# Answer Key — Sample Question Paper (Class VIII, Science)

Source files: Questions and official solution (uploaded) and Student's handwritten answers (uploaded).
References: ■filecite■turn0file0■ ■filecite■turn0file1■

## Section A — Multiple Choice Questions (1 mark each)

### 1. (b) Kharif crops

Explanation: Soybean and cotton are Kharif crops.

### 2. (b) The Statement is correct but the Reason is incorrect

Explanation: Statement: Cooked food can spoil faster in summers than in winters. Reason given in paper is incorrect.

### 3. (a) Bituminous

Explanation: Bituminous is the common variety of coal listed.

### 4. (c) can be burnt at any moment

Explanation: A gaseous fuel can be burnt at any moment.

### 5. (a) Assam

Explanation: Manas sanctuary is located in Assam.

### 6. (d) asexual reproduction

Explanation: Binary fission is a form of asexual reproduction.

### 7. (a) Diabetes

Explanation: Diabetes is a hormone-related disorder.

### 8. (c) 1.01 × 10^5 N/m²

Explanation: One atmospheric pressure ≈ 1.01 × 10^5 N/m².

### 9. (c) increase friction

Explanation: Rough surfaces (head of match, sides of box) increase friction to light the match.

### 10. (d) 27.1%

Explanation: If intensity reduces by 10% per slab, after three slabs remaining intensity = 0.9^3 = 0.729 → reduction = 27.1%.

### 11. (b) Electrical energy into chemical energy

Explanation: Electrolysis converts electrical energy into chemical energy.

### 12. (c) Copper

Explanation: Lightning rods are commonly made of copper (good conductor).

### 13. (b) Same for both rose

Explanation: Shadow color is black irrespective of object colour.

### 14. True

Explanation: There can be a wildlife sanctuary within a biosphere reserve.

### 15. True

Explanation: Friction helps us hold things — statement is true.

## Section B — Short Answer Questions (2 marks each)

16. Pasteurisation of milk: Heat milk to a specific temperature for a short time and then cool rapidly to kill harmful microbes without majorly affecting taste or nutrition.

Typical methods: HTST (≈72°C for 15–30 seconds) or LTLT (≈63°C for 30 minutes).

17. Difference between bituminous and sub-bituminous coal:

Bituminous: ~80% carbon (higher calorific value), darker, denser, lower moisture. Sub-bituminous: ~70% carbon, higher moisture, softer and more crumbly.

18. Why diesel fires cannot be extinguished by spraying water:

Diesel is lighter than water and hydrophobic; water sinks below or causes spreading and may vaporize and spread the fire, increasing danger.

19. Two features at puberty:

Boys: growth of facial/body hair, voice deepening (Adam's apple). Girls: breast development, widening of hips.

20. Difference between noise and music:

Music: organized, pleasant, patterned frequencies. Noise: unpleasant, irregular, no clear pattern. Music can become noise if played at very high volume or in an inappropriate context.

21. Stop-off material in electroplating:

Used to mask areas where plating is not desired so metal is not deposited there.

22. Lens in human eye:

Convex lens; it forms a real, inverted image on the retina (the light-sensitive layer at the back of the eye).

## Section C — Long Short Answer Questions (4 marks each)

### 23. Irrigation and soil type:

Sandy soil: large particles, low water-holding capacity → needs frequent irrigation. Clayey soil: fine particles, high water retention → needs less frequent irrigation. Loamy soil: balanced texture, moderate water retention.

### 24. Inexhaustible vs exhaustible natural resources:

Inexhaustible: never run out (sunlight, wind, tidal). Exhaustible: limited and can be depleted (coal, petroleum, natural gas).

### 25. Asexual reproduction and two methods in animals:

Asexual reproduction involves one parent producing genetically identical offspring. Examples: Budding (multicellular: Hydra, sponges) — a bud grows and detaches; Binary fission (unicellular: Amoeba) — cell divides into two daughter cells.

### 26. What is health? Factors for good health:

Health = physical, mental and social well■being (not merely absence of disease). Factors: balanced diet, personal hygiene, regular exercise, clean environment, sufficient sleep, avoiding harmful habits, clean water and air.

### 27. Non-contact forces and examples:

Forces acting at a distance without direct contact. Examples: Gravitational force (Earth attracting objects), Magnetic force (magnet attracting iron filings), Electrostatic force (charged body attracting small bits of paper).

### 28. Why town clock sounds clearer at night:

At night ambient noise and interfering vibrations are reduced, so the clock sound is less masked. Increased humidity (dew) can slightly affect sound propagation; overall noise reduction at night makes the sound clearer.

### 29. Deplating (reverse of electroplating):

Object to be deplated is made the anode; metal ions are dissolved from the object and deposited on the cathode. Useful for recovering valuable metals (e.g., from electronic circuits).

### 30. Seismograph — construction and functioning:

Seismograph records seismic waves produced by earthquakes. It typically has a mass (pendulum or rod) and a pen attached; when ground vibrates the frame moves and the mass provides relative motion, recorded as a trace on moving paper. Analysis yields quake location and energy.

### 31. Angle of incidence and angle of reflection:

Angle of incidence = angle between incident ray and normal. Angle of reflection = angle between reflected ray and normal. They are equal (law of reflection).

## Section D — Long Answer Questions (5 marks each)

### 32. External fertilization in frogs:

Frogs migrate to ponds; female lays hundreds of eggs in water and male releases sperm over eggs. Fertilization occurs outside the female body. Eggs are held together and protected by a jelly-like layer.

### 33. Systolic and diastolic pressure:

Systolic pressure: maximum pressure when heart contracts (normal adult ≈ 120 mmHg). Diastolic pressure: minimum pressure when heart relaxes between beats (normal adult ≈ 80 mmHg). Blood pressure is measured as systolic/diastolic (e.g., 120/80 mmHg).

### 34. Electroplating a key chain with nickel:

i. Electrolyte: Nickel sulfate (NiSO4) or a suitable nickel salt solution. ii. Cathode: the key chain (object to be plated). iii. Reaction at cathode: Ni^{2+} + 2 e^- $\rightarrow$ Ni (metal deposits on key chain). iv. Reaction at anode: Ni $\rightarrow$ Ni^{2+} + 2 e^- (metal dissolves from nickel anode).

## Notes for the model developer:

• Use these concise official answers and short explanations as the primary KB for automated evaluation of student answers.
• For MCQs, match selected option; for descriptive answers use keyword matching (e.g., 'pasteurisation', 'NiSO4', 'binary fission', 'convex lens', 'systolic/diastolic').
• For numerical items (pressure, percentages), allow small formatting variations (e.g., 1.01×10^5 vs 1.01e5).
• This document was generated from the uploaded question paper and sample handwritten answers: see the references above.