

Full Practice Exam — Set 3

Science · Class 7 · Full Syllabus Practice Exam

TIME 60 minutes	QUESTIONS 50	TOTAL MARKS 60	MAX. SCORE ___ / 60
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Name: _____ Class/Sec: _____ Date: _____

INSTRUCTIONS

- There are **50 questions** in this paper. All questions are compulsory.
- Each question has four options (A), (B), (C) and (D). Exactly **one** option is correct.
- Questions 1–45 carry **1 mark** each. Questions 46–50 (Achievers Section) carry **3 marks** each.
- There is no negative marking. Study every diagram and table carefully.

Section 1 — Logical Reasoning

Q1–Q10 · 1 mark each

- What comes next in the series? 3, 6, 11, 18, 27, ____
 (A) 38 (B) 35
 (C) 36 (D) 40
- Find the **odd one out**: Xylem, Alveoli, Phloem, Cambium
 (A) Xylem (B) Cambium
 (C) Phloem (D) Alveoli
- What comes next in the pair series? AZ, BY, CX, DW, ____
 (A) FU (B) EU
 (C) EV (D) DV
- In a certain reverse-alphabet code, each letter is replaced by the number (27 minus its position in the alphabet), so CAT is written as 24-26-7. How is DOG written in the same code?
 (A) 22-12-20 (B) 23-13-20
 (C) 23-12-19 (D) 23-12-20
- Sonal introduced a boy as 'the son of the only brother of my mother.' How is the boy related to Sonal?
 (A) Cousin (B) Nephew
 (C) Brother (D) Uncle
- In a queue, Neha is 15th from the front and 9th from the end. How many people are there in the queue?
 (A) 22 (B) 23
 (C) 24 (D) 25
- A boy walks 5 km east and then 12 km north. How far is he from his starting point?
 (A) 7 km (B) 13 km
 (C) 17 km (D) 60 km
- Find the **odd one out**: Cyclone, Drought, Tornado, Earthquake
 (A) Cyclone (B) Drought
 (C) Earthquake (D) Tornado

9. Acid : Sour :: Base : ____

(A) Sweet

(C) Colourless

(B) Salty

(D) Bitter

10. If today is Sunday, what day will it be after 100 days?

(A) Tuesday

(C) Saturday

(B) Wednesday

(D) Monday

Section 2 — Science

Q11–Q35 · 1 mark each

11. The process by which an organism obtains and makes use of food is called ____.

(A) Digestion

(C) Respiration

(B) Nutrition

(D) Excretion

12. Which of these correctly shows the order of the five steps of nutrition in animals?

(A) Digestion → Ingestion → Absorption → Egestion → Assimilation

(C) Ingestion → Digestion → Absorption → Assimilation → Egestion

(B) Ingestion → Absorption → Digestion → Assimilation → Egestion

(D) Egestion → Ingestion → Digestion → Absorption → Assimilation

13. Which enzyme, present in saliva, begins the digestion of starch inside the mouth?

(A) Pepsin

(C) Salivary amylase

(B) Bile

(D) Trypsin

14. Bile, made by the liver and stored in the gall bladder, helps in digestion mainly by ____.

(A) Digesting starch into sugar

(C) Killing bacteria present in food

(B) Absorbing digested food into the blood

(D) Breaking down large fat droplets into smaller ones

15. Cattle swallow grass quickly and later bring it back to the mouth to chew it again at leisure. This process is called ____.

(A) Rumination (chewing the cud)

(C) Assimilation

(B) Egestion

(D) Peristalsis

16. Lichens, often seen as colourful patches on rocks and tree trunks, are formed by ____ living together for mutual benefit.

(A) Two different fungi

(C) A moss and a fungus

(B) An alga and a fungus

(D) Two different algae

17. A tapeworm living in the human intestine absorbs already-digested food from its host. This is an example of ____ nutrition.

(A) Holozoic

(C) Parasitic

(B) Autotrophic

(D) Saprotrophic

18. The number of times a person breathes in and out in one minute is called the ____.

(A) Heart rate

(C) Pulse rate

(B) Metabolic rate

(D) Breathing rate

19. Fish extract dissolved oxygen from water using their ____.

(A) Gills

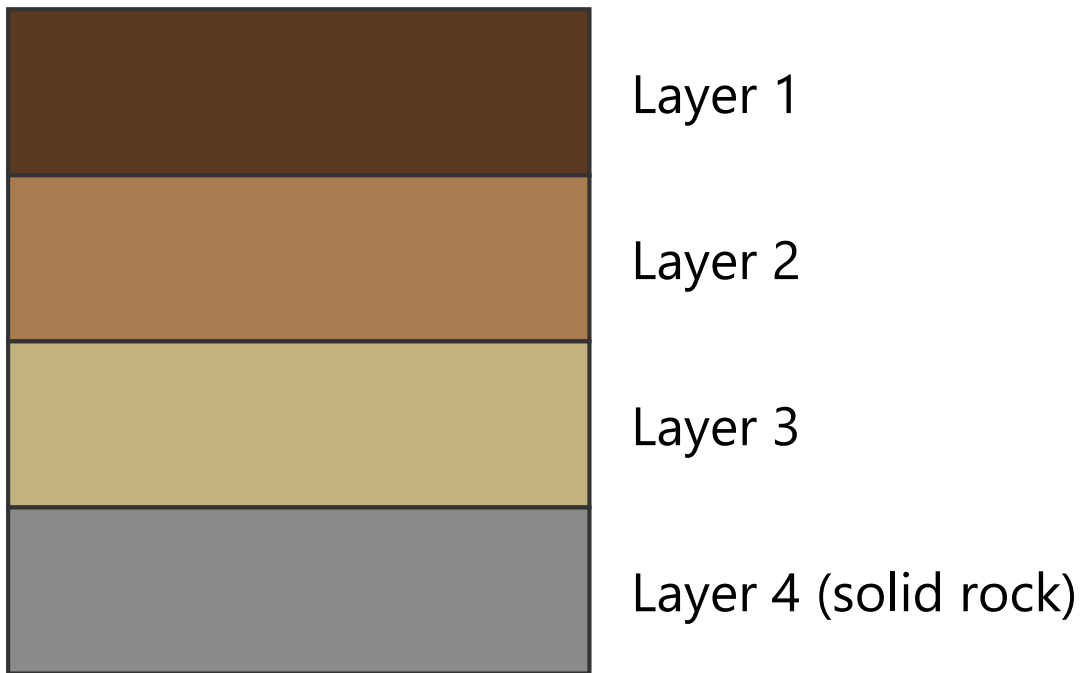
(C) Skin

(B) Lungs

(D) Tracheae

20. A frog can breathe both through its lungs and through its moist skin. Breathing through the skin is called ____ respiration.
- (A) Pulmonary (B) Cutaneous
(C) Anaerobic (D) Aerobic
21. While making bread dough, yeast added to the dough respires without oxygen on the sugar present, releasing carbon dioxide gas that makes the dough rise. This process is called ____.
- (A) Pasteurisation (B) Neutralisation
(C) Fermentation (D) Photosynthesis
22. The human heart has ____ chambers.
- (A) Two (B) Three
(C) Five (D) Four
23. Valves present in the heart and in veins mainly help to ____.
- (A) Prevent the backflow of blood (B) Speed up the heartbeat
(C) Produce red blood cells (D) Filter the blood
24. On cool, humid mornings, small drops of water are sometimes seen at the tips of grass leaves, pushed out by root pressure. This is called ____.
- (A) Transpiration (B) Guttation
(C) Condensation (D) Precipitation
25. New potato plants can grow from the 'eyes' (buds) of a potato tuber planted in soil. This is an example of ____.
- (A) Spore formation (B) Sexual reproduction
(C) Vegetative (asexual) reproduction (D) Grafting done by a gardener
26. Yeast cells often reproduce by growing a small outgrowth that swells and eventually separates as a new individual. This is called ____.
- (A) Grafting (B) Fragmentation
(C) Fertilisation (D) Budding
27. After fertilisation in a flower, the ovary usually develops into the ____, while the ovule develops into the ____.
- (A) Fruit; seed (B) Seed; fruit
(C) Seed; petal (D) Fruit; petal
28. The fruits of plants such as Xanthium (burr) have tiny hooks on their coat that stick to the fur of passing animals. This is an adaptation for dispersal by ____.
- (A) Wind (B) Animals
(C) Water (D) Explosion (self-dispersal)
29. In cactus plants, the leaves are reduced to spines and the stem is thick, green and fleshy. This adaptation mainly helps the plant to ____.
- (A) Increase the rate of transpiration (B) Attract more insects for pollination
(C) Reduce water loss and store water, suiting a desert habitat (D) Absorb more sunlight for faster growth

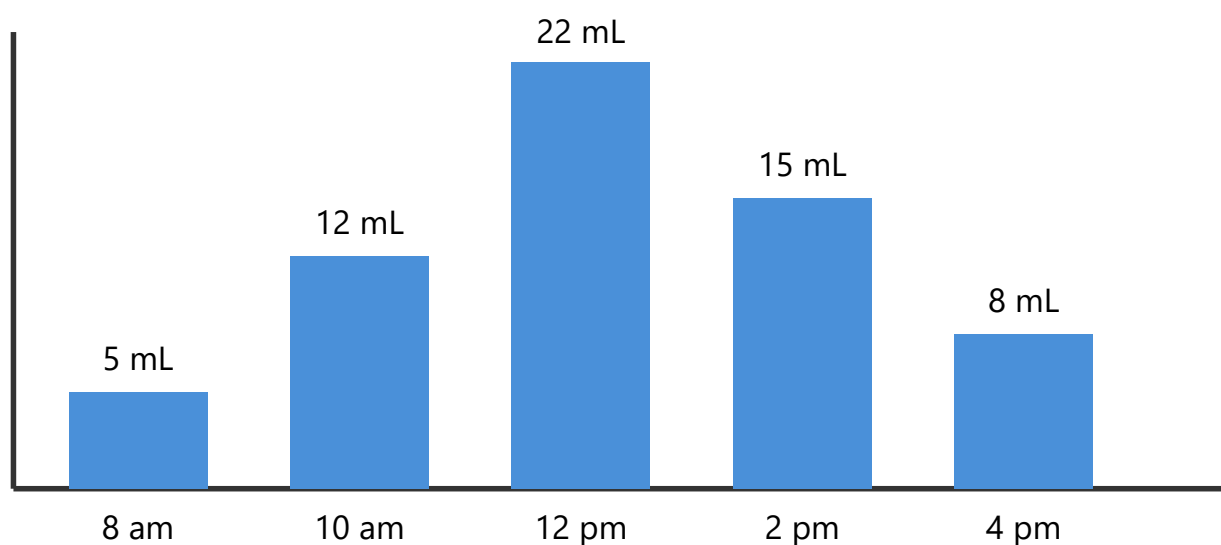
30. Submerged aquatic plants such as Hydrilla have thin, ribbon-like leaves and air spaces in their tissues. These features mainly help the plant to _____.
(A) Store extra food for winter (B) Absorb minerals from the air
(C) Reduce photosynthesis (D) Bend easily in flowing water and stay buoyant
31. Some birds, such as the Siberian crane, fly thousands of kilometres to warmer regions every winter and return later. This behaviour is called _____.
(A) Migration (B) Hibernation
(C) Camouflage (D) Estivation
32. The figure shows the layers of soil from the surface down to solid rock. Based on the figure, which layer is darkest in colour and richest in humus, making it best for growing crops?



A soil profile from the surface (Layer 1, darkest) down to solid rock (Layer 4): topsoil, subsoil, weathered rock, and bedrock.

- (A) Bedrock (B) Topsoil
(C) Subsoil (D) Weathered rock
33. Cutting a hill slope into a series of flat, step-like fields for farming, which slows down the flow of rainwater and reduces soil loss, is called _____.
(A) Contour ploughing (B) Crop rotation
(C) Terrace farming (D) Intercropping
34. Which of these changes is **reversible**?
(A) Burning of paper (B) Baking of a cake
(C) Digestion of food (D) Melting of wax
35. Painting or applying a coat of grease on an iron gate mainly helps to prevent rusting by _____.
(A) Preventing air and moisture from reaching the iron surface (B) Making the iron magnetic
(C) Increasing the iron's exposure to air (D) Cooling the iron surface

36. Some substances lose their characteristic smell when mixed with an acid or a base. Such substances, used to test for acids and bases through smell, are called ____ indicators.
- (A) Universal (B) Olfactory
(C) Natural colour (D) Synthetic
37. A person suffering from acidity (too much acid in the stomach) is often given an antacid such as milk of magnesia. An antacid relieves acidity by ____.
- (A) Increasing the acid in the stomach (B) Killing bacteria in the stomach
(C) Neutralising the excess acid in the stomach (D) Speeding up digestion of fats
38. The sting of an ant injects a small amount of formic acid into the skin, causing pain and irritation. Rubbing a paste of baking soda, a mild base, on the sting helps because it ____.
- (A) Adds more acid to the wound (B) Cools the skin with ice
(C) Has no effect on the sting (D) Neutralises the acid, relieving the irritation
39. Small gaps are deliberately left between sections of railway track. These gaps mainly allow for ____.
- (A) Expansion of the metal rails in hot weather (B) Reducing the weight of the track
(C) Water drainage (D) Easier cleaning of the track
40. On a sunny day, a person wearing a black shirt feels hotter than a person wearing a white shirt of the same material. This happens mainly because ____.
- (A) Black colour reflects more heat (B) Black colour absorbs more heat than white
(C) Colour has no effect on heat absorption (D) White colour absorbs more heat
41. Soil scientists classify soil as sandy, loamy or clayey mainly on the basis of ____.
- (A) The colour of the soil (B) The temperature of the region
(C) The size of the soil particles it contains (D) The crops grown in it
42. The chart shows the average amount of water lost through transpiration by a potted plant, measured every two hours from 8 am to 4 pm on a sunny day. At which time was the rate of water loss highest?



Average water lost by a potted plant through transpiration, recorded every two hours from 8 am to 4 pm

- (A) 8 am (B) 10 am
(C) 4 pm (D) 12 pm (noon)

43. A pinhole camera can form an image of a bright object on a screen placed behind a small hole. The working of a pinhole camera shows that light _____.
 (A) Travels in straight lines (B) Cannot pass through small holes
 (C) Travels only during the day (D) Bends around corners
44. The Moon appears bright in the night sky, but it does not produce any light of its own. The Moon is best described as a _____ object.
 (A) Luminous (B) Non-luminous, reflecting sunlight
 (C) Transparent (D) Radioactive
45. A shaving mirror held close to the face gives an enlarged, upright image, unlike a plane mirror, which gives an image of the same size. The shaving mirror is most likely a _____ mirror.
 (A) Convex (B) Plane
 (C) Concave (D) Cylindrical

Achievers Section

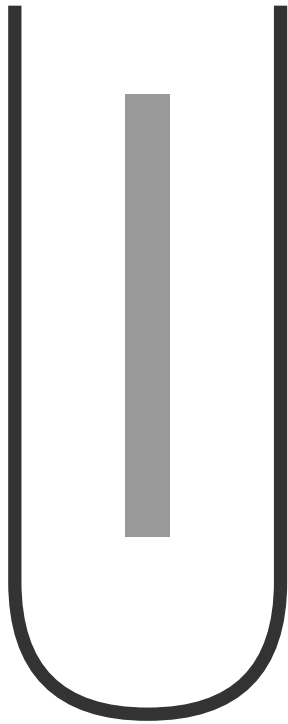
Q46–Q50 · 3 marks each

46. Consider the following statements about nutrition.
 (i) All green plants are autotrophic and prepare their own food by photosynthesis.
 (ii) Fungi such as mushrooms are autotrophic, since they prepare their own food.
 (iii) Animals that depend on other organisms for their food show heterotrophic nutrition.
 Which of the statements is/are correct?
 (A) (i) only (B) (i) and (iii) only
 (C) (ii) and (iii) only (D) All three statements
47. Assertion (A): Chewing food into small pieces before swallowing helps in faster digestion.
 Reason (R): Smaller food particles have a larger total surface area, letting digestive enzymes act on them more quickly.
 (A) Both A and R are true, and R is the correct explanation of A. (B) Both A and R are true, but R is not the correct explanation of A.
 (C) A is true, but R is false. (D) A is false, but R is true.
48. Study the figure showing Column I and Column II. Match each weather instrument in Column I with the quantity it measures in Column II.

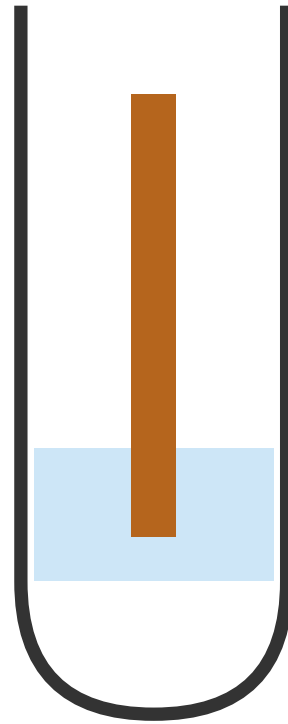
Column I	Column II
P. Rain gauge	1. Amount of rainfall
Q. Anemometer	2. Wind speed
R. Barometer	3. Atmospheric pressure
S. Hygrometer	4. Humidity

- (A) P-2, Q-1, R-4, S-3 (B) P-4, Q-3, R-2, S-1
 (C) P-3, Q-4, R-1, S-2 (D) P-1, Q-2, R-3, S-4

49. The figure shows two identical iron nails set up for a week. In Set A, the nail is kept with a drying agent so the air around it stays completely dry. In Set B, the nail is kept in air with some water at the bottom of the tube, so the air around it stays moist. After a week, the nail in Set A stays bright, but the nail in Set B develops a reddish-brown coating. What does this experiment mainly show?



Set A: dry air
(nail stays bright)



Set B: moist air
(nail turns rusty)

Set A: a nail kept with a drying agent in dry air. Set B: a nail kept in air with water at the bottom of the tube, keeping the air moist.

- (A) Moisture in the air is necessary for iron to rust
(B) Rusting occurs only in the absence of air
(C) Dry air causes iron to rust faster than moist air
(D) Rusting does not depend on the surrounding air at all
50. A gardener waters two potted plants of the same species equally every day. Plant P is kept on a sunny windowsill; Plant Q is kept inside a dark cupboard for a week. After the week, Plant Q's leaves have turned pale and the plant looks weak, even though it received the same amount of water as Plant P. What does this best show?
- (A) Watering a plant in the dark washes away its chlorophyll
(B) Photosynthesis mainly needs light, and without it a plant cannot make enough food to stay healthy
(C) Plants require darkness to absorb water through their roots
(D) The pale colour shows that Plant Q was overwatered

Answer Key

1	A	2	D	3	C	4	D	5	A
6	B	7	B	8	C	9	D	10	A
11	B	12	C	13	C	14	D	15	A
16	B	17	C	18	D	19	A	20	B
21	C	22	D	23	A	24	B	25	C
26	D	27	A	28	B	29	C	30	D
31	A	32	B	33	C	34	D	35	A
36	B	37	C	38	D	39	A	40	B
41	C	42	D	43	A	44	B	45	C
46	B	47	A	48	D	49	A	50	B

Solutions

1. Answer: (A) 38

The gap between consecutive terms increases by 2 each time: 3(+3)6(+5)11(+7)18(+9)27. The next gap is 11, so $27+11=38$.

2. Answer: (D) Alveoli

Xylem, phloem and cambium are all tissues found inside the stems and roots of plants. **Alveoli** are tiny air sacs found in animal lungs, so they do not belong with the rest.

3. Answer: (C) EV

The first letter of each pair moves forward through the alphabet (A, B, C, D, ...) while the second letter moves backward (Z, Y, X, W, ...). The next pair is E with V, giving **EV**.

4. Answer: (D) 23-12-20

D is the 4th letter, so $27-4=23$. O is the 15th letter, so $27-15=12$. G is the 7th letter, so $27-7=20$. This gives **23-12-20**.

5. Answer: (A) Cousin

The only brother of Sonal's mother is Sonal's maternal uncle. The son of Sonal's maternal uncle is her **cousin**.

6. Answer: (B) 23

Total people = $15 + 9 - 1 = 23$, since Neha herself is counted in both positions.

7. Answer: (B) 13 km

The path forms a right angle, so distance = $\sqrt{5^2+12^2} = \sqrt{25+144} = \sqrt{169} = 13$ km.

8. Answer: (C) Earthquake

Cyclones, droughts and tornadoes are all events linked to conditions in the atmosphere. An **earthquake** is caused by movements inside the earth's crust, not by the atmosphere, so it does not belong with the rest.

9. Answer: (D) Bitter

Acids typically taste sour, while bases typically taste **bitter** and feel soapy to the touch.

10. Answer: (A) Tuesday

100 days = 14 complete weeks (98 days) plus 2 extra days. Two days after Sunday: Monday, **Tuesday**.

11. Answer: (B) Nutrition

Nutrition is the process of taking in and using food for growth and energy.

12. Answer: (C) Ingestion → Digestion → Absorption → Assimilation → Egestion

Food is first taken in (ingestion), broken down (digestion), taken into the blood (absorption), used by the body (assimilation), and finally the undigested part is removed (egestion): **ingestion → digestion → absorption → assimilation → egestion**.

13. Answer: (C) Salivary amylase

Salivary amylase, present in saliva, starts breaking down starch into simpler sugars while food is still in the mouth.

14. Answer: (D) Breaking down large fat droplets into smaller ones

Bile does not digest fat itself; it **breaks large fat droplets into smaller ones**, making it easier for digestive enzymes to act on them.

15. Answer: (A) Rumination (chewing the cud)

Animals such as cattle that bring back swallowed food to chew again are called ruminants, and this process is called **rumination**, or chewing the cud.

16. Answer: (B) An alga and a fungus

A lichen is formed by **an alga and a fungus** living together, where the alga makes food by photosynthesis and the fungus provides shelter and absorbs water and minerals.

17. Answer: (C) Parasitic

An organism that lives in or on another living organism and obtains food from it, harming the host, shows **parasitic** nutrition.

18. Answer: (D) Breathing rate

The count of breaths taken in one minute is called the **breathing rate**.

19. Answer: (A) Gills

Fish have **gills**, which absorb oxygen dissolved in water and release carbon dioxide into it.

20. Answer: (B) Cutaneous

Gaseous exchange that happens through the skin is called **cutaneous** respiration, which frogs rely on especially when underwater.

21. Answer: (C) Fermentation

The anaerobic breakdown of sugar by yeast, releasing carbon dioxide and making dough rise, is called **fermentation**.

22. Answer: (D) Four

The human heart has **four** chambers: two atria and two ventricles.

23. Answer: (A) Prevent the backflow of blood

Valves act like one-way doors that **prevent the backflow of blood**, keeping it flowing in one direction.

24. Answer: (B) Guttation

Water droplets forced out at the tips or edges of leaves by root pressure, especially in humid conditions, is a process called **guttation**.

25. Answer: (C) Vegetative (asexual) reproduction

A new plant growing directly from a part of the parent plant, such as a potato's eyes, without seeds or fertilisation, is **vegetative (asexual) reproduction**.

26. Answer: (D) Budding

A small outgrowth that develops on the parent cell and later separates as a new organism is called a bud, and the process is called **budding**.

27. Answer: (A) Fruit; seed

Following fertilisation, the ovary of a flower grows into the **fruit**, and each ovule inside it grows into a **seed**.

28. Answer: (B) Animals

Hooked fruits catch onto fur or clothing and are carried away, so this is an adaptation for seed dispersal by **animals**.

29. Answer: (C) Reduce water loss and store water, suiting a desert habitat

Spine-like leaves have very little surface area to lose water from, and the fleshy stem stores water and carries out photosynthesis instead, helping the cactus **reduce water loss and store water** in a dry desert habitat.

30. Answer: (D) Bend easily in flowing water and stay buoyant

Thin, flexible leaves do not resist the flow of water, and air spaces inside the tissue give the plant buoyancy, so together they let it **bend easily in flowing water and stay buoyant**.

31. Answer: (A) Migration

The seasonal, long-distance movement of animals such as birds to escape unfavourable conditions is called **migration**.

32. Answer: (B) Topsoil

As shown in the figure, Layer 1, the uppermost and darkest band, is the **topsoil**, which is richest in humus and best suited for growing crops.

33. Answer: (C) Terrace farming

Levelling a steep slope into a series of flat steps for cultivation is called **terrace farming**, and it slows down run-off, reducing soil erosion.

34. Answer: (D) Melting of wax

Melted wax can be cooled back into solid wax, so **melting of wax** is reversible; the other changes form new substances and cannot be undone.

35. Answer: (A) Preventing air and moisture from reaching the iron surface

A coat of paint or grease forms a barrier that **keeps air and moisture away from the iron surface**, so the iron underneath cannot rust.

36. Answer: (B) Olfactory

Substances such as onion or vanilla extract, whose smell changes or disappears on reacting with an acid or base, are called **olfactory** indicators.

37. Answer: (C) Neutralising the excess acid in the stomach

An antacid is a mild base that reacts with and **neutralises the excess acid** in the stomach, relieving the discomfort.

38. Answer: (D) Neutralises the acid, relieving the irritation

Baking soda is a mild base, and rubbing it on the sting **neutralises the formic acid** injected by the ant, easing the irritation.

39. Answer: (A) Expansion of the metal rails in hot weather

Metal rails expand slightly when heated. The gaps leave room for this **expansion in hot weather**, preventing the tracks from bending or buckling.

40. Answer: (B) Black colour absorbs more heat than white

Dark colours absorb most of the radiant heat that falls on them, while light colours reflect much of it away, so a black shirt makes the wearer feel hotter because **black absorbs more heat than white**.

41. Answer: (C) The size of the soil particles it contains

Sandy, loamy and clayey soils differ mainly in **the size of their particles**, which affects how much water and air the soil can hold.

42. Answer: (D) 12 pm (noon)

Reading the chart, the tallest bar is at **12 pm (noon)**, with 22 mL lost, compared with 5 mL at 8 am, 12 mL at 10 am, 15 mL at 2 pm and 8 mL at 4 pm, matching the hottest, brightest part of the day.

43. Answer: (A) Travels in straight lines

A pinhole camera forms a clear image only because light rays from the object pass through the tiny hole without bending, showing that light **travels in straight lines**.

44. Answer: (B) Non-luminous, reflecting sunlight

An object that does not produce its own light but reflects light falling on it is called non-luminous, so the Moon is a **non-luminous** object that shines by reflecting sunlight.

45. Answer: (C) Concave

When an object is placed close to it, a **concave** mirror forms an enlarged, upright, virtual image, which is why it is used for shaving and applying make-up.

46. Answer: (B) (i) and (iii) only

Statement (i) is correct, since green plants make their own food. Statement (ii) is incorrect, since fungi such as mushrooms cannot make their own food and instead feed saprotrophically on dead matter. Statement (iii) is correct, since animals that depend on other organisms for food show heterotrophic nutrition. The correct statements are therefore **(i) and (iii) only**.

47. Answer: (A) Both A and R are true, and R is the correct explanation of A.

Breaking food into smaller pieces increases the total surface area exposed to digestive juices, so enzymes can act on it faster. This makes both the assertion and the reason true, with the reason correctly explaining the assertion.

48. Answer: (D) P-1, Q-2, R-3, S-4

A rain gauge measures the amount of rainfall, an anemometer measures wind speed, a barometer measures atmospheric pressure, and a hygrometer measures humidity, giving the matching Rain gauge with rainfall, Anemometer with wind speed, Barometer with atmospheric pressure, and Hygrometer with humidity.

49. Answer: (A) Moisture in the air is necessary for iron to rust

Both nails are exposed to air, but only the nail in Set B is exposed to moisture, and only that nail develops rust. This shows that **moisture is necessary for iron to rust**.

50. Answer: (B) Photosynthesis mainly needs light, and without it a plant cannot make enough food to stay healthy

Water was the same for both plants, so the only difference was light. Since only the plant kept in the dark turned pale and weak, this shows that **photosynthesis mainly needs light**, and without it, a plant cannot make enough food to remain healthy.