D A V PUBLIC SCHOOLS, ODISHA ZONE
QUESTION BANK
SUB: SCIENCE CLASS – VIII (2023 – 24)
TEXT BOOK: THE LIVING WORLD - VIII (DAV CMC PUBLICATION)
NCERT EXEMPLAR CLASS VIII SCIENCE

EXAM SCHEDULE 2023 – 24

NAME OF THE EXAM	DATE	FULL MARKS
PERIODIC ASSESSMENT - I	24 JULY 2023 TO 31 JULY 2023	40

SYLLABUS

CHAPTER	PERIODIC ASSESSMENT - I	MARKS (40 MARKS)
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Ch - 7	Combustion	13
Ch - 9	Crop Production & its Management	13
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TYPOLOGY OF QUESTIONS

1	VERY SHORT ANSWER TYPE QUESTION	1 MARK
2	ASSERTION & REASON BASED QUESTION	1 MARK
3	CASE STUDY BASED QUESTIONS	4 MARKS
4	SHORT ANSWER TYPE QUESTION – I (SA – I)	2 MARKS
5	SHORT ANSWER TYPE QUESTION – II (SA – II)	3 MARKS
6	LONG ANSWER TYPE QUESTION (LA)	5 MARKS

CH - 4 : FORCE & PRESSURE

VERY SHORT ANSWER (1 MARK EACH)

1. Name the type of force/forces involved in the following cases:
   a. Moving the loaded trolley
   b. A plastic scale is rubbed in dry hair, attracts tiny pieces of paper
2. We can change the shape of an inflated balloon by gently pressing it between our palms. Write the effect of force in the above case.
3. Define one Newton.
4. An archer shoots an arrow in the air horizontally. However, after moving some distance, the arrow falls to the ground. Name the initial force that sets the arrow in motion.
5. During dry weather, while combing hair, sometimes we experience hair flying apart. State the force responsible for this.
6. If two equal forces applied to an object act in the opposite direction, then find the net force acting on the object.
7. State one example where force stops a moving object.
8. State true or false: A force may change the speed of an object if it is moving.
9. Is it necessary for the two bodies to be in direct contact for a force to exist between them?

10. Define hydrostatic pressure.
11. List any two factors on which the atmospheric pressure depends on.
12. Which force is responsible for wearing out tyres of motor vehicles?
13. A rocket has been fired upwards to launch a satellite in its orbit. Name the two forces acting on the rocket immediately after leaving the launching pad.
14. Calculate the pressure when a force of 50 N is exerted on an area of 2 m^2.
15. We can increase the pressure by exerting same force. Explain.
16. Two women are of the same weight. One wears sandals with pointed heels while the other wears sandals with flat soles. Which one would feel more comfortable while walking on a sandy beach? Give reason.
17. What is the relation between pressure, force and area?

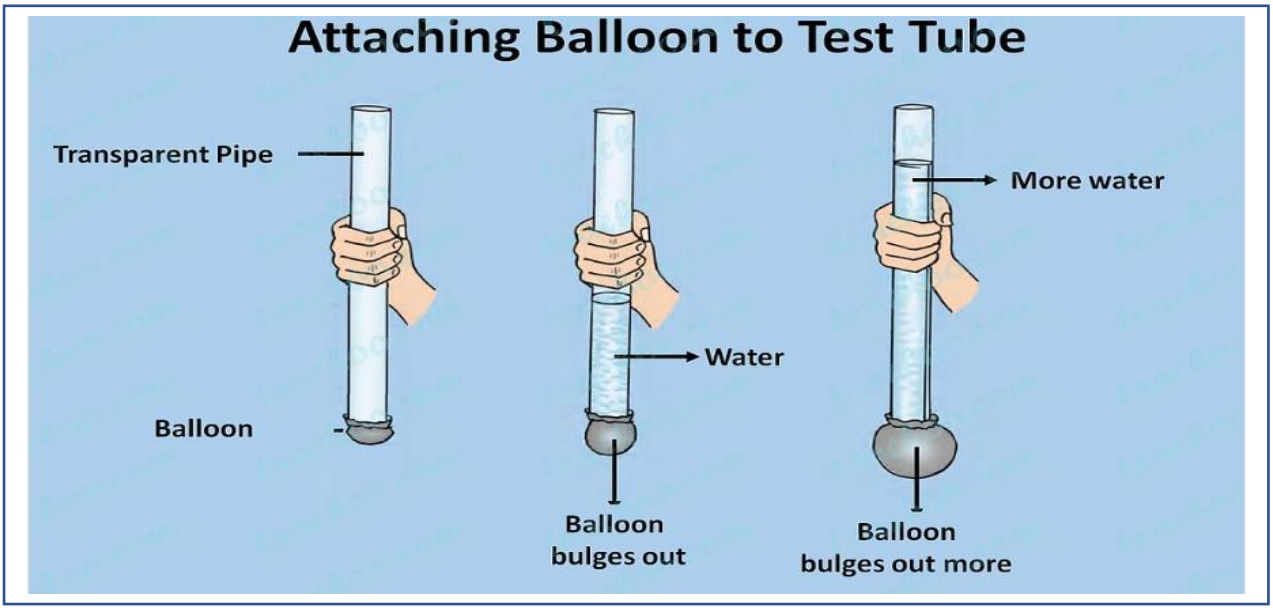
ASSERTION AND REASON BASED QUESTION:

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

(i) Both A and R are true and R is the correct explanation of A.
(ii) Both A and R are true and R is not the correct explanation of A.
(iii) A is true but R is false.
(iv) Ais false but R is true.

18. Assertion (A) :The motion imparted to objects is due to the action of a force.
    Reason (R) :A push or pull on an object is called a force.
19. Assertion (A) : When the coin released from your hand begins to move downwards.
    Reason (R) :Objects or things fall towards the earth as it pulls them with the force of gravity.
20. Assertion(A) : When we push an object like a school bag or lift a bucket of water, the force comes into play.
    Reason (R) : This force is caused by the action of our muscular force.
21. Assertion (A) : A potter makes pots of different sizes and shapes from kneaded clay.
    Reason (R) :Force may bring about change in the state of motion of an object.
22. Assertion (A) : As we move to higher altitudes, breathing becomes difficult.
    Reason (R) :At higher altitudes there is increase in the atmospheric pressure.
23. Assertion (A) : We can drink cold drink from a bottle with help of straw.
    Reason (R) : The pressure inside the straw is more than the pressure outside.
24. Assertion (A) : A ball rolling along the ground , gradually slows down and finally comes to rest.
    Reason (R): This happens due to the force of friction between the ball and the ground.
25. Assertion (A) : It is easier to cut vegetables with a sharp knife than a blunt knife.
    Reason (R) : As keeping the thrust constant, if surface area decreases then pressure increases.
26. Assertion (A) : Liquid pressure decreases with the height of the liquid column.
    Reason (R): Liquid pressure is transmitted equally in all directions, and is same at a given horizontally level .
27. Assertion (A) :It is difficult to carry a bag with narrow straps as compared to carry the same bag with broader strap.
    Reason (R): When the same force acts over small area its effect is more.

CASE STUDY BASED QUESTIONS



Rohan took a plastic pipe . The length of the plastic pipe was about 15 cm and the diameter was 5cm.Then he brought a good quality rubber balloon . He told his sister to hold the pipe in vertical position. Rohan attached and stretched the balloon over one end of the pipe. Then he poured some water into the pipe. He told his sister to observe the size of the balloon which will bulge out. Then he poured more water into the pipe and again told his sister to observe.

28. Pressure exerted by water column at the bottom of the container depends on the –
    i. Area of the container ii. Height of the liquid column
    iii. Height of the container iv. Base of the container
29. The liquid pressure does not depends upon –
    i. Height of the liquid column ii. Acceleration due to gravity
    iii. Density of the liquid iv. Shape and size of the container
30. When Rohan poured more water in the pipe, then the balloon will bulge –
    i. Less ii. More iii. Remains same iv. None of the above
31. The SI unit of liquid pressure is –
    i. Newton ii. Metre iii. Pascal iv. Kilogram
32. The liquid pressure is also known as-
    i. Thrust ii. Hydrostatic pressure
    iii. Atmospheric pressure iv. Solid pressure

The force is a push or pull upon an object resulting from its interaction with another object. It can cause a change in the state of motion of an object and change in the shape and size of the object. It is a vector quantity. It has magnitude and direction. It need not always act in the direction of motion. Depending upon the situation, force may act any angle to the direction of motion.

33. The factors associated with the magnitude of force are-
    i. Mass and weight ii. Mass and acceleration
    iii. Mass and pressure iv. Mass and length
34. The device which is used for measuring the force acting on an object is –
    i. Barometer ii. Manometer iii. Spring balance iv. Screw gauge
35. The SI unit of force is-
    i. Kilogram ii. Gram iii. Newton iv. None of these

36. Change in state of motion is-
    i. Both by the state of rest or motion ii. Position of rest
    iii. Position of motion iv. None of the above
37. A man is pushing a cart down a slope. Suddenly the cart starts moving faster and he wants to slow it down. He should-
    i. Not apply any force ii. Apply a force to push the cart up the slope
    iii. Apply a force to pull the cart up the slope iv. None of these

Aman asked his teacher to explain to him the concepts related to the addition and subtraction of forces acting along the same or opposite direction. Teacher explained to him the reason for adding such forces when they act along the same direction and of subtracting, one from other, when they act along mutually opposite direction. She went on to say that, in a similar manner, we get an added up and enhanced effect, when we use our strength, hard work and attention, all together for achieving our desired goal.

38. Forces acting in the mutually opposite direction combine by –
    i. Multiplication ii. Addition iii. Subtraction iv. Division
39. Equal and opposite forces do not change –
    i. State of motion or rest ii. Change in the shape and size
    iii. Both (i) and (ii) iv. None of these
40. Where do we apply force while walking ?
    i. Legs ii. Ground iii. Body iv. Calves
41. A chapati maker is a machine which converts balls of dough into chapatis. The effect of force comes into play in this process-
    i. The force keeps the dough fixed at its place. ii. The force cook the dough
    iii. The force changes the shape of the dough iv. None of these
42. Effects of force are-
    i. To make a stationary object move ii. Make a moving object stop
    iii. Change the shape or size of an object iv. All of above

VERY SHORT ANSWER TYPE -I (2 MARKS)

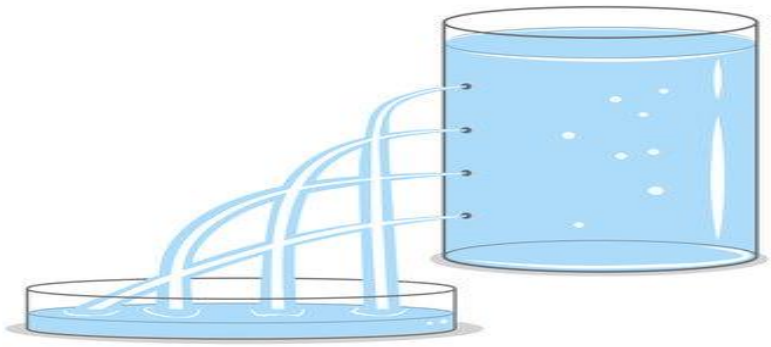
43. List any two effects of force with examples.
44. Differentiate between contact and non-contact forces.
45. Identify the force that can be used to gather iron pins scattered on the floor. Also mention whether it is a contact or non- contact force.
46. Liquid pressure depends on the height of the liquid column. Justify .
47. Explain : snow shoes stop you from sinking into snow.
48. Water comes out more slowly from an upstairs tap than from a similar tap downstairs. Give reason.
49. The tip of a sewing needle is sharp. Discuss.
50. A fountain of water is created at the leaking joints or holes of pipes of the main water supply line. Explain.
51. Give two examples of each situations in which you push or pull to change the state of motion of objects .
52. A force of 100 N is applied on an area of 4 m^2. Compute pressure being applied on the area.
53. Write two similarities between electrostatic and magnetic forces.
54. An archer shoots an arrow in the air horizontally. However, after moving some distance, the arrow falls to the ground.

i. Identify the initial force that sets the arrow in motion.
ii. Explain the cause of the falling the arrow to the ground.

55. Write any two examples of atmospheric pressure in our daily life.
56. We do not feel the large atmospheric pressure acting on us all the time. Explain the reason.
57. Aircrafts have pressurised cabins. Discuss.

VERY SHORT TYPE ANSWER TYPE-II (3 MARKS)

58. Write any three properties of liquid pressure.
59. i. Which force is responsible for downward movement of parachutes ?
ii.Will the man come down with the same speed without the parachute ?
iii. Is it a contact force or non-contact force ?



60. Four holes are made in an empty can at different levels, one over another as shown in the above figure. They are closed with an adhesive tape .The can is filled with water
i. From which hole water will emerge faster covering more distance . Explain.
ii. Which property of liquid pressure is associated with this observation?
61. How would the pressure change if-
i. If the area is doubled keeping the thrust constant ?
ii. If thrust is doubled keeping the area constant ?
iii. If the thrust is halved keeping the area constant ?
62. In a game of tug of war ,Team A is applying force of 100 N along the east direction and Team B is applying force of 150N along the west direction.
i. Calculate the magnitude and direction of the net force .
ii. Identify the type of force applied here.
63. How do land breeze and sea breeze form ?
64. Differentiate between balanced and unbalanced forces.
65. Give reason ;
i. High rise buildings and dams have a wide base.
ii. Nails and pins have pointed ends.
66. With the help an activity show the rough estimation of atmospheric pressure.
67. Identify the nature and kind of forces for the following cases.
i. Two plastic refills rubbed with polythene and kept near each other –
ii. Lifting a school bag from a desk-
iii. A ball rolling along the ground gradually slows down-

LONG ANSWERS (5 MARKS)

68. Define pressure and write its SI unit. What is the relation of pressure with area on which applied? Buses and trucks usually have double wheels on the rear side. Give reason.

69. In the following situation, identify the agent exerting the force. Also state the effects of force in each case.
    i. A horse is pulling a cart
    ii. Rima is making chapatis in the kitchen
    iii. Squeezing a toothpaste
    iv. An athlete making a high jump to clear the bar at the certain height
    v. Pressing a balloon between our palms
70. Identify the forces acting on a plastic bucket containing water held above ground level in your hand. Discuss why the forces acting on the bucket do not bring a change in its state of motion. Also find the net force acting on the bucket.
71. Define liquid pressure. Write the factors on which liquid pressure depends on. Why do Sea divers wear specially designed suits?
72. Describe with the help of an activity to show the existence of atmospheric pressure.
    Explain: Breathing becomes difficult in higher altitudes.

CH – 7 : COMBUSTION

VSA TYPE QUESTIONS. (1 MARK EACH)

1. A burning matchstick is brought near wood and petrol simultaneously. Which substance will catch fire first? Give reason.
2. Calorific value of wood is 18,000 kj/kg. Interpret the statement.
3. Define combustion.
4. Name the gas which is the supporter of combustion.
5. Write the meaning of the term Ignition temperature.
6. Give two examples of slow combustion.
7. Identify the type of combustion that takes place when sodium is exposed to air.
8. How are heat and light produced in the sun?
9. Comparing calorific values of coal and petrol, state which fuel is better.
10. Mention the unit used to express calorific value.
11. State the basic difference between slow combustion and explosive combustion.
12. State the precaution that we should take when the clothes of a person catch fire.
13. Write the precaution that one can take in the LPG godown.
14. What happens when a small piece of sodium is kept in air for sometimes?
15. Name two combustible materials which do not form flame.
16. How is calorific value and efficiency of fuel related to each other.?
17. Mention the ignition temperature of phosphorus.
18. State the condition under which slow combustion of a material takes place.
19. Name the products of combustion.
20. Mention the coldest zone of the flame.

ASSERTION & REASON BASED QUESTION: (1 MARK EACH)

For question numbers 21 to 30, 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

(i) Both A and R are true and R is the correct explanation of A.

(ii) Both A and R are true and R is not the correct explanation of A.

(iii) A is true but R is false.

(iv) A is false but R is true.

21. **ASSERTION**: Flame of a burning candle goes off when we blow over it.
    REASON: Our exhaled air contains carbon dioxide.
22. **ASSERTION**: Petrol and diesel are inflammable substances.
    REASON: They have very high ignition temperature.
23. **ASSERTION:** Goldsmiths use outermost zone of the flame to reshape gold and silver.
    REASON: Outermost zone contains carbon dioxide and water vapour.
24. **ASSERTION**: Gaseous fuels are generally considered as the best fuel.
    REASON: They have low ignition temperature and high calorific value.
25. **ASSERTION**: Magnesium and charcoal are combustible substances.
    REASON: A chemical reaction in which a substance reacts with oxygen to produce heat and light energy is called combustion.
26. **ASSERTION**: The amount of heat energy produced on complete combustion of 500 gm of fuel is known as calorific value.
    REASON: The calorific value of hydrogen is 1,50,000 kj/kg.
27. **ASSERTION**: Water cannot be used to extinguish fire caused by an electric short circuit.
    REASON: Water is poor conductor of electricity.
28. **ASSERTION**: Burning of coal and diesel release Sulphur dioxide gas which causes acid rain.
    REASON: Sulphur dioxide dissolves in water vapour to produce carbonic acid.
29. **ASSERTION:** White phosphorus undergoes spontaneous combustion while paper undergoes complete combustion.
    REASON: Burning of paper leaves a lot of soot and ash behind.
30. **ASSERTION**: Charcoal does not produce a flame.
    REASON: It does not vapourise.

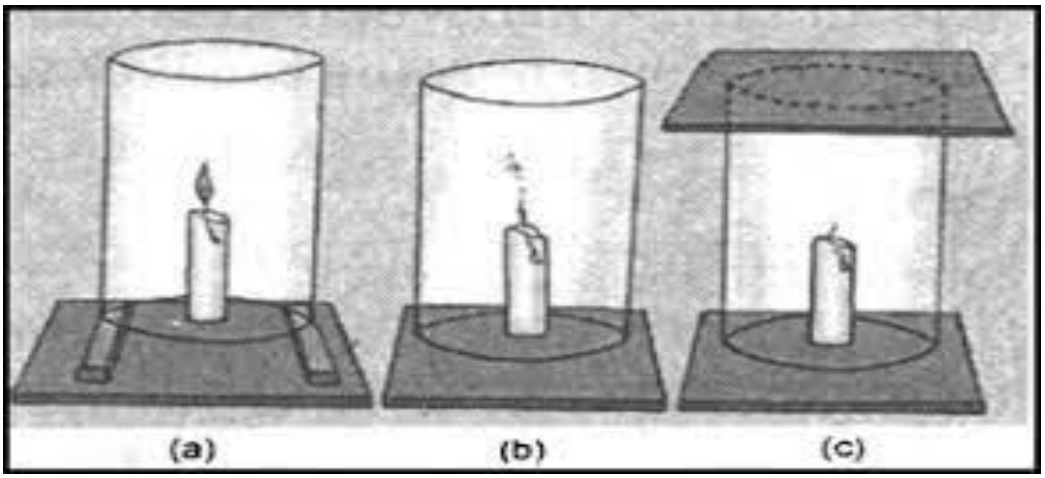
SHORT ANSWER TYPE (I) (2 MARKS EACH)

31. Define combustible materials and give two examples.
32. A paper cup containing water does not catch fire. Give reason.
33. Arrange the following fuels in the increasing order of their calorific values.
    Hydrogen gas, Wood, LPG, Coal, Kerosene
34. A piece of wood does not burn when a burning matchstick is brought near it. Justify the statement.
35. Distinguish between spontaneous combustion and Explosive combustion.
36. Enlist two outcomes of an incomplete combustion.
37. Explain two ways of extinguishing fire produced by kerosene.
38. State two basic principles of controlling fire.
39. In which zone of the candle flame have
    (a) Unburnt carbon particles
    (b) Unburnt wax vapour
40. The heap of green leaves does not catch fire easily as compared to heap of dry leaves. Give reasons.
41. Identify the type of combustion in the following cases:
    (a) Burning of coal
    (b) Burning of LPG
    (c) Burning of phosphorus
    (d) Burning of fire crackers

42. Manu was heating oil to fry potato chips. The vessel with oil all of a sudden caught fire. He poured water to extinguish fire. Do you think this activity was suitable? Why?
43. The amount of heat produced on complete burning of 10 kg of a given fuel in pure oxygen, equals H kilojoule. Calculate the calorific value of the fuel.
44. Discuss the harmful effects of global warming.
45. Give two examples of solid and gaseous fuels.
46. Introduce a glass plate in to the luminous zone of the steady candle flame and hold it for few seconds, then remove it. What did you observe on the glass plate.

SHORT ANSWER TYPE (II) (3 MARKS EACH)

47. List three conditions required for combustion.
48. Define kindling temperature. The flame of a burning candle goes off when we blow over it. Give reasons.
49. Explain three advantages of Gaseous fuels.
50. Write the full form of CNG. Illustrate the role of CNG in automobiles.
51. Although wood has a very high calorific value, we still discourage its use as a fuel. Explain
52. Calorific value of wood is 18000 kj/kg. calculate the quantity of wood required to produce 360,000 kj of heat energy.
53.



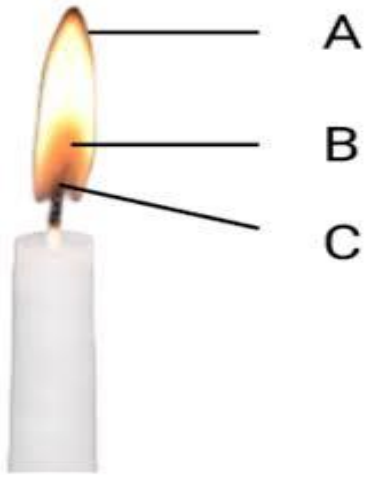
Observe the candle flame carefully and answer the following questions

(a) In which case candle flame burns smoothly.
(b) The candle flame in fig(c) puts off. Give reason
(c) What will happen to the candle flame in fig(b).

54. Suggest an activity to show that non-luminous zone is the hottest Part of a candle flame.
55. The calorific values of petrol and CNG are 45000 kJ/kg and 50,000 kJ/kg, respectively. If you have vehicle which can run on petrol as well as CNG, which fuel will you prefer and why?
56. Name the three zones of a flame and state one characteristic of each.
57. Suggest one appropriate method to extinguish fire in each of the following:

(a) If clothes of a person catch fire
(b) If a gas godown catches fire
(c) If electric wires catch fire

58.



Label the above diagram marked as A , B ,C.

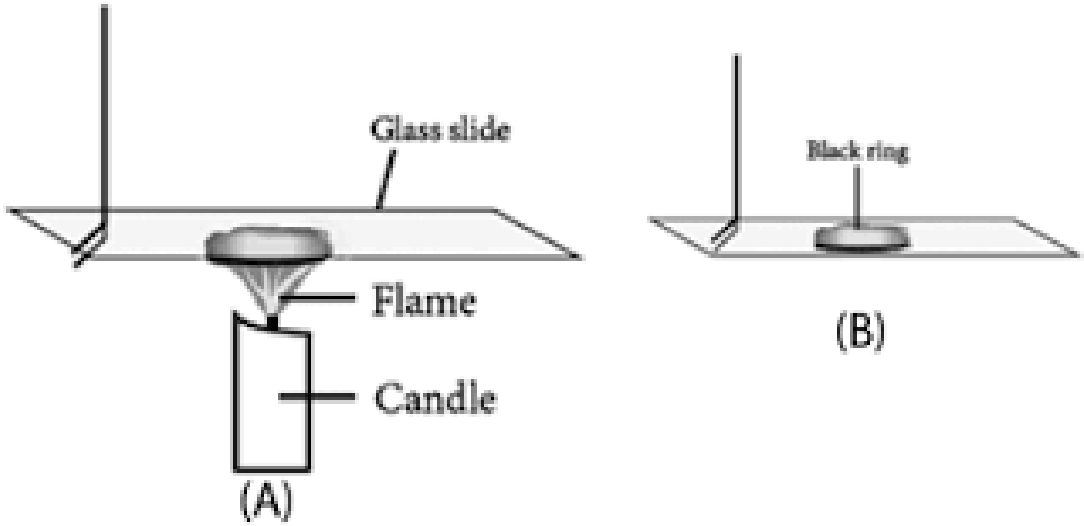
LONG QUESTIONS(LA) (5 MARKS EACH)

59. (a)Differentiate between middle most zone and outermost zone of the candle flame. (Two points of each)

(b)Write the other name of the outermost zone.

60. (a) Define flame.

(b) Observe the following diagram carefully and answer the questions given below it



(i) Name the zone of candle flame in which the glass slide is held.

(ii) State any two observations of the above activity and mention their conclusion.

61. 'Fuels in gaseous state are considered the best'. Justify the above statement. (5 points)

62. Give reasons:

(a) A matchstick catches fire on rubbing against a rough surface.

(b) White phosphorus catches fire in summer.

(c) The moderately hot zone is yellow in colour.

(d) No one is allowed to take any burning material near a Petrol station.

(e) Carbon dioxide fire extinguisher is considered as an excellent fire extinguisher.

63. (a)Innermost zone contains unburnt wax vapour. Explain with the help of an activity.

(b)List any two characteristics of a good fuel.

CASE BASED STUDY QUESTIONS: (1X4 EACH)

64. The sources of heat energy required for domestic and industrial purposes are mainly wood, charcoal, petrol, kerosene etc. These substances are called fuels. These fuels on burning produce lots of smoke and harmful gases. Increasing fuel consumption has harmful effects on the environment. Burning of fuels not only cause respiratory problems in animals but also causes global warming and acid rain. Sometimes incomplete combustion produces very toxic gas. So, we should look for a good fuel which fulfills most of the requirements for a particular use. Now a days petrol and diesel are replaced by CNG in automobiles to reduce the release of harmful pollutants to the environment.

1. Which of the following gas responsible for acid rain?
   (a) Carbon monoxide
   (b) Methane
   (c) Sulphur dioxide
   (d) Hydrogen gas
2. The full form of CNG is
   (a) Compact natural gas
   (b) Compressed natural gas
   (c) Cooled natural gas
   (d) Concentrated natural gas
3. A good fuel should have
   (a) Low calorific value and low ignition temperature
   (b) High calorific value and high ignition temperature
   (c) High calorific value and low ignition temperature
   (d) Low calorific value and high ignition temperature
4. CNG is used in automobiles because
   (a) It is ecofriendly and cleaner
   (b) It produces harmful products
   (c) It pollutes environment
   (d) Undergoes incomplete combustion
5. Which type of combustion occurs when coal and wood burn?
   (a) Rapid combustion
   (b) Spontaneous combustion
   (c) Explosive combustion
   (d) Slow combustion

65. Candles really are an amazing lighting system -- the fuel itself is a package.
Candles are mainly made out of paraffin wax, a hydrocarbon and petroleum byproduct. The wax and wick work together in a candle. When we light a candle, we observe a flame. The flame has three different zones. They are innermost, middle most and outermost zone of the flame. The three zones of a candle flame are different because they differ in the extent of combustion of wax vapours in them. Goldsmiths, while shaping gold into ornaments, direct the outer zone of the flame of a lamp on the gold with the help of a metallic blow pipe. The temperature of this zone is sufficient to melt gold at specific points. Even today, candles are used in remote areas where electricity has not yet been reached. Even in developed cities, candles find use as an emergency light when there is a power cut and there is no generator.

1. Outermost zone of the flame is otherwise known as
    a) Non-luminous zone
    b) Luminous zone
    c) Dark zone
    d) Both dark and blue zone
2. Middle most zone contains
    a) Unburnt wax vapour
    b) Carbon dioxide
    c) Unburnt carbon particles
    d) Carbon dioxide and water
3. Goldsmith uses outer zone of the flame because
    a) Outer zone contains carbon dioxide and water vapour
    b) Complete combustion takes place in outer zone
    c) Partial combustion takes place
    d) Hottest zone of the flame
4. Flame of a burning candle goes off when we blow over it because
    a) Candle flame reaches its ignition temperature.
    b) Carbon dioxide in our breath acts as a fire extinguisher.
    c) Molten wax converted in to wax vapour.
    d) Candle is a combustible material.
5. The highest temperature zone of a candle flame is its-
    a) Yellow zone
    b) Red zone
    c) Blue zone
    d) Orange zone

CH – 09 : CROP PRODUCTION & IT'S MANAGEMENT

Q. VSA TYPE QUESTIONS. (1 MARK EACH)

1. Write two ways of large-scale storage of food grains.
2. State any two modern methods of irrigation.
3. A farmer grows Millets and Alfalfa in his field. Give reason.
4. Soil has all the nutrients, still we need to replenish it. Give your comment on it.
5. Define emasculation.
6. State the revolution that was brought about in India in 1960s to increase the production of food grains.
7. State one measure that can prevent the growth of microbes on stored grains.
8. How ploughing helps plants to hold the soil firmly?
9. Name a crop which is sown by transplantation.
10. State any two methods by which harvesting of crops can be done.
11. Name the two processes by which perishable food items are stored in large scale.
12. Mention any two crops which are dependent on Western Monsoon?
13. Name the type of crop which is grown in winter season.
14. Write the meaning of the term weeding.
15. Aman has sown the seeds too deep. What is he likely to observe? Give reason.

Q. ASSERTION & REASON BASED QUESTIONS. (1 MARK EACH)

For question numbers 16 to 25, two statements are given—one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

(v) Both A and R are true and R is the correct explanation of A.

(vi) Both A and R are true and R is not the correct explanation of A.

(vii) A is true but R is false.

(viii) A is false but R is true.

16. **Assertion (A)** - Soil preparation is the turning and loosening of the topsoil.
Reason (R) - When soil is turned there is fresh supply of nutrients to the plants.

17. **Assertion (A)** - Compost is an organic substance that is obtained through decomposition of organic wastes.
Reason (R) - Compost maintains the soil fertility.

18. **Assertion (A)** - Seeds immediately after harvesting attract pests and thus are dried and preserved.
Reason (R) - Seeds obtained after harvest have high moisture.

19. **Assertion(A)** - Time period of kharif crop is November to April.
Reason(R) - Kharif crop is dependent on the western monsoon.

20. **Assertion (A)** - Lodging is not good for the plants.
Reason (R) - Untimely rain and strong winds cause falling down of plants.

21. **Assertion (A)** - Cutting and gathering of crops is called threshing.
Reason (R) - Harvesting and threshing is done by combine.

22. **Assertion (A)** - For sowing, seeds are scattered by seed drill.
Reason (R) - Sowing of seeds is done before preparation of soil.

23. **Assertion (A)** - Chemicals are sprayed on the crops to kill pest.
Reason (R) - Organism like rats, locusts that attack and damage crop are called pest.

24. **Assertion (A)** - Use of fertilizers greatly reduces crop productivity.
Reason (R) - Irrigation is very important in increasing crop productivity.

25. **Assertion (A)** - Crop production without use of chemical fertilizers is called organic farming.
Reason (R) - Cyanobacteria are autotrophic prokaryotes which are used as biofertilizers in paddy fields.

Q. CASE BASED QUESTIONS. (1X4 EACH)

26. To feed an ever-increasing world population will require a great increase in food production. Wheat, corn, rice, potato and few others are expected to lead as the most important crops in the world. Enormous efforts are made all over the world to document as well as use these resources. Several factors are contributing to high plant performance under different environmental conditions, therefore an effective and complementary use of all available technological tools and resources is needed to meet the challenge. New Approaches and Modern Techniques highlights the current status of crop productivity in the light of developments in crop biotechnology, and at the same time provides information on some recent genomic tools and novel genetic and breeding approaches with a final aim of crop improvement.

i) Green revolution means

(a) use of green manure (b) grow more crops

(c) high yield variety programme (d) green vegetation

ii) This is the correct sequence for hybridisation

(a) selection → Emasculation → cross breeding → hybrid seed
(b) selection→ cross breeding → hybrid seed
(c) selection→ self-pollination → emasculation→ hybrid seed
(d) selection → self-pollination → hybrid seed

iii) The genetically Modified crops have been developed for
(a) resistance to pest and disease.
(b) tolerance to various abiotic stress.
(c) both a and b
(d) production of different types of fruits on same plant.

iv) GM plants are the ones
(a) grown in the artificial medium after hybridisation in the field.
(b) produced by normal cross breeding.
(c) whose DNA has been modified using various techniques of genetic engineering.
(d) produced by applying fertilisers in soil.

v) Which one of the following crops is the highest beneficiary of the Green Revolution in both production and productivity?
(a) Jawar (b) Maize (c) Rice (d) Wheat

27. When plants of the same kind are cultivated at one place on a large scale, it is called a crop. For example, crop of wheat means that all the plants grown in a field are that of wheat. You already know that crops are of different types like cereals, vegetables and fruits. These can be classified on the basis of the season in which they grow. India is a vast country. The climatic conditions like temperature, humidity and rainfall vary from one region to another. Accordingly, there is a rich variety of crops grown in different parts of the country. Despite this diversity, two broad cropping patterns can be identified. These are: Kharif Crops: The crops which are sown in the rainy season are called kharif crops. The rainy season in India is generally from June to October. Paddy, maize, soyabean, groundnut and cotton are kharif crops. Rabi Crops: The crops grown in the winter season (November to April) are called rabi crops. Examples of rabi crops are wheat, gram, pea, mustard and linseed. Besides these, pulses and vegetables are grown during summer at many places.

i) Soyabean which is generally sown from June to October is an example of _____ crops.
(a) Kharif (b) Zaid (c) Rabi (d) Fiber

ii) Which of the following mentioned crop is included in the category of Rabi Crop?
(a) Paddy (b) Cotton (c) Groundnut (d) Mustard

iii) Which among the following factors or conditions does NOT affect the crop production?
(a) Temperature (b) Humidity (c) Literacy (d) Rainfall

iv) Harvesting month for Rabi Crop is
(a) February (b) March (c) April (d) May

v) The practice of cultivating land for growing crops is known as
(a) Agriculture(b) Horticulture (c) Apiculture (d) Pisciculture

28. The preparation of soil is the first step before growing a crop. One of the most important tasks in agriculture is to turn the soil and loosen it. This allows the roots to penetrate deep into the soil. The loose soil allows the roots to breathe easily even when they go deep into the soil. The loosened soil helps in the growth of earthworms and microbes present in the soil. These organisms are friends of the farmer since they further turn and loosen the soil and add humus to it. Since only a few centimetres of the top layer of soil supports plant growth, turning and loosening of soil brings the nutrient-rich soil to the top so that plants can

use the nutrients. Thus, turning and loosening of soil is very important for cultivation of crops. The process of loosening and turning of the soil is called tilling or ploughing. This is done by using a plough. Ploughs are made of wood or iron. If the soil is very dry, it may need watering before ploughing. The ploughed field may have big clumps of soil called crumbs. It is necessary to break these crumbs. Levelling the field is beneficial for sowing as well as for irrigation. Levelling of soil is done with the help of a leveller.

i) The organism widely known as the friend of farmers is

(a) Cow (b) Earthworm (c) Dog (d) Cockroach

ii) The process of loosening and turning of soil is commonly termed as -

(a) Watering (b) winnowing (c) Ploughing (d) Harvesting

iii) Manure is sometimes added to the soil before the process of tilling -

(a) For proper mixing of manure in soil (b) To reduce the workload

(c) To disinfect soil (d) For levelling properly

iv) Breaking of crumbs is done by –

(a)Wooden plank (b)Leveller (c)Plough (d) Sickle

v) The implement used for ploughing –

(a) Harrow (b) Plough (c) Trowel (d) Harvester

29. Before sowing the seeds, it is necessary to break soil clumps to get better yield. This is done with the help of various tools. The main tools used for this purpose are the plough, hoe and cultivator. Plough: This is being used since ancient times for tilling the soil, adding fertilisers to the crop, removing the weeds and turning the soil. This is made of wood and is drawn by a pair of bulls or other animals. The indigenous wooden plough is increasingly being replaced by iron ploughs nowadays. Hoe: It is a simple tool which is used for removing weeds and for loosening the soil. It has a long rod of wood or iron. A strong, broad and bent plate of iron is fixed to one of its ends and works like a blade. It is pulled by animals Cultivator: Nowadays ploughing is done by tractor-driven cultivator. The use of cultivator saves labour and time. Sowing is an important part of crop production. Before sowing, good quality, clean and healthy seeds of a good variety—are selected. Farmers prefer to use seeds which give high yield.

i) Which one of the following equipment is NOT used for the purpose of tilling of soil?

(a) Plough (b) Hoe (c) Cultivator (d) Hammer

ii) _____ is used to sow seeds uniformly at equal distance and depth.

(a) Sickle (b) Spade fork (c) Seed drill (d) Rake

iii) What is the most important thing to be done before sowing of the seeds?

(a) Tilling (b) seeding (c) Harvesting (d) Threshing

iv) Different methods of sowing seeds are

(a) Broadcasting (b) Seed drill (c) Both a & b (d) Transplantation

v) Which of the following crops can be grown by transplantation?

(a) Paddy (b) Tomato (c) Only a (d) Both a & b

30. The substances which are added to the soil in the form of nutrients for the healthy growth of plants are called manure and fertilisers. Soil supplies mineral nutrients to the crop plants. These nutrients are essential for the growth of plants. In certain areas, farmers grow crop after crop in the same field. The field is never left uncultivated or fallow. Continuous cultivation of crops makes the soil poor in nutrients. Therefore, farmers have to add manure to the fields to replenish the soil with nutrients. This process is called manuring. Improper or insufficient manuring results in weak plants. Manure is an organic substance obtained from the decomposition of plant or animal wastes. Farmers dump plant and animal waste in pits at open places and allow it to decompose. The decomposition is caused by some microorganisms. The decomposed matter is used as organic manure. Fertilisers are chemicals which are rich in a particular nutrient. Fertilisers are

produced in factories. Some examples of fertilisers are— urea, ammonium sulphate, superphosphate, potash, NPK (Nitrogen, Phosphorus, Potassium). The use of fertilisers has helped farmers to get better yield of crops such as wheat, paddy and maize. But excessive use of fertilisers has made the soil less fertile. Fertilisers have also become a source of water pollution. Therefore, in order to maintain the fertility of the soil, we have to substitute fertilisers with organic manure or leave the field uncultivated(fallow) in between two crops.

i) Organic substances obtained from the decomposition of plant and animal waste that helps in the healthy growth of plants are called:

(a) Fertilisers (b) Chemicals (c) Manure (d) Cow dung

ii) Excessive use of fertilisers is generally observed to -

(a) Decreases the fertility of soil (b) Increases the soil content

(c) Rise in the number of microbes (d) Rise in the amount of water in soil

iii) Which of the following nitrogen fixing bacteria is present in the root nodules of leguminous plants?

(a) E. coli (b) Rhizobium bacteria (c) Archaebacteria (d) Eubacteria

iv) The chemical substances rich in nutrients are called

(a) Fertilisers (b) Weedicides (c) Pesticides (d) Herbicides

v) The method of soil replenishment in which a leguminous crop is grown in between two successive cereal crops is known as

(a) Field fallow (b) Crop rotation (c) Fertilisers (d) Manures

Q. SA – I TYPE QUESTIONS. (2 MARKS EACH)

31. Despite the favourable climatic conditions a farmer's crop failed to give good yield. Give two possible reasons for this.
32. Suggest some measures to be taken while storing the harvested grains in silos.
33. Name the government agencies that store grains on a large scale in silos.
34. What do you mean by the term-

(a) Broadcasting (b) Hybridisation

35. Paddy is a major cereal crop in our country.
    a) In which season is paddy cultivated?
    b) Explain the method of its sowing.
36. Transplantation is more beneficiary over broadcasting. Give reason.
37. At what time irrigation is required for the wheat crop?
38. It is advised to minimize the use of fertilizers. Give reason.
39. Differentiate weedicides and pesticides.
40. Excessive irrigation is harmful to the crops. Justify.
41. Explain how kharif crops are different from rabi crops.
42. In which way manures are better than fertilisers?
43. Define harvesting. How are fruits & vegetables harvested?
44. List any two precautions that should be kept in mind while sowing seeds in a field.
45. How do weeds affect the crops?

Q. SA – II TYPE QUESTIONS. (3 MARKS EACH)

46. Give an appropriate term for each of the following:--
    a) Chemical substance rich in a particular nutrient.
    b) Plants of same kind grown in a field on a large scale.

c) Process of loosening and turning of soil.

47. Suvam wants to grow paddy crop in his field. Suggest the method of sowing he will use and also suggest the measures he must take to prevent the spoilage of grains during storage.
48. (a) Define irrigation.
    (b) Farmers of Rajasthan would prefer drip irrigation method for irrigating the crops. Justify the statement.
49. State three advantages of transplantation of seedlings.
50. Sometimes unwanted plants grow along with the main crop and compete for the nutrients meant for the main crop. What do you call such unwanted plants?
    Briefly explain any two methods for the removal of such unwanted plants from the field.
51. Name the crop introduced in India during green revolution. State it's any four characteristics.
52. State the advantages of using fertilisers over manures. (3 points)
53. Arrange the following agricultural practices in sequential order.
    Sowing, Harvesting & Storage, Preparation of soil, Irrigation, Soil replenishment, Crop protection.
54. Rearrange the letters to form a suitable word.
    i) NGTIACSADROB
    ii) UERANM
    iii) NGIUGHOLP
55. Suggest which crop the farmers would prefer after harvesting wheat crop & why?

Q. LA TYPE QUESTIONS. (5 MARKS EACH)

56. (a) State the advantages of ploughing?
    (b) Name the special implement used for ploughing?
57. A farmer wants to cultivate rice in his field.
    (a) When should he sow the crop?
    (b) When should he harvest the crop?
    (c) How should he sow the seeds?
    (d) Suggest the steps he should take after harvesting the crop till taken them for storage in granaries?
58. (a) Give reason - Leguminous crop is grown in between two successive cereal crops.
    (b) Identify this type of soil replenishment.
    (c) Name the bacterium which resides in the root nodules of legumes. State the role of that bacterium in root nodule.
59. (a) Differentiate water logging & water lodging.
    (b) Different crops require specific amounts of water at different stages of their growth. Justify the statement with two examples.
60. (a)

i)Identify X and Y?
ii) Name the process.
iii) Give one importance of it.
(b)Complete the table.

AGRICULTURAL PRACTICE	IMPLEMENT USED
i)_____	ii)Iron or wooden plough
iii)Manual removal of weeds	iv)_____
v)Manual harvesting of grains	vi)_____
vii)_____	viii)Combine harvester

CH – 17 : STARS AND SOLAR SYSTEM

VERY SHORT ANSWERS (1 MARK)

1. Name the comet that was last seen in the year 1986 and is expected to be seen again in 2062.
2. Name the brightest star in the night sky.
3. Define the term "constellation".
4. Name the planet that has been named after a Roman Sea God.
5. Astronauts are not able to talk directly to one another on the moon as we normally do on the earth. Why?
6. Name a prominent constellation looking like distorted form of the letter "W' or "M".
7. Mention the two natural satellites of the planet Mars.
8. Name the star, which appears stationary from the earth. State the direction it defines.
9. Give the order of the distance between Alpha centuari and the earth.
10. What are 'pointers'?
11. Name two objects, other than planets, which are members of the solar system.
12. Name the constellation which is visible during winter in the early part of the night.
13. A star is ten light years away from the earth. Suppose it brightens up suddenly today. After how much time shall we see this change?
14. State the factor that determines the colour of a star?
15. Why do different phases of moon occur?
16. Name the constellations in which the following stars are found
    (i) Betal geuse (ii) Pole star
17. In what respect is the pole star different from the other stars?
18. Name the largest asteroid discovered till now.
19. Name the visible layer of the sun. Give an estimate of its temperature?
20. Define Milky way.

ASSERTION & REASON BASED QUESTIONS (1 MARK EACH)

Direction:

For question numbers 21 to 25, two statements are given—one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

(i) Both A and R are true and R is the correct explanation of A.

(ii) Both A and R are true and R is not the correct explanation of A.

(iii) A is true but R is false.
(iv) A is false but R is true.

21**. Assertion:** Alpha centuari is a star.
Reason: Alpha centuari is closest to sun.
22. **Assertion**: Cassiopeia is shaped like W or M.
Reason: Cassiopeia is a constellation.
23. **Assertion:** Pole star is used for navigation.
Reason: Pole star appears stationary from the earth.
24**. Assertion**: Venus is the brightest planet in the solar system.
Reason: Jupiter is the largest planet of solar system.
25. **Assertion** : Artificial satellite revolves around the earth.
Reason: Artificial satellites are far than the moon.

CASE BASED QUESTIONS (1X4=4)

26. The stars, the sun, the moon, the planets and the shooting stars are the main celestial objects that make up the universe. Stars are very hot and huge heavenly objects made up of very hot gases. Distances of stars are expressed in a unit called light year. The sun is the nearest star to the earth. The next nearest star is the Alpha Centuari. The colour of a star is determined by its surface temperature. The pole star is a special star present in the northern hemisphere. A group of stars appear to form some recognizable pattern or shape in the sky is a called constellation.

(i) One light year is the distance covered by light in-
(a) one month (b) one year (c) 10 years (d) 100 years
(ii) The Alpha Centuari is at a distance of _____ light years from the earth.
(a) 3.4 (b) 4 (c) 4.3 (d) 8
(iii) After the sun the brightest star in the night sky is-
(a) Alpha Centuari (b) Sirius (c) Pole star (d) Orion
(iv) The Pole star defines _____ direction.
(a) South (b) east (c) west (d) north
(v) The constellation looks like a distorted form of the letter W or M is-
(a) Ursa major (b) Orion (c) Cassiopeia (d) Ursa minor

27. Our solar system consists of the sun and eight planets. The gravitational pull between the sun and these celestial bodies keeps all of them revolving around the sun. The Earth receives almost all its energy from the sun. The Sun is a sphere of hot gases. The planets relatively nearer to the sun have features that are quite different from those which are far-off. Mercury and Venus are known as morning or evening star. Venus is even hotter than mercury though it is relatively farther away from the sun. The earth is the only planet in the solar system that can sustain life on its surface. Mars has a low average density as compared to the earth. Jupiter shows its own colorful bands. Saturn is distinguished by its very unique and special system of rings.

(i) The bright disc of the sun having the temperature is about 6000 K is-
(a) Nebula (b) photosphere (c) Nucleus (d) black spot
(ii) The atmosphere of Venus is composed of high percentage of-
(a) oxygen (b) neon (c) nitrogen (d) carbon dioxide
(iii) The planet often known as the red planet is-
(a) Mars (b) mercury (c) Jupiter (d) Neptune
(iv) The second largest planet of the solar system is-
(a) Uranus (b) earth (c) Saturn (d) Neptune

(v) The planet that has been named after the Roman sea god is-

(a) Mars (b)Uranus (c) Saturn (d) Neptune

SHORT ANSWER TYPE -I (2 MARKS)

28. Give reasons for the following:
    (a) Colourful bands are associated with Jupiter.
    (b) Venus is the brightest object in our sky after Sun and the Moon.
29. Mars have low average density as compared to the earth ? Give two reasons.
30. Identify the following :
    (a) The planet having largest number of natural satellites.
    (b) The comet, which visits the earth every 76 years.
    (c) The third brightest star in the night sky.
    (d) A constellation shaped like a (distorted) W or M.

31. Give reasons for the following:
    (a) Water does not exist in liquid state on mars.
    (b) Comets are visible only when they are near the Sun.
32. Differentiate between meteors and meteorites.
33. Enlist the functions performed by artificial satellites. (2 points)
34. Why does Venus appear very bright in the sky ? State its direction of rotation.
35. Name the phases of the moon as viewed from earth, when
    (a) The moon is between the sun and the earth.
    (b) The earth is between the sun and the moon.
36. Name the following:
    (a) Largest asteroid –
    (b) A periodic comet-
    (c) The visible layer of the sun-
    (d) A planet which can be seen with naked eye-
37. Give reasons for the following:
    (a) The moon is observed to have a ‘silvery glow’.
    (b) The moon’s apparent size appears to ‘wax’ and ‘wane’.
38. Give reasons:
    (a) Uranus is observed to have a ‘blue-green’ colour.
    (b) A star appears to rise four minutes earlier in the sky everyday than the previous day.

SHORT ANSWER TYPE -II (3 MARKS)

39. How does the thin atmosphere of the earth play a vital role in protecting and preserving the life on earth?
40. (a) Give the relative positions of sun, moon, and earth on a full moon day and on a new moon day.
    (b) On the days following the new moon day, how does the size of the illuminated part of moon changes? Also, name the term used for this apparent change in size.
41. (a) Why do Geostationary Satellites appear to be fixed at one position?
    (b) How are artificial satellites important? (Give any two points)
42. Give reason for the following:
    (a) From outer space, the earth appears blue and green.
    (b) Colourful bands are associated with Jupiter.

(c) Venus is hotter than mercury even though it is more distant from sun.

43. Explain the structure of the moon.

44. Differentiate between terrestrial planets and Jovian planets.

45. (a) Give reason: Moon has no weather.

(b) What are geostationary satellites?

(c) Why are distances between stars expressed in terms of a unit called light year ?

46. (a) Why does the pole star appear to remain fixed at one place ?

(b) State one advantage of this special feature of pole star.

(c) Name and draw a constellation in which the pole star lies on its handle tip.

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