा जहां मोड़ो मुड़ जाते है अच्छे शिक्षा अच्छे संस्कार बच्चों को एक अच्छा नागरिक बनाता है तथा हमें कई सारी शिक्षा प्रकृति से भी सीखनी चाहिए यह सीख हमें इस कविता में दिया गया है ।

प्रश्न5. कविता को सुंदर लेख में लिखिए ।

उत्तर कविता को सुंदर करके अपने नोट कॉपी में लिखें.. ।

# भाषा की बात

1. अनुनासिक शब्दों का शुद्ध उच्चारण कीजिए-

फूलों	हँसना	किरणों	पेड़ों	ऊँचे
पुरुषों	भौरों	डालियों	अँधेरा	धुँएँ
				बच्चों

2. बहुवचन बनाइए-

भौरा	भौरियाँ	किरण	किरणियाँ	बच्चा	बच्चियाँ
डाली	डालियाँ	धारा	धाराएँ	गुरु	गुरुजन

3. तीन-तीन पर्यायवाची लिखिए-

फूल	पुष्प	कुसुम	गुरु	आध्यापक, शिक्षक
तरु	पेड़	वृक्ष	पथ	रास्ता, मार्ग
पृथ्वी	दरती	भूमि		



## Solutions Ex 4

Q1

**Answer :**

(i)  $(8)^3 = (8 \times 8 \times 8) = 512$ .

Thus, the cube of 8 is 512.

(ii)  $(15)^3 = (15 \times 15 \times 15) = 3375$ .

Thus, the cube of 15 is 3375.

(iii)  $(21)^3 = (21 \times 21 \times 21) = 9261$ .

Thus, the cube of 21 is 9261.

(iv)  $(60)^3 = (60 \times 60 \times 60) = 216000$ .

Thus, the cube of 60 is 216000.

Q2

**Answer :**

(i)  $(1.2)^3 = (1.2 \times 1.2 \times 1.2) = 1.728$

Thus, the cube of 1.2 is 1.728.

(ii)  $(3.5)^3 = (3.5 \times 3.5 \times 3.5) = 42.875$

Thus, the cube of 3.5 is 42.875.

(iii)  $(0.8)^3 = (0.8 \times 0.8 \times 0.8) = 0.512$

Thus, the cube of 0.8 is 0.512.

(iv)  $(0.05)^3 = (0.05 \times 0.05 \times 0.05) = 0.000125$

Thus, the cube of 0.05 is 0.000125.

Q3

**Answer :**

$$(i) \left(\frac{4}{7}\right)^3 = \left(\frac{4}{7} \times \frac{4}{7} \times \frac{4}{7}\right) = \left(\frac{64}{343}\right)$$

Thus, the cube of  $\left(\frac{4}{7}\right)$  is  $\left(\frac{64}{343}\right)$ .

$$(ii) \left(\frac{10}{11}\right)^3 = \left(\frac{10}{11} \times \frac{10}{11} \times \frac{10}{11}\right) = \left(\frac{1000}{1331}\right)$$

Thus, the cube of  $\left(\frac{10}{11}\right)$  is  $\left(\frac{1000}{1331}\right)$ .

$$(iii) \left(\frac{1}{15}\right)^3 = \left(\frac{1}{15} \times \frac{1}{15} \times \frac{1}{15}\right) = \left(\frac{1}{3375}\right)$$

Thus, the cube of  $\left(\frac{1}{15}\right)$  is  $\left(\frac{1}{3375}\right)$   $\left(1\frac{3}{10}\right)^3 = \left(\frac{13}{10}\right)^3 = \left(\frac{13}{10} \times \frac{13}{10} \times \frac{13}{10}\right) = \left(\frac{2197}{1000}\right)$

Thus, the cube of  $\left(1\frac{3}{10}\right)$  is  $\left(\frac{2197}{1000}\right)$ .

**Q4**

**Answer :**

(i) 125

Resolving 125 into prime factors:

$$125 = 5 \times 5 \times 5$$

Here, one triplet is formed, which is  $5^3$ . Hence, 125 can be expressed as the product of the triplets of 5.

Therefore, 125 is a perfect cube.

(ii) 243 is not a perfect cube.

(iii) 343

Resolving 125 into prime factors:

$$343 = 7 \times 7 \times 7$$

Here, one triplet is formed, which is  $7^3$ . Hence, 343 can be expressed as the product of the triplets of 7.

Therefore, 343 is a perfect cube.

(iv) 256 is not a perfect cube.

(v) 8000

Resolving 8000 into prime factors:

$$8000 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5$$

Here, three triplets are formed, which are  $2^3$ ,  $2^3$  and  $5^3$ . Hence, 8000 can be expressed as the product of the triplets of 2, 2 and 5, i.e.  $2^3 \times 2^3 \times 5^3 = 20^3$ .

Therefore, 8000 is a perfect cube.

(vi) 9261

Resolving 9261 into prime factors:

$$9261 = 3 \times 3 \times 3 \times 7 \times 7 \times 7$$

Here, two triplets are formed, which are  $3^3$  and  $7^3$ . Hence, 9261 can be expressed as the product of the triplets of 3 and 7, i.e.  $3^3 \times 7^3 = 21^3$ .

Therefore, 9261 is a perfect cube.

(vii) 5324 is not a perfect cube.

(viii) 3375

Resolving 3375 into prime factors:

$$3375 = 3 \times 3 \times 3 \times 5 \times 5 \times 5$$

Here, two triplets are formed, which are  $3^3$  and  $5^3$ . Hence, 3375 can be expressed as the product of the triplets of 3 and 5, i.e.  $3^3 \times 5^3 = 15^3$ .

Therefore, 3375 is a perfect cube.

**Q5**

**Answer :**

The cubes of even numbers are always even. Therefore, 216, 512 and 1000 are the cubes of even numbers.

$$216 = 2 \times 2 \times 2 \times 3 \times 3 \times 3 = 2^3 \times 3^3 = 6^3$$

$$512 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^3 \times 2^3 \times 2^3 = 8^3$$

$$1000 = 2 \times 2 \times 2 \times 5 \times 5 \times 5 = 2^3 \times 5^3 = 10^3$$

Q6

**Answer :**

The cube of an odd number is an odd number. Therefore, 125, 343 and 9261 are the cubes of odd numbers.

$$125 = 5 \times 5 \times 5 = 5^3$$

$$343 = 7 \times 7 \times 7 = 7^3$$

$$9261 = 3 \times 3 \times 3 \times 7 \times 7 \times 7 = 3^3 \times 7^3 = 21^3$$

Q7

**Answer :**

1323

$$\begin{array}{r|l} 3 & 1323 \\ \hline 3 & 441 \\ \hline 3 & 147 \\ \hline 7 & 49 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$1323 = 3 \times 3 \times 3 \times 7 \times 7.$$

To make it a perfect cube, it has to be multiplied by 7.

Q8

**Answer :**

2560

2560 can be expressed as the product of prime factors in the following manner:

$$\begin{array}{r|l} 2 & 2560 \\ \hline 2 & 1280 \\ \hline 2 & 640 \\ \hline 2 & 320 \\ \hline 2 & 160 \\ \hline 2 & 80 \\ \hline 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$2560 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5$$

To make this a perfect square, we have to multiply it by 5 × 5.

Therefore, 2560 should be multiplied by 25 so that the product is a perfect cube.

Q9

**Answer :**

1600

1600 can be expressed as the product of prime factors in the following manner:

$$\begin{array}{r} 2 \overline{) 1600} \\ \underline{2 \quad 800} \\ 2 \quad 400 \\ \underline{2 \quad 200} \\ 2 \quad 100 \\ \underline{2 \quad 50} \\ 2 \quad 25 \\ \underline{5 \quad 5} \\ 5 \quad 5 \\ \underline{\quad 1} \end{array}$$

$$1600 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 5$$

Therefore, to make the quotient a perfect cube, we have to divide 1600 by:

$$5 \times 5 = 25$$

**Q10**

**Answer :**

$$\begin{array}{r} 2 \overline{) 8788} \\ \underline{2 \quad 4394} \\ 13 \overline{) 2197} \\ \underline{13 \quad 169} \\ 13 \overline{) 169} \\ \underline{13 \quad 13} \\ \quad 1 \end{array}$$

8788

8788 can be expressed as the product of prime factors as  $2 \times 2 \times 13 \times 13 \times 13$ .

Therefore, 8788 should be divided by 4, i.e.  $(2 \times 2)$ , so that the quotient is a perfect cube.

## Exercise 4B

**Q1**

**Answer :**

$$(25)^3$$

Here,  $a = 2$  and  $b = 5$

Using the formula  $a^3 + 3a^2b + 3ab^2 + b^3$ :

4	4	25	25
$\times 2$	$\times 15$	$\times 6$	$\times 5$
8	60	150	125
+7	+ 16	+ 12	
15	76	162	

$$\therefore (25)^3 = 15625$$

**Q2**

**Answer :**

$$(47)^3$$

Here,  $a = 4$  and  $b = 7$

Using the formula  $a^3 + 3a^2b + 3ab^2 + b^3$ :

16	16	49	49
$\times 4$	$\times 21$	$\times 12$	$\times 7$
64	336	588	343
+39	+ 62	+ 34	
103	398	622	

$$\therefore (47)^3 = 103823$$

Q3

**Answer :**

$$(68)^3$$

Here,  $a = 6$  and  $b = 8$

Using the formula  $a^3 + 3a^2b + 3ab^2 + b^3$ :

36	36	64	64
$\times 6$	$\times 24$	$\times 18$	$\times 8$
216	864	1152	512
+ 98	+ 120	+ 51	
<b>314</b>	<b>984</b>	<b>1203</b>	

$$\therefore (68)^3 = 314432$$

Q4

**Answer :**

$$(84)^3$$

Here,  $a = 8$  and  $b = 4$

Using the formula  $a^3 + 3a^2b + 3ab^2 + b^3$ :

64	64	16	16
$\times 8$	$\times 12$	$\times 24$	$\times 4$
512	768	384	64
+ 80	+ 39	+ 6	
<b>592</b>	<b>807</b>	<b>390</b>	

$$\therefore (84)^3 = 592704$$

Exercise 4C

Q1

**Answer :**

$$\sqrt[3]{64}$$

By prime factorisation:

$$\begin{aligned} 64 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ &= (2 \times 2 \times 2) \times (2 \times 2 \times 2) \end{aligned}$$

$$\therefore \sqrt[3]{64} = \sqrt[3]{(2)^3 \times (2)^3} = (2 \times 2) = 4$$

Q2

**Answer :**

$$\sqrt[3]{343}$$

By prime factorisation:

$$\begin{aligned} 343 &= 7 \times 7 \times 7 \\ &= (7 \times 7 \times 7) \end{aligned}$$

$$\therefore \sqrt[3]{343} = \sqrt[3]{7^3} = 7$$

Q3

**Answer :**

$$\sqrt[3]{729}$$

By prime factorisation:

$$\begin{array}{r|l} 3 & 729 \\ \hline 3 & 243 \\ \hline 3 & 81 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 729 &= 3 \times 3 \times 3 \times 3 \times 3 \times 3 \\ &= (3 \times 3 \times 3) \times (3 \times 3 \times 3) \end{aligned}$$

$$\therefore \sqrt[3]{729} = (3 \times 3) = 9$$

Q4

**Answer :**

$$\sqrt[3]{1728}$$

By prime factorisation:

$$\begin{array}{r|l} 2 & 1728 \\ \hline 2 & 864 \\ \hline 2 & 432 \\ \hline 2 & 216 \\ \hline 2 & 108 \\ \hline 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 1728 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \\ &= (2 \times 2 \times 2) \times (2 \times 2 \times 2) \times (3 \times 3 \times 3) = 2^3 \times 2^3 \times 3^3 \end{aligned}$$

$$\therefore \sqrt[3]{1728} = (2 \times 2 \times 3) = 12$$

Q5

**Answer :**

$$\sqrt[3]{9261}$$

By prime factorisation:

$$\begin{array}{r|l} 3 & 9261 \\ \hline 3 & 3087 \\ \hline 3 & 1029 \\ \hline 7 & 343 \\ \hline 7 & 49 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 9261 &= 3 \times 3 \times 3 \times 7 \times 7 \times 7 \\ &= (3 \times 3 \times 3) \times (7 \times 7 \times 7) = 3^3 \times 7^3 \end{aligned}$$

$$\therefore \sqrt[3]{9261} = (3 \times 7) = 21$$

Q6

**Answer :**

$$\sqrt[3]{4096}$$

By prime factorisation:

$$\begin{array}{r|l} 2 & 4096 \\ \hline 2 & 2048 \\ \hline 2 & 1024 \\ \hline 2 & 512 \\ \hline 2 & 256 \\ \hline 2 & 128 \\ \hline 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 4096 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ &= (2 \times 2 \times 2) \times (2 \times 2 \times 2) \times (2 \times 2 \times 2) \times (2 \times 2 \times 2) \\ &= 2^3 \times 2^3 \times 2^3 \times 2^3 \end{aligned}$$

$$\therefore \sqrt[3]{4096} = (2 \times 2 \times 2 \times 2) = 16$$

Q7

**Answer :**

$$\sqrt[3]{8000}$$

By prime factorisation:

$$\begin{array}{r|l} 2 & 8000 \\ \hline 2 & 4000 \\ \hline 2 & 2000 \\ \hline 2 & 1000 \\ \hline 2 & 500 \\ \hline 2 & 250 \\ \hline 5 & 125 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 8000 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5 \\ &= (2 \times 2 \times 2) \times (2 \times 2 \times 2) \times (5 \times 5 \times 5) \end{aligned}$$

$$\therefore \sqrt[3]{8000} = (2 \times 2 \times 5) = 20$$

Q8

**Answer :**

$$\sqrt[3]{3375}$$

By prime factorisation:

$$\begin{array}{r|l} 5 & 3375 \\ \hline 5 & 675 \\ \hline 5 & 135 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 3375 &= 3 \times 3 \times 3 \times 5 \times 5 \times 5 \\ &= (3 \times 3 \times 3) \times (5 \times 5 \times 5) \end{aligned}$$

$$\therefore \sqrt[3]{3375} = (3 \times 5) = 15$$

Q9



**Answer :**

$$\sqrt[3]{-216}$$

By prime factorisation:

$$\begin{array}{r|l} 2 & 216 \\ \hline 2 & 108 \\ \hline 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$216 = 2 \times 2 \times 2 \times 3 \times 3 \times 3$$

$$= (2 \times 2 \times 2) \times (3 \times 3 \times 3)$$

$$\sqrt[3]{-216} = -(2 \times 3) = -6$$

$$\therefore \sqrt[3]{-216} = -(\sqrt[3]{216}) = -6$$

Q10

**Answer :**

$$\sqrt[3]{-512}$$

By prime factorisation:

$$\begin{array}{r|l} 2 & 512 \\ \hline 2 & 256 \\ \hline 2 & 128 \\ \hline 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$\sqrt[3]{512} = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

$$= (2 \times 2 \times 2) \times (2 \times 2 \times 2) \times (2 \times 2 \times 2)$$

$$\sqrt[3]{-512} = -\sqrt[3]{(2 \times 2 \times 2)} = -8$$

$$\therefore \sqrt[3]{-512} = -(\sqrt[3]{512}) = -8$$

Q11

**Answer :**

$$\sqrt[3]{-1331}$$

By prime factorisation:

$$\sqrt[3]{1331} = \sqrt[3]{11 \times 11 \times 11}$$

$$\begin{array}{r|l} 11 & 1331 \\ \hline 11 & 121 \\ \hline 11 & 11 \\ \hline & 1 \end{array}$$

$$\sqrt[3]{-1331} = -(11 \times 11 \times 11)^{\frac{1}{3}} = -11$$

$$\therefore \sqrt[3]{-1331} = -(\sqrt[3]{1331}) = -11$$

Q12

**Answer :**

$$\sqrt[3]{\frac{27}{64}}$$

By prime factorisation:

$$\begin{array}{r|l} 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \qquad \begin{array}{r|l} 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$\sqrt[3]{\frac{27}{64}} = \frac{\sqrt[3]{27}}{\sqrt[3]{64}} = \frac{\sqrt[3]{(3 \times 3 \times 3)}}{\sqrt[3]{(2 \times 2 \times 2) \times (2 \times 2 \times 2)}} = \frac{\sqrt[3]{(3 \times 3 \times 3)}}{\sqrt[3]{(4 \times 4 \times 4)}} = \frac{3}{4}$$

$$\therefore \sqrt[3]{\frac{27}{64}} = \frac{3}{4}$$

Q13

**Answer :**

$$\sqrt[3]{\frac{125}{216}}$$

By prime factorisation:

$$\begin{array}{r|l} 5 & 125 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \qquad \begin{array}{r|l} 2 & 216 \\ \hline 2 & 108 \\ \hline 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\sqrt[3]{\frac{125}{216}} = \frac{\sqrt[3]{5 \times 5 \times 5}}{\sqrt[3]{(2 \times 2 \times 2) \times (3 \times 3 \times 3)}} = \frac{\sqrt[3]{5 \times 5 \times 5}}{\sqrt[3]{(6 \times 6 \times 6)}} = \frac{5}{6}$$

$$\therefore \sqrt[3]{\frac{125}{216}} = \frac{5}{6}$$

Q14

**Answer :**

$$\sqrt[3]{\frac{-27}{125}}$$
$$\begin{array}{r|l} 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \qquad \begin{array}{r|l} 5 & 125 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

By factorisation:

$$\sqrt[3]{\frac{27}{125}} = \sqrt[3]{\frac{3 \times 3 \times 3}{5 \times 5 \times 5}}$$

$$\therefore \sqrt[3]{\frac{-27}{125}} = \frac{-3}{5}$$

Q15

**Answer :**

$$\sqrt[3]{\frac{-64}{343}}$$

On factorisation:

$$\begin{array}{r|l} 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \qquad \begin{array}{r|l} 7 & 343 \\ \hline 7 & 49 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$\begin{aligned} & \sqrt[3]{\frac{64}{343}} = \sqrt[3]{\frac{2 \times 2 \times 2 \times 2 \times 2 \times 2}{7 \times 7 \times 7}} \\ \therefore & \sqrt[3]{\frac{-64}{343}} = \frac{-4}{7} \end{aligned}$$

Q16

**Answer :**

$$\begin{aligned} & \sqrt[3]{64 \times 729} \\ \sqrt[3]{64 \times 729} &= \sqrt[3]{64} \times \sqrt[3]{729} \\ &= \sqrt[3]{4 \times 4 \times 4} \times \sqrt[3]{(3 \times 3 \times 3) \times (3 \times 3 \times 3)} \\ &= \sqrt[3]{4 \times 4 \times 4} \times \sqrt[3]{(9 \times 9 \times 9)} \\ \sqrt[3]{64 \times 729} &= (4) \times (9) = 36 \end{aligned}$$

Q17

**Answer :**

$$\sqrt[3]{\frac{729}{1000}}$$
$$\begin{array}{r|l} 3 & 729 \\ \hline 3 & 243 \\ \hline 3 & 81 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \qquad \begin{array}{r|l} 2 & 1000 \\ \hline 2 & 500 \\ \hline 2 & 250 \\ \hline 5 & 125 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

On factorisation:

$$\begin{aligned} \sqrt[3]{\frac{729}{1000}} &= \frac{\sqrt[3]{(3 \times 3 \times 3) \times (3 \times 3 \times 3)}}{\sqrt[3]{(2 \times 2 \times 2) \times (5 \times 5 \times 5)}} = \frac{\sqrt[3]{9 \times 9 \times 9}}{\sqrt[3]{10 \times 10 \times 10}} \\ \sqrt[3]{\frac{729}{1000}} &= \frac{9}{10} \end{aligned}$$

Q18

**Answer :**

$$\sqrt[3]{\frac{-512}{343}}$$

By factorisation:

$$\begin{array}{r|l} 2 & 512 \\ \hline 2 & 256 \\ \hline 2 & 128 \\ \hline 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 7 & 343 \\ \hline 7 & 49 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$\begin{aligned} \sqrt[3]{\frac{512}{343}} &= \frac{\sqrt[3]{8 \times 8 \times 8}}{\sqrt[3]{7 \times 7 \times 7}} \\ \sqrt[3]{\frac{-512}{343}} &= \frac{-8}{7} \end{aligned}$$

Exercise 4D

Q1

**Answer :**

(a)

141 is not a perfect cube.

(b)

294 is not a perfect cube.

(c) (✓)

216 is a perfect cube.

$$216 = (2 \times 2 \times 2) \times (3 \times 3 \times 3) = (2^3) \times (3^3) = 6^3$$

(d)

496 is not a perfect cube.

Q2

**Answer :**

(a)

$$1152 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 = (2)^3 \times (2)^3 \times (2 \times 3 \times 3).$$

Hence, 1152 is not a perfect cube.

(b) (✓)

$$1331 = 11 \times 11 \times 11 = (11)^3$$

Hence, 1331 is a perfect cube.

(c)

$$2016 = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 7 = (2)^3 \times 2 \times 2 \times 3 \times 3 \times 7$$

Hence, 2016 is not a perfect cube.

(d)

739 is not a perfect cube.

Q3

**Answer :**

(c) 8

$$\begin{aligned}\sqrt[3]{512} &= \sqrt[3]{2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2} = \sqrt[3]{(2 \times 2 \times 2) \times (2 \times 2 \times 2) \times (2 \times 2 \times 2)} \\ \sqrt[3]{512} &= \sqrt[3]{(2)^3 \times (2)^3 \times (2)^3} = 8\end{aligned}$$

Hence, the cube root of 512 is 8.

Q4

**Answer :**

(c) 20

$$\begin{aligned}\sqrt[3]{125 \times 64} &= \sqrt[3]{125} \times \sqrt[3]{64} = \sqrt[3]{5 \times 5 \times 5} \times \sqrt[3]{2 \times 2 \times 2 \times 2 \times 2} \\ \sqrt[3]{125 \times 64} &= \sqrt[3]{(5)^3} \times \sqrt[3]{(2)^3 \times (2)^3} = \sqrt[3]{(5)^3} \times \sqrt[3]{(4)^3} \\ \sqrt[3]{125 \times 64} &= 5 \times 4 = 20\end{aligned}$$

Hence, the cube root of  $\sqrt[3]{125 \times 64}$  is 20.

Q5

**Answer :**

(b)  $\frac{4}{7}$

$$\sqrt[3]{\frac{64}{343}} = \frac{\sqrt[3]{64}}{\sqrt[3]{343}} = \frac{\sqrt[3]{4 \times 4 \times 4}}{\sqrt[3]{7 \times 7 \times 7}} = \frac{\sqrt[3]{(4)^3}}{\sqrt[3]{(7)^3}}$$

$$\sqrt[3]{\frac{64}{343}} = \frac{4}{7}$$

$$\therefore \sqrt[3]{\frac{64}{343}} = \frac{4}{7}$$

Q6

**Answer :**

(b)  $\frac{-8}{9}$

$$\sqrt[3]{\frac{-512}{729}} = \frac{\sqrt[3]{-512}}{\sqrt[3]{729}} = \frac{\sqrt[3]{(-8) \times (-8) \times (-8)}}{\sqrt[3]{9 \times 9 \times 9}} = \frac{\sqrt[3]{(-8)^3}}{\sqrt[3]{(9)^3}}$$

$$\sqrt[3]{\frac{-512}{729}} = \frac{-8}{9}$$

$$\therefore \sqrt[3]{\frac{-512}{729}} = \frac{-8}{9}$$

Q7

**Answer :**

(c) 9

$$\begin{array}{r|l} 2 & 648 \\ \hline 2 & 324 \\ \hline 2 & 162 \\ \hline 3 & 81 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$648 = 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 = (2)^3 \times (3)^3 \times 3$$

Therefore, to get a perfect cube, we need to multiply 648 by 9, i.e.  $(3 \times 3)$ .

Q8

**Answer :**

(a) 3

$$\begin{array}{r|l} 2 & 1536 \\ \hline 2 & 768 \\ \hline 2 & 384 \\ \hline 2 & 192 \\ \hline 2 & 96 \\ \hline 2 & 48 \\ \hline 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 1 \\ \hline \end{array}$$

$$1536 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 = (2)^3 \times (2)^3 \times (2)^3 \times 3$$

Therefore, to get a perfect cube, we need to divide 1536 by 3.

Q9

**Answer :**

(c)  $2\frac{197}{1000}$

$$\left(1\frac{3}{10}\right)^3 = \left(\frac{13}{10}\right)^3 = \frac{(13)^3}{(10)^3} = \frac{(13 \times 13 \times 13)}{(10 \times 10 \times 10)}$$

$$\left(1\frac{3}{10}\right)^3 = \frac{2197}{1000} = 2\frac{197}{1000}$$

$$\therefore \left(1\frac{3}{10}\right)^3 = 2\frac{197}{1000}$$

Q10

**Answer :**

(c) 0.512

$$(0.8)^3 = (0.8) \times (0.8) \times (0.8) = 0.512$$

$$\therefore (0.8)^3 = 0.512$$



# SOCIAL SCIENCE CLASS- VIII

## SUBJECT – HISTORY (CH-3 RULING THE COUNTRY SIDE)

DATE : 04-07-2021

-NORBERT JAMATIA

1. What did the interdependence of village lead to ? How did the harsh policy of the British affect the peasant?

Ans- The interdependence of villages on one another made it easier for the British to rule them. It also helped the British to impose similar rules and regulations on each village. However as it has been said earlier the main purpose of the British in India was to fulfil their own interest by maximizing revenue and profit. So unlike the rulers of the ancient and medieval periods, they gave no support to the farmers. Due to their harsh taxation policies, many peasants left their villages while many became landless.

2. Who gave the company the Diwani right formally ? what did the company aim at?

Ans- The Diwani rights were formally given by the Mughal emperor in 1765 .

The British came to India with the sole aim of generating profit. So when the company got the Diwani rights , they thought of working out the best possible deal to ensure maximum revenue thereby deriving maximum profit. This would also meet the growing expense of the company. They wanted to buy the goods at the cheapest possible rate from India and sell most of their own products.

After getting the diwani rights for Bihar, Bengal, and Odisha, the East India company continued with the traditional methods of collecting revenue.

3. When where and by whom was the Mahalwari system introduced ? what were the terms of the settlement ?

Ans- The term ' mahal' means a village. Mahalwari settlement was introduced in the modern day uttar Pradesh, certain parts of Madhya Pradesh and Punjab by Holt Mackenzie in 1822. The settlement was between the village headman and the British.

As per this settlement, the village headman or taluqdar was responsible for collecting the revenue from the villagers and hand it over to the British. The rate of revenue was approximately half of the total produce.

4. Write any three negative impacts of British land revenue policies.

Ans- The East India company introduced a number of land revenue settlement to earn revenue to the peasants miserable, they also affected India's overall economic condition in many ways.

To start with, land became a commodity that could be sold and purchased. Generally the peasants did not sell their land willingly but were forced to do so due to the extremely high rates of taxes. As a result they also had to work as labourers to pay off their debts. It resulted in an increase in the practice of begari or bonded labour.

Another negative effect of the British policies of revenue administration was that agriculture became a stagnant occupation for those who actually tilled and cultivated the land.

5. What do you understand by the Ryoti system of indigo production?

Ans- The planters under this system forced the villagers or ryots to sign a contract. Many times the village headman was forced to sign the contract on behalf of the ryots. Cash advances were given to the persons who signed the contract at low rates of interest. However the ryots had to cultivate indigo on 25 percent of his area. The cultivators prepared the soil sowed the seeds and looked after the crop while the planters provided the seeds and the tools of farming. After the crop was harvested and delivered to the planter a new loan was given to continue plantation on a particular piece of land.

6. Compare the rural set up prior to and after the coming of the British in India ?

----- please try by yourself-----

7. Who introduced the Ijadari system ? what were the terms of the system ? why did it fail?

Ans- Ijadari system was introduced by the first governor general Warren Hasting .

Warren Hasting found that income from land revenue was not enough to meet the expenses of the company. A massive famine that broke out in Bengal further reduced revenues to a great extent. So he decided to introduce a system by which the right to collection could be given to the highest bidder for five years. This system came to be called Ijadari system or revenue farming system.

However the shortcomings of this system soon resulted in its failure. One of the most important reasons was that bidding had no link with the land's actual productivity. Besides no interest was shown by the Ijadars in improving the land because it was auctioned periodically.

8. When where and by whom was the permanent settlement introduced? Discuss the terms of the settlement and any two of its effects.

Ans- permanent settlement was introduced in Bengal in 1793 by Lord Cornwallis. The zamindars were owners of land in their estates as long as they paid a percentage of the revenue they collected. This right was hereditary.

They were to part with 89 percent of the amount they collected and the rest they could keep with themselves. This revenue was permanently fixed for ten years.

Effects –

a) It created for the British a new class of loyalists in the form of zamindars. The British deliberately created this class as they needed supporters to continue their rule.

b) Area of cultivation increased as many wastelands and forests were brought under cultivation.

9. Differentiate between the permanent settlement and the Ryotwari settlement?

----- please try yourself-----

10. Explain the Nij system of indigo production. Mention the difficulties faced by the cultivators in this system of cultivation.

Ans- The planters produced indigo in lands that he controlled directly. Either the planter bought the land or rented it from others. Hired labourers were appointed to produce indigo.

Some of the difficulties faced by cultivators in this system can be summed up as follows.

a) Indigo could be cultivated only on fertile lands and these lands were already very densely populated.

b) It was difficult to expand the area under cultivation.

c) Only small plot scattered over the region could be required.

Tick the correct answer. ---- please try yourself

Fill in the blanks----- try yourself

N.B. - please read the Textbook thoroughly for answering M C Q and fill in the blanks.

NOTRE DAME HC SCHOOL

**A. Choose the most appropriate answer:**

1-d 2-d 3-a 4-c 5-d 6-b 7-c 8-d 9-d 10-b

**B. very short answer question:**

1. Natural resources are both living and non living.
2. True.
3. carbonisation.
4. Anthracite
5. remains of living organisms
6. lowest
7. LPG and kerosene
8. Kerosene
9. compressed natural gas (CNG)
10. Petroleum also called crude oil is a thick dark coloured oily liquid.
11. Bitumen is an oil based substance used for surfacing roads.
12. Paraffin wax, a white or colourless soft solid extracted from petroleum, is used to manufacture candles, Vaseline, grease and polish.
13. Solar energy is the ultimate source of the energy for fossil fuels.
14. coke

**C. Short answer question:**

1.

<b>Renewable resources</b>	<b>Non renewable resources</b>
i. Resources that are present in infinite amounts and can be replaced or reproduced within a reasonable time are called renewable resources.	i. Resources that are present in a finite amount and cannot be replaced or reproduced within a reasonable time are called non-renewable resources.
ii. They can last for ever with limited use.	ii. They will finally get exhausted.
iii. They are both living (forest) and non-living (water)	iii. They are non-living (coal, petroleum)

2. **Fossil fuels**:- Fuels that are formed from the dead remains of living organisms by natural processes are called fossil fuels. They take millions of years to form.

Petroleum, coal, and natural gas are fossil fuels.

3. Fossil fuels such as coal, petroleum and natural gas take millions of years to form naturally .moreover it is not possible to make new fossil fuels artificially .If they are overused ,they will get exhausted as they are available in nature in limited amount. That is why, they should not be wasted.

4. Coke is hard porous black substance which is obtained by destructive distillation of coal.

5. Following are the advantages of using natural gas as a fuel:

i. It is easy to transport through pipes and cylinders.

ii. It does not cause pollution on usage.

iii. It can be directly burnt in homes and factories for cooking and other purposes.

6.

i. World's population is increasing, which means energy requirements are also increasing .People need more energy to cook food, to heat their homes etc., which means more energy is being used.

ii. With the development of countries, energy consumption also increases because people use more devices which need energy, both for functioning and manufacturing.

7. Matter that stores energy is called fuel.

We depend most on fossil fuels for many energy uses because fossil fuel can be burnt, shipped and stored. Fossil fuel releases tremendous amount of energy on burning .Natural gas provides cleaner burning and coal is available in abundance.

8. Petroleum or crude oil is a complex mixture of organic liquids. Crude oil is of little use in industrial applications.

Petroleum refining is done to convert crude oil into more useful products such as petrol, kerosene, LPG, diesel, waxes, asphalt etc.