

Full Practice Exam — Set 1

Science · Class 8 · 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, 9, 27, 81, ____
 (A) 162 (B) 216
 (C) 243 (D) 324
- Find the **odd one out**: Rhizobium, Lactobacillus, Penicillium, Amoeba
 (A) Amoeba (B) Lactobacillus
 (C) Penicillium (D) Rhizobium
- What comes next in the letter series? A, D, I, P, ____
 (A) W (B) X
 (C) Z (D) Y
- In a certain code, PHYSICS is written as 16-8-25-19-9-3-19. How is CHEMIST be written in the same code?
 (A) 3-8-5-13-9-19-20 (B) 3-8-5-14-9-19-20
 (C) 3-9-5-13-9-19-20 (D) 3-8-5-13-9-20-19
- Pointing to a photograph, Ravi said, 'She is the mother of my son's wife's father.' How is the woman related to Ravi?
 (A) Mother-in-law (B) The grandmother of Ravi's daughter-in-law
 (C) Sister (D) Aunt
- In a queue of 50 people, Sonu is 21st from the front. What is his position from the back?
 (A) 29th (B) 32nd
 (C) 31st (D) 30th
- A ship sails 24 km north, then 7 km east. How far is it from the starting point?
 (A) 25 km (B) 17 km
 (C) 31 km (D) 168 km
- Which of these does **not** belong with the rest?
 (A) Conduction (B) Refraction
 (C) Radiation (D) Convection

9. $16 : 256 :: 20 : \underline{\hspace{2cm}}$
- (A) 320 (B) 360
(C) 400 (D) 420
10. If 1 April is a Wednesday, what day of the week is 22 April?
- (A) Tuesday (B) Thursday
(C) Wednesday (D) Friday

Section 2 — Science

Q11–Q45 · 1 mark each

11. Crops sown in the rainy season and harvested in autumn are called _____ crops.
- (A) Rabi (B) Cash
(C) Zaid (D) Kharif
12. Which microorganism is used to make curd from milk?
- (A) Lactobacillus (B) Yeast
(C) Penicillium (D) Rhizobium
13. Which of these is a **non-metal** that conducts electricity?
- (A) Sulphur (B) Graphite
(C) Phosphorus (D) Iodine
14. Which metal is a **liquid** at room temperature?
- (A) Sodium (B) Lead
(C) Mercury (D) Aluminium
15. Coal, petroleum and natural gas are called _____ fuels.
- (A) Renewable (B) Nuclear
(C) Synthetic (D) Fossil
16. The lowest temperature at which a substance catches fire is called its _____.
- (A) Ignition temperature (B) Boiling point
(C) Melting point (D) Calorific value
17. The basic structural and functional unit of all living organisms is the _____.
- (A) Tissue (B) Cell
(C) Organ (D) Nucleus
18. Which structure is present in a **plant** cell but absent in an animal cell?
- (A) Nucleus (B) Cell membrane
(C) Cell wall (D) Cytoplasm
19. The fusion of a male gamete with a female gamete is called _____.
- (A) Metamorphosis (B) Budding
(C) Fragmentation (D) Fertilisation
20. The SI unit of force is the _____.
- (A) Newton (B) Joule
(C) Pascal (D) Watt

21. Force per unit area is called _____.
(A) Thrust (B) Pressure
(C) Work (D) Power
22. Sound cannot travel through _____.
(A) Solids (B) Liquids
(C) A vacuum (D) Gases
23. The **loudness** of a sound depends on the _____ of the vibration.
(A) Frequency (B) Wavelength
(C) Speed (D) Amplitude
24. According to the laws of reflection, the angle of incidence is _____ the angle of reflection.
(A) Equal to (B) Less than
(C) Greater than (D) Twice
25. The part of the eye that controls the amount of light entering it is the _____.
(A) Cornea (B) Iris
(C) Retina (D) Lens
26. Lightning is caused by _____.
(A) The burning of gases in clouds (B) The friction of raindrops with the ground
(C) The sudden discharge of accumulated electric charges (D) The reflection of sunlight
27. Which gas released by vehicles is a major cause of the greenhouse effect?
(A) Nitrogen (B) Helium
(C) Oxygen (D) Carbon dioxide
28. Which of these is **not** a condition necessary for combustion?
(A) The presence of water (B) A supply of air (oxygen)
(C) Attainment of ignition temperature (D) A combustible substance
29. Which of these is a **thermosetting** plastic used for electrical switches?
(A) Polythene (B) Bakelite
(C) PVC (D) Nylon
30. Which synthetic fibre is known as 'artificial silk'?
(A) Nylon (B) Polyester
(C) Rayon (D) Acrylic
31. Who discovered the cell?
(A) Charles Darwin (B) Robert Brown
(C) Louis Pasteur (D) Robert Hooke
32. Animals such as the frog, in which the young one looks very different from the adult, show _____.
(A) Metamorphosis (B) Budding
(C) Binary fission (D) Regeneration
33. The instrument used to record the magnitude of an earthquake is the _____.
(A) Barometer (B) Seismograph
(C) Hygrometer (D) Anemometer

34. Which of these is a good conductor of heat and electricity?

- (A) Wood
- (C) Copper

- (B) Plastic
- (D) Rubber

35. Which type of friction is the **smallest**?

- (A) Static friction
- (C) All are equal

- (B) Sliding friction
- (D) Rolling friction

Section 2 — Science (contd.)

Q36–Q45 · 1 mark each

36. Which of these correctly matches a habitat with an adaptation?

- (A) Desert — long roots and reduced leaves
- (C) Pond — thick fur

- (B) Polar region — broad flat leaves
- (D) Mountain — gills

37. A dilute acid reacts with a reactive metal to release which gas?

- (A) Oxygen
- (C) Carbon dioxide

- (B) Hydrogen
- (D) Nitrogen

38. Why should burning plastic waste be avoided?

- (A) It puts out too much light
- (C) It releases toxic gases that pollute the air

- (B) It uses up too much oxygen
- (D) It makes plastic biodegradable

39. The image in the human eye is formed on the _____.

- (A) Pupil
- (C) Cornea

- (B) Iris
- (D) Retina

40. Why is a carbon dioxide extinguisher preferred for electrical fires?

- (A) CO₂ does not conduct electricity and smothers the fire
- (C) CO₂ burns the fuel completely

- (B) It is cheaper
- (D) CO₂ makes equipment work better

41. Why do camels have broad, flat feet?

- (A) To run faster
- (C) To keep cool

- (B) To spread their weight over a larger area, reducing pressure on sand
- (D) To store water

42. Which of these correctly describes external fertilisation?

- (A) Eggs are fertilised inside the female's body
- (C) Eggs are fertilised outside the female's body, as in frogs and fish

- (B) No eggs are involved
- (D) Only mammals show this

43. Which of these plastics is a thermoplastic (softens on heating and can be remoulded)?

- (A) Bakelite
- (C) Melamine

- (B) Urea-formaldehyde
- (D) Polythene

44. Why does an iron nail dipped in copper sulphate solution turn brownish?

- (A) Iron is more reactive than copper and displaces it
- (C) Copper is more reactive than iron

- (B) Iron dissolves without reacting
- (D) The solution evaporates

45. Which zone of a candle flame is the hottest?

- (A) The dark innermost zone
- (C) All zones are equally hot

- (B) The outermost non-luminous zone
- (D) The luminous yellow zone

46. Consider the following statements.

- (i) All metals are solid at room temperature.
- (ii) Non-metal oxides are generally acidic.
- (iii) Thermosetting plastics can be remoulded on heating.

Which of the statements is/are correct?

- (A) (i) only
- (B) (ii) only
- (C) (i) and (ii) only
- (D) (ii) and (iii) only

47. Two identical trays of soil are tilted at the same angle. Tray X is bare and tray Y is covered with grass. The run-off from X is muddy and from Y clear. What does this show?

- (A) Grass makes water dirty
- (B) Bare soil absorbs more water
- (C) Plant cover reduces soil erosion by running water
- (D) Angle of slope has no effect

48. A brick is placed on sand first on its largest face and then on its smallest face. In which position does it sink deeper?

- (A) On the largest face
- (B) It never sinks
- (C) Equally in both
- (D) On the smallest face, because the same weight acts on a smaller area, giving greater pressure

49. Two plane mirrors are placed at right angles to each other and an object is placed between them. How many images are formed?

- (A) 3
- (B) 2
- (C) 1
- (D) Infinitely many

50. A germinating seed is sealed in a flask with a small tube of lime water. After a day the lime water turns milky and a lit splint put into the flask goes out. What do these two observations show?

- (A) The seed is photosynthesising
- (B) The seed is respiring, using up oxygen and releasing carbon dioxide
- (C) The seed is dead
- (D) The flask was not sealed properly

Answer Key

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

Solutions

1. Answer: (C) 243

Each number is multiplied by 3: $3 \times 3 = 9$, $9 \times 3 = 27$, $27 \times 3 = 81$, $81 \times 3 = \mathbf{243}$.

2. Answer: (A) Amoeba

Rhizobium, Lactobacillus and Penicillium are all bacteria or fungi useful to humans. **Amoeba** is a protozoan, so it is the odd one out among these microbial examples.

3. Answer: (D) Y

The gaps between letters increase: A to D is +3, D to I is +5, I to P is +7. The next gap is +9.
 $P + 9 = \mathbf{Y}$.

4. Answer: (A) 3-8-5-13-9-19-20

Each letter is replaced by its position: C=3, H=8, E=5, M=13, I=9, S=19, T=20, giving **3-8-5-13-9-19-20**.

5. Answer: (B) The grandmother of Ravi's daughter-in-law

Ravi's son's wife is Ravi's daughter-in-law. Her father's mother is the **grandmother of Ravi's daughter-in-law**.

6. Answer: (D) 30th

Position from the back = $50 - 21 + 1 = \mathbf{30th}$.

7. Answer: (A) 25 km

Distance = $\sqrt{(24^2 + 7^2)} = \sqrt{(576 + 49)} = \sqrt{625} = \mathbf{25 \text{ km}}$.

8. Answer: (B) Refraction

Conduction, convection and radiation are all modes of **heat transfer**. **Refraction** is about the bending of light, so it does not belong with the rest.

9. Answer: (C) 400

The second number is the first squared: $16^2 = 256$. So $20^2 = \mathbf{400}$.

10. Answer: (C) Wednesday

22 April is 21 days after 1 April, and $21 = 3 \times 7$, exactly 3 whole weeks. So the day of the week repeats: **Wednesday**.

11. Answer: (D) Kharif

Kharif crops are sown with the monsoon and harvested in autumn.

12. Answer: (A) Lactobacillus

Lactobacillus converts milk sugar into lactic acid, setting the milk into curd.

13. Answer: (B) Graphite

Graphite is the one common non-metal that conducts electricity well.

14. Answer: (C) Mercury

Mercury is the only metal that is liquid at ordinary room temperature.

15. Answer: (D) Fossil

Fossil fuels formed from the remains of organisms buried millions of years ago.

16. Answer: (A) Ignition temperature

The **ignition temperature** is the lowest temperature at which a substance catches fire.

17. Answer: (B) Cell

The **cell** is the basic unit of life.

18. Answer: (C) Cell wall

A rigid **cell wall** is present only in plant cells.

19. Answer: (D) Fertilisation

Fertilisation is the fusion of sperm and egg.

20. **Answer: (A)** Newton
Force is measured in **newtons**.
21. **Answer: (B)** Pressure
Pressure = force ÷ area.
22. **Answer: (C)** A vacuum
Sound needs a material medium, so it cannot travel through **a vacuum**.
23. **Answer: (D)** Amplitude
Loudness depends on the **amplitude** of the vibration.
24. **Answer: (A)** Equal to
The angle of incidence is **equal to** the angle of reflection.
25. **Answer: (B)** Iris
The **iris** adjusts the size of the pupil.
26. **Answer: (C)** The sudden discharge of accumulated electric charges
Lightning is **the sudden discharge of accumulated electric charges**.
27. **Answer: (D)** Carbon dioxide
Carbon dioxide traps heat and drives the greenhouse effect.
28. **Answer: (A)** The presence of water
Water is not needed for combustion.
29. **Answer: (B)** Bakelite
Bakelite is used for electrical switches and plugs.
30. **Answer: (C)** Rayon
Rayon is called artificial silk.
31. **Answer: (D)** Robert Hooke
Robert Hooke discovered the cell in 1665.
32. **Answer: (A)** Metamorphosis
Metamorphosis is the drastic change of body form during development.
33. **Answer: (B)** Seismograph
A **seismograph** records earthquake vibrations.
34. **Answer: (C)** Copper
Copper is a good conductor of both heat and electricity.
35. **Answer: (D)** Rolling friction
Rolling friction is the smallest of the three.
36. **Answer: (A)** Desert — long roots and reduced leaves
Desert plants have **long roots and reduced leaves**.
37. **Answer: (B)** Hydrogen
An acid reacting with a reactive metal releases **hydrogen** gas.
38. **Answer: (C)** It releases toxic gases that pollute the air
Burning plastics **releases toxic gases** that pollute the air and harm health.
39. **Answer: (D)** Retina
The image is formed on the **retina**.
40. **Answer: (A)** CO₂ does not conduct electricity and smothers the fire
CO₂ does not conduct electricity and smothers the fire without damaging equipment.

- 41. Answer: (B)** To spread their weight over a larger area, reducing pressure on sand
Broad feet **spread the camel's weight over a larger area**, reducing pressure so it does not sink.
- 42. Answer: (C)** Eggs are fertilised outside the female's body, as in frogs and fish
In **external fertilisation** eggs and sperm meet outside the body, as in frogs and fish.
- 43. Answer: (D)** Polythene
Polythene is a thermoplastic that softens and can be remoulded.
- 44. Answer: (A)** Iron is more reactive than copper and displaces it
Iron is more reactive than copper and displaces it from the solution, depositing copper on the nail.
- 45. Answer: (B)** The outermost non-luminous zone
The **outermost non-luminous zone** has the freest oxygen supply and is hottest.
- 46. Answer: (B)** (ii) only
Statement (i) is false (mercury is liquid). Statement (ii) is true. Statement (iii) is false (thermoplastics remould, not thermosetting). Hence **(ii) only**.
- 47. Answer: (C)** Plant cover reduces soil erosion by running water
The only difference is the grass cover, so **plant cover reduces soil erosion by running water**.
- 48. Answer: (D)** On the smallest face, because the same weight acts on a smaller area, giving greater pressure
Pressure = force ÷ area, so **the smallest face concentrates the same weight on a smaller area, giving greater pressure**, and it sinks deeper.
- 49. Answer: (A)** 3
Number of images = $(360 \div \theta) - 1 = (360 \div 90) - 1 = 3$.
- 50. Answer: (B)** The seed is respiring, using up oxygen and releasing carbon dioxide
Milky lime water and the extinguished splint together prove **the seed is respiring**, using up oxygen and releasing carbon dioxide.