

Model Question Paper 1
Half-Yearly Examination 2026-27
SCIENCE

Time Allowed: 3 Hours

Maximum Marks: 80

General Instructions:

1. This question paper has 5 sections: A, B, C, D and E.
2. Section A has 20 objective type questions carrying 1 mark each.
3. Section B has 6 questions carrying 2 marks each. Answers to these should not exceed 40-50 words each.
4. Section C has 7 questions carrying 3 marks each. Answers to these should not exceed 60-80 words each.
5. Section D has 3 questions carrying 5 marks each. Answers to these should not exceed 120 words each.
6. Section E has 3 source/case-based questions carrying 4 marks each with sub-parts.
7. There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the choices in such questions.
8. Wherever necessary, neat and labelled diagrams should be drawn.

SECTION A

Question numbers 1 to 20 carry 1 mark each. Choose the most appropriate answer.

1. A student notices that potted plants kept near a window always bend and grow towards the light. Before designing an experiment to test her idea about why this happens, she first writes down a possible, testable explanation. This tentative explanation is called: [1]

- (a) An observation
- (b) A hypothesis
- (c) A conclusion
- (d) Raw data

Answer: (b) — A hypothesis — a tentative, testable explanation proposed before experimentation.

2. To test fairly whether sunlight affects seed germination, a student keeps two sets of pots exactly alike in soil, water and seed type, changing only whether they receive sunlight. The one factor she deliberately changes (sunlight) is called the: [1]

- (a) Controlled variable
- (b) Independent variable
- (c) Dependent variable
- (d) Constant

Answer: (b) — Independent variable — the one factor deliberately changed by the experimenter.

3. Which of the following is NOT a microorganism? [1]

- (a) Bacteria
- (b) A moss plant visible to the naked eye
- (c) Protozoa
- (d) Virus

Answer: (b) — A moss plant is visible to the naked eye, so it is not a microorganism.

4. To set curd from milk at home, a small spoonful of the previous day's curd (a 'starter') is added to warm milk. This starter mainly contains a large number of: [1]

- (a) Yeast cells
- (b) Lactobacillus bacteria
- (c) Protozoa
- (d) Viruses

Answer: (b) — Lactobacillus bacteria — they convert milk sugar into lactic acid, curdling the milk.

5. Viruses are often described as being on the borderline between living and non-living things mainly because they: [1]

- (a) Can walk or swim using tiny legs
- (b) Can multiply only after entering a living host cell
- (c) Have a fully developed cell structure like bacteria
- (d) Can make their own food using sunlight

Answer: (b) — Viruses show no signs of life outside a host and can reproduce only inside a living host cell.

6. A child who has already suffered from measles once almost never gets measles again. This is because the body's immune system has developed, against that specific pathogen, a: [1]

- (a) Permanent fever
- (b) Memory (immunity)
- (c) New blood group
- (d) Extra layer of skin

Answer: (b) — Immunological memory — the immune system 'remembers' the pathogen and responds quickly if exposed again.

7. A doctor tells a patient with an ordinary cold (caused by a virus) that antibiotics will not help him recover faster. This is because antibiotics are effective mainly against: [1]

- (a) Bacteria, not viruses
- (b) Viruses only
- (c) All microorganisms equally
- (d) Only fungal infections

Answer: (a) — Antibiotics act against bacteria; they have no effect on viruses, which cause the common cold.

8. Diseases that can spread from an infected person to a healthy person through air, water, food or physical contact are called: [1]

- (a) Deficiency diseases
- (b) Communicable (infectious) diseases
- (c) Non-communicable diseases
- (d) Hereditary diseases

Answer: (b) — Communicable diseases — caused by pathogens that can spread between people.

9. An electric iron, a room heater and a toaster all work mainly using the _____ effect of electric current. [1]

- (a) Magnetic
- (b) Heating
- (c) Chemical
- (d) Cooling

Answer: (b) — Heating effect of electric current.

10. A crane uses an electromagnet to lift and drop scrap iron by switching the current on and off. Without changing the battery used, its lifting strength can be increased by: [1]

- (a) Reducing the number of turns of coil around the core
- (b) Increasing the number of turns of coil around the iron core
- (c) Replacing the iron core with a wooden core
- (d) Disconnecting the switch

Answer: (b) — More turns of coil (carrying the same current) strengthen the electromagnet.

11. In an electric doorbell, pressing the button makes an electromagnet attract an iron strip, which strikes a gong and simultaneously breaks the circuit at that contact point, causing continuous ringing as long as the button is held. This working of the doorbell is mainly based on the: [1]

- (a) Heating effect of current
- (b) Magnetic effect of current

- (c) Chemical effect of current
- (d) Lighting effect of current only

Answer: (b) — The magnetic effect of current — the electromagnet's attraction on the iron strip.

12. A football lying still on the ground begins to move only after a player kicks it. This shows that a force is needed to: [1]

- (a) Change the colour of a body
- (b) Change the state of rest or motion of a body
- (c) Always raise the temperature of a body
- (d) Always act without any contact

Answer: (b) — Force can change the state of rest or of motion of a body.

13. A fielder catching a fast cricket ball gradually draws his hands backward while catching it, instead of keeping them still. This is done mainly to: [1]

- (a) Increase the force felt on the hands
- (b) Increase the time taken to stop the ball, reducing the force felt
- (c) Reduce friction between the ball and hands
- (d) Apply a non-contact force on the ball

Answer: (b) — Increasing the stopping time reduces the force experienced for the same change in the ball's momentum.

14. A refrigerator magnet sticks firmly to the steel door without the two ever needing to touch beforehand. The force that pulls the magnet towards the door even before contact is a: [1]

- (a) Contact force
- (b) Non-contact (magnetic) force
- (c) Muscular force
- (d) Frictional force

Answer: (b) — A non-contact (magnetic) force acts even without touching.

15. Weather bulletins before a cyclone report a very low atmospheric pressure at the storm's centre (the 'eye'), together with very high wind speeds around it. The strong winds occur mainly because: [1]

- (a) Air always moves from a low-pressure region to a high-pressure region
- (b) Air rushes in rapidly from the surrounding high-pressure region towards the low-pressure centre
- (c) Wind speed has no connection with air pressure
- (d) Temperature is always zero at the storm's centre

Answer: (b) — Air moves from high pressure to low pressure; a large pressure difference produces strong winds.

16. Wind is best described as: [1]

- (a) Air that is completely still
- (b) Air in motion
- (c) Water vapour rising into the sky
- (d) A measure of air pressure alone

Answer: (b) — Wind is simply moving air.

17. During a thunderstorm, people are advised not to take shelter under a tall, isolated tree standing alone in an open field. This is mainly because such a tree: [1]

- (a) Is more likely to be struck by lightning, and its branches may also break in strong wind
- (b) Increases the local air pressure dangerously
- (c) Absorbs all the surrounding oxygen
- (d) Always falls due to the cold alone

Answer: (a) — Tall isolated objects are more likely to be struck by lightning; strong winds can also snap branches.

18. A few drops of perfume released in one corner of a closed room can be smelt throughout the room within a short time, even with no fan or draught blowing. This happens mainly due to: [1]

- (a) Evaporation of the liquid perfume alone
- (b) Diffusion of perfume particles because of their constant random motion
- (c) Condensation of perfume vapour
- (d) The high density of gas particles staying in one place

Answer: (b) — Diffusion — perfume vapour particles move randomly and spread throughout the available space.

19. This question consists of two statements — Assertion (A) and Reason (R). Choose the correct option: [1]

Assertion (A): A gas can be compressed into a much smaller volume far more easily than a solid or a liquid.

Reason (R): In a gas, the particles are far apart with large empty spaces between them and negligible force of attraction, unlike the closely packed particles of a solid or liquid.

- (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

Answer: (a) — Both true; R correctly explains A — the large inter-particle spacing in gases allows easy compression.

20. This question consists of two statements — Assertion (A) and Reason (R). Choose the correct option: [1]

Assertion (A): Ice, liquid water and steam look and behave very differently from one another, even though all three are made of exactly the same water particles.

Reason (R): The arrangement, spacing and motion of the particles differ in the solid, liquid and gaseous states, and this difference gives each state its own distinct properties.

- (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

Answer: (a) — Both true; R correctly explains A — the particle model explains why the same substance behaves differently in its three states.

SECTION B

Question numbers 21 to 26 carry 2 marks each.

21. A student wants to find out whether the colour of a container affects how quickly hot water inside it cools down. State two things (other than the container's colour) that she must keep the same in her trials for it to be a fair test. [2]

Marking Scheme / Value Points:

- Same amount (volume) of water and the same starting temperature of water in each trial — 1 mark
- Same size/material/shape of container, and same surrounding conditions (e.g. same room, away from fans or sunlight) — 1 mark

22. Bread dough is often left covered in a warm place for some time before baking. Explain, in terms of the microorganism used, why this is done. [2]

Marking Scheme / Value Points:

- Yeast (a fungus) added to the dough respires on the sugar present, releasing carbon dioxide gas, which forms bubbles that make the dough rise and increase in volume — 1 mark
- A warm place provides suitable conditions for the yeast to grow, multiply and ferment effectively within a reasonable time — 1 mark

23. Two friends cut their hands at the same time while gardening. One cleans the wound and applies an antiseptic before bandaging it; the other simply covers the wound without cleaning it. Explain why the first friend's wound is less likely to get infected. [2]

Marking Scheme / Value Points:

- The antiseptic kills or inhibits the growth of disease-causing microorganisms (bacteria) present on the skin around the wound, reducing the chance of infection — 1 mark
- The uncleaned wound of the second friend allows microorganisms to enter and multiply inside it, making infection much more likely — 1 mark

24. Give one example each of a household appliance that mainly uses (a) the heating effect, and (b) the magnetic effect of electric current. [2]

Marking Scheme / Value Points:

- (a) Any valid example, e.g. electric iron, room heater, toaster, geyser — 1 mark
- (b) Any valid example, e.g. electric fan, electric bell, electric motor, loudspeaker (all use an electromagnet) — 1 mark

25. A boy finds it much harder to push a loaded trolley across a rough concrete floor than across a smooth tiled floor. (a) Name the force responsible for this difference. (b) Suggest one way to reduce this force. [2]

Marking Scheme / Value Points:

- (a) Force of friction — 1 mark
- (b) Any valid method, e.g. fitting wheels/rollers, using lubrication, or smoothening the surfaces in contact — 1 mark

26. Explain, in terms of air pressure, why mountaineers climbing very high peaks often find it difficult to breathe and need to carry oxygen cylinders. [2]

Marking Scheme / Value Points:

- Atmospheric pressure (and the amount of air present per breath) decreases as altitude increases — 1 mark
- With lower pressure, each breath takes in fewer oxygen molecules, making normal breathing insufficient, so climbers carry extra oxygen — 1 mark

SECTION C

Question numbers 27 to 33 carry 3 marks each.

27. A student measures the time taken for a candle to melt down by 1 cm under three different room conditions and repeats each measurement three times. (a) Why did she repeat each measurement three times? (b) What should she do with the three readings before comparing the conditions? [3]

Marking Scheme / Value Points:

- A single reading may be affected by small random or observational errors — 1 mark
- Repeating the measurement and calculating the average (mean) of the readings gives a more reliable value for each condition — 1 mark
- The averaged values can then be fairly compared across the three conditions to draw a sound conclusion — 1 mark

28. Fungi such as bread mould cannot make their own food. Explain how fungi obtain their nutrition, and explain why mould grows readily on stale, moist bread but not on a fresh, dry biscuit kept in the same box. [3]

Marking Scheme / Value Points:

- Fungi are heterotrophic — they absorb organic (ready-made) food from dead/decaying matter (saprophytic) or from a living host (parasitic) — 1 mark
- Stale bread has enough moisture and organic nutrients suited for fungal spores to germinate and grow — 1 mark
- The dry biscuit lacks sufficient moisture, so fungal spores cannot germinate and grow well on it — 1 mark

29. Explain the difference between a vaccine and a medicine such as an antibiotic, using the example of the polio vaccine given to a healthy child compared with antibiotics given to a person already suffering from a bacterial infection. [3]

Marking Scheme / Value Points:

- A vaccine is given to a healthy person beforehand to prevent a disease — it contains a weakened/dead pathogen (or its part) that stimulates the body to produce antibodies without causing the disease itself — 1.5 marks
- A medicine like an antibiotic is given to a person who is already sick, to kill or stop the growth of the bacteria already present in the body and cure the illness — 1.5 marks

30. Explain why an electric fuse wire is made of a metal with a low melting point, and describe what happens to it during a short circuit, referring to the heating effect of current. [3]

Marking Scheme / Value Points:

- A fuse wire has a low melting point so that it melts quickly when a very large current flows through it — 1 mark
- During a short circuit, the current in the circuit suddenly rises to a very high, unsafe value — 1 mark
- The heat produced by this excess current melts the fuse wire almost instantly, breaking the circuit and protecting the appliance/wiring from damage or fire — 1 mark

31. List three effects that a force can produce on an object, giving one everyday example for each. [3]

Marking Scheme / Value Points:

- Force can change the speed of a body, e.g. pedalling a bicycle harder makes it go faster — 1 mark
- Force can change the direction of motion of a body, e.g. a footballer heading the ball to redirect it — 1 mark
- Force can change the shape or size of a body, e.g. pressing dough or squeezing a rubber ball changes its shape — 1 mark

32. Explain, with reference to air pressure, how sucking on a drinking straw allows a liquid to rise into the mouth. [3]

Marking Scheme / Value Points:

- Sucking removes some air from inside the straw, lowering the air pressure inside it — 1 mark
- The atmospheric pressure acting on the liquid surface outside (in the glass) is now greater than the reduced pressure inside the straw — 1 mark
- This difference in pressure pushes the liquid up through the straw into the mouth — 1 mark

33. A wet cloth dries much faster on a hot, windy day than on a cool, still day. Explain this observation in terms of the particle nature of matter, referring to the effects of both temperature and moving air on evaporation. [3]

Marking Scheme / Value Points:

- Evaporation involves water particles at the liquid's surface gaining enough energy to escape into the air as vapour — 1 mark
- Higher temperature gives water particles more energy, so more of them evaporate and escape in a given time — 1 mark
- Wind carries away the water vapour particles as soon as they form, preventing the air just above the cloth from becoming saturated, which keeps the rate of evaporation high — 1 mark

SECTION D

Question numbers 34 to 36 carry 5 marks each.

34. Ravi's grandmother tells him that in her childhood, deadly diseases such as smallpox and polio were common, but today children rarely suffer from them because of a routine health programme followed since infancy. (a) Name this health programme/process. (b) Explain, in your own words, how it protects the body against a specific disease. (c) Define 'immunity'. (d) State one difference between natural immunity and the immunity gained through this programme. [5]

OR

A milk vendor keeps two identical cups of fresh milk — one at room temperature and one in the refrigerator — for the same length of time. By evening, the cup at room temperature has turned sour and curdled, while the refrigerated one is still fresh. (a) Name the type of microorganism mainly responsible for milk turning sour. (b) Explain, in terms of microorganisms, why the milk at room temperature spoiled faster. (c) State one useful application of this same kind of microbial action. (d) Suggest one other common household method (besides refrigeration) used to prevent food spoilage by microorganisms.

Marking Scheme / Value Points:

- (a) Vaccination (immunisation) — 1 mark
- (b) A vaccine contains a weakened or dead form of the disease-causing pathogen (or a harmless part of it); it stimulates the immune system to produce antibodies against that pathogen without the person suffering the actual disease; on later exposure to the real pathogen, these antibodies (and memory cells) act quickly to destroy it — 2 marks
- (c) Immunity is the ability of the body to resist and fight disease-causing microorganisms and the toxins produced by them — 1 mark
- (d) Natural immunity develops automatically after actually suffering from a disease (or is present from birth); immunity from vaccination is deliberately induced by introducing a weakened/dead pathogen without the person having to suffer the full disease — 1 mark

OR (value points):

- (a) Bacteria (souring bacteria such as *Lactobacillus*, naturally present in milk) — 1 mark
- (b) At room temperature, these bacteria find favourable warm conditions to grow and multiply rapidly, converting milk sugar (lactose) into lactic acid, which curdles/sours the milk; low refrigerator temperature slows down their growth and activity — 2 marks
- (c) The same souring/fermentation action is used deliberately to set curd/yogurt from milk — 1 mark
- (d) Any valid method, e.g. boiling, drying, salting, pickling, or storing food in air-tight containers to prevent microbial spoilage — 1 mark

35. A student wants to make a simple electromagnet using a long iron nail, insulated copper wire and a battery, to pick up small iron pins. (a) Describe briefly how she should set up this electromagnet. (b) State two ways she can increase its strength without changing the battery. (c) Give one reason why an iron nail (and not a copper rod) is used as the core. (d) Name one practical device (other than a crane) that works using an electromagnet. [5]

OR

A delivery boy pushes two boxes of the same size across a floor — one empty and one filled with books. He finds the loaded box much harder to start moving, and it also stops sooner once he lets go, compared to the empty box. (a) Name the force that opposes the motion of the boxes on the floor. (b) Explain why the loaded box is harder to push than the empty one. (c) Suggest one way the delivery boy could reduce this force to move the loaded box more easily. (d) State one situation from daily life where this same force is actually useful rather than a hindrance.

Marking Scheme / Value Points:

- (a) She should wind the insulated copper wire tightly in several close turns around the iron nail, then connect the two free ends of the wire to the terminals of the battery to complete the circuit — 1.5 marks
- (b) Any two valid ways, e.g. increasing the number of turns of the coil around the nail; increasing the current supplied (e.g. using more cells) — 1.5 marks
- (c) Iron is a magnetic material that gets easily magnetised when current flows through the coil and loses its magnetism once current stops, making it suitable as a temporary electromagnet core; copper is non-magnetic and would not strengthen the magnetic effect — 1 mark
- (d) Any valid example, e.g. electric bell/doorbell, electric motor, MRI machine, loudspeaker — 1 mark

OR (value points):

- (a) Force of friction — 1 mark
- (b) Friction depends on how strongly the two surfaces press against each other; the loaded box is heavier, so it presses down on the floor with a greater force, increasing friction and making it harder to push — 2 marks
- (c) Any valid suggestion, e.g. placing the box on a wheeled trolley/rollers, or lubricating/smoothening the contact surface — 1 mark
- (d) Any valid example, e.g. friction between feet and ground allows walking without slipping; friction between tyres and road allows vehicles to move and brake safely — 1 mark

36. During the rainy season, TV weather reports often announce a 'cyclone warning' for coastal areas, mentioning both very low pressure and very high wind speeds. (a) What is a cyclone? (b) Explain why cyclones are associated with very low atmospheric pressure at their centre. (c) State two precautions people in coastal areas should take when a cyclone warning is issued. (d) Name one instrument used to measure atmospheric pressure. [5]

OR

A sponge cake made with baking powder rises and becomes soft and full of tiny holes when baked, while a chapati dough (without baking powder) stays flat. (a) Explain, using the particle model of matter, what happens inside the cake batter as it bakes. (b) Why does the baked cake become full of tiny holes/pores? (c) Name the physical state of the gas trapped inside the baked cake. (d) State one other everyday example where a change in temperature changes the state of matter.

Marking Scheme / Value Points:

- (a) A cyclone is a violent storm with very strong, swirling winds rotating around a centre of very low pressure, usually forming over warm ocean waters — 1 mark
- (b) Warm, moist air over the ocean rises rapidly, creating a low-pressure region at the centre; surrounding cooler, higher-pressure air rushes in rapidly towards this low-pressure centre, generating very strong winds — 1.5 marks
- (c) Any two valid precautions, e.g. moving to a safer place/cyclone shelter, staying indoors and away from windows, keeping emergency supplies (torch, food, water) ready, avoiding the sea shore and open areas — 1.5 marks
- (d) Barometer — 1 mark

OR (value points):

- (a) On heating, the baking powder releases carbon dioxide gas; as the batter heats up further, the gas particles gain energy, move faster and spread out, expanding and pushing against the surrounding soft batter — 1.5 marks
- (b) The expanding gas forms bubbles trapped within the setting batter; as the cake bakes and hardens around these bubbles, they remain as tiny holes/pores in the finished cake — 1.5 marks
- (c) Gaseous state — 1 mark
- (d) Any valid example, e.g. ice melting into water on heating, water boiling into steam, wax melting near a flame — 1 mark

SECTION E

Question numbers 37 to 39 are source/case-based questions carrying 4 marks each with four sub-parts each.

Case Study 1 — Question 37 [4 Marks]

Sunita's family makes curd at home every day by adding a spoonful of the previous day's curd (called a 'starter') to lukewarm milk and leaving it covered overnight in a warm corner of the kitchen. She noticed that on cold winter nights, the milk sometimes takes much longer to set into curd, and once, when she forgot to cover the vessel, a greenish patch grew on top of the curd after two days.

(i) Name the microorganism mainly responsible for curdling milk into curd. [1]

Answer: Lactobacillus bacteria (a type of bacterium).

(ii) Why does Sunita's family add a spoonful of the previous day's curd (a starter) to the fresh milk instead of just leaving the milk on its own? [1]

Answer: The starter curd already contains a large number of the required bacteria (Lactobacillus); adding it speeds up and ensures proper souring/curdling of the fresh milk instead of relying on chance bacterial contamination.

(iii) Explain why the milk takes longer to set into curd on cold winter nights. [1]

Answer: The souring bacteria grow and multiply best at warm temperatures; in cold weather their growth and activity slow down, so the curdling (fermentation) process takes longer.

(iv) What is the greenish patch that grew on the uncovered curd, and suggest one way it could have been prevented? [1]

OR Name one human disease caused by a fungus, and state one general method to prevent fungal growth on stored food.

Answer: The greenish patch is a mould/fungus that grew from spores present in the air, settling and growing on the exposed curd (fungi need moisture, warmth and exposure to spores to grow); keeping the vessel covered could have prevented it.

OR Answer: Ringworm (a fungal skin disease) is one example; covering food, refrigerating it, or storing it in dry, air-tight conditions helps prevent fungal growth (any valid method).

Case Study 2 — Question 38 [4 Marks]

A hostel warden notices two common appliances used by students: an electric room heater that becomes very hot within seconds of switching on, and an electric bell that rings continuously with a buzzing sound as soon as its switch is pressed. Both work using electric current, but through different effects.

(i) Which effect of electric current makes the room heater's coil become red hot? [1]

Answer: The heating effect of electric current.

(ii) Explain briefly why the heater's coil (usually made of an alloy such as nichrome) becomes so hot when current passes through it. [1]

Answer: The coil is made of a material with high resistance; as current flows through this high-resistance wire, a large amount of electrical energy is converted into heat energy, making the coil glow red hot.

(iii) Which effect of electric current is mainly responsible for the working of the electric bell? [1]

Answer: The magnetic effect of electric current — an electromagnet inside the bell attracts an iron strip/hammer that strikes the gong.

(iv) Explain briefly, in sequence, why the electric bell rings continuously as long as its switch is kept pressed, rather than striking just once. [1]

OR Suggest one precaution that should be followed while using an electric room heater to avoid accidents.

Answer: When the switch is pressed, current flows through the electromagnet's coil, which attracts the iron strip, making the hammer strike the gong; but this movement also breaks the electrical contact at that point, switching off the current momentarily; the electromagnet then loses its magnetism, and a spring pulls the strip back to its original position, remaking the contact; current flows again and the cycle repeats rapidly, producing continuous ringing.

OR Answer: Any valid precaution, e.g. do not touch the heater with wet hands, keep it away from curtains or other flammable material, switch it off when not in use, or do not overload the socket it is connected to.

Case Study 3 — Question 39 [4 Marks]

Before the onset of a cyclone along the coast, weather scientists observe a sudden and rapid drop in atmospheric pressure recorded on their barometers, along with a sharp increase in wind speed. Coastal fishermen are warned in advance through radio and mobile alerts not to venture into the sea, and residents are advised to move to designated cyclone shelters.

(i) Name the instrument mentioned in the passage that is used to measure atmospheric pressure. [1]

Answer: Barometer.

(ii) What relationship between air pressure and wind is illustrated by the fact that wind speed increases sharply as atmospheric pressure drops at the cyclone's centre? [1]

Answer: Wind blows from a region of higher pressure to a region of lower pressure; the greater the difference in pressure between two regions, the stronger the wind that blows between them — hence the very low pressure at the cyclone's centre produces very high wind speeds.

(iii) Why are fishermen specifically warned not to venture into the sea before a cyclone? [1]

Answer: Cyclones bring extremely strong winds and rough, high seas (large waves) that can capsize boats and endanger the lives of fishermen out at sea.

(iv) Explain why coastal areas are more prone to cyclones than places far inland. [1]

OR Suggest two measures (other than moving to a shelter) that a coastal family can take to prepare for an approaching cyclone.

Answer: Cyclones form and gain their energy from warm, moist air rising over warm ocean waters; as they move towards land, they weaken due to loss of this moisture/energy source and increased friction with land, so coastal areas bear the full force of the storm while inland areas are far less affected.

OR Answer: Any two valid measures, e.g. storing drinking water and dry food, keeping torches, batteries and a first-aid kit ready, securing loose objects and roofs, keeping important documents safe, and staying updated with weather alerts.