



**INDIAN SCHOOL SALALAH**  
**ACADEMIC YEAR 2026 – 2027**



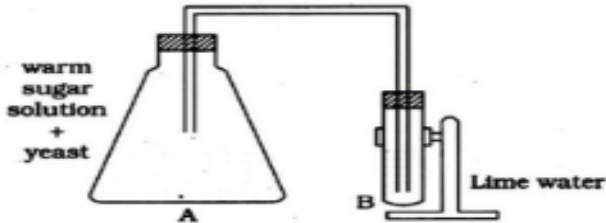
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|--------------------------------|----------------------|--|--|--|--|-------------------------------------------------------------------------------------------------|
| Roll No:                       |                      |  |  |  |  | Assessment Type: <b>FIRST TERM EXAMINATION</b><br><b>SEPTEMBER - 2026</b>                       |
| Grade: VIII                    | Marks Obtained:      |  |  |  |  | <div style="border: 1px solid black; padding: 10px; text-align: center; width: 100px;">80</div> |
| Subject: <b>SCIENCE (086)</b>  |                      |  |  |  |  |                                                                                                 |
| Date of Assessment: 17/09/2026 | Time: <b>3 Hours</b> |  |  |  |  |                                                                                                 |

**General Instructions:**

- a. This question paper consists of 39 questions in 3 sections. Section A is Biology; Section B is Chemistry and Section C is Physics.
- b. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

**SECTION A- BIOLOGY**

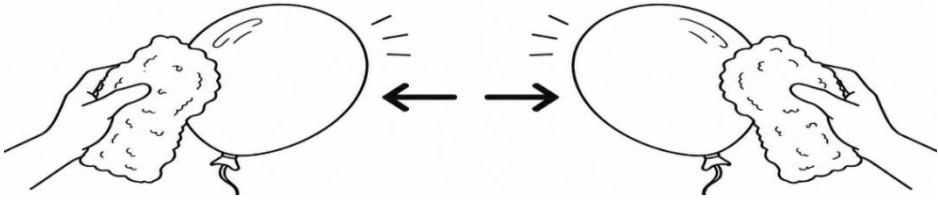
|   |                                                                                                                                                                                                                                                                                                                                            |   |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 1 | Which of the following organisms is used as a food supplement and also helps in producing oxygen?<br>A) Mould<br>B) Yeast<br>C) Spirulina<br>D) Rhizobium                                                                                                                                                                                  | 1 |
| 2 | Maya was asked to identify the diseases that can spread through contaminated air. Help her choose the correct option from the following.<br>A) Cholera, Typhoid, Malaria, Dengue<br>B) Chicken pox, Tuberculosis, Measles, Common cold<br>C) Ascariasis, Hepatitis A, Malaria, Influenza<br>D) Typhoid, Dengue fever, Chicken pox, Cholera | 1 |
| 3 | Who discovered the first antibiotic penicillin?<br>A) Edward Jenner<br>B) Alexander Hook<br>C) Edward Johnson<br>D) Alexander Fleming                                                                                                                                                                                                      | 1 |
| 4 | Identify the correctly matched pair from the following.<br>A) Spirogyra – Nitrogen fixation<br>B) Fungus – Algae production<br>C) Protozoa – Manure<br>D) Lactobacillus - Curd                                                                                                                                                             | 1 |
| 5 | During a picnic, some students drank contaminated water and later fell ill. What are the microorganisms that cause diseases called?<br>A) Pathogens<br>B) Vectors<br>C) Antibodies<br>D) Vaccines                                                                                                                                          | 1 |

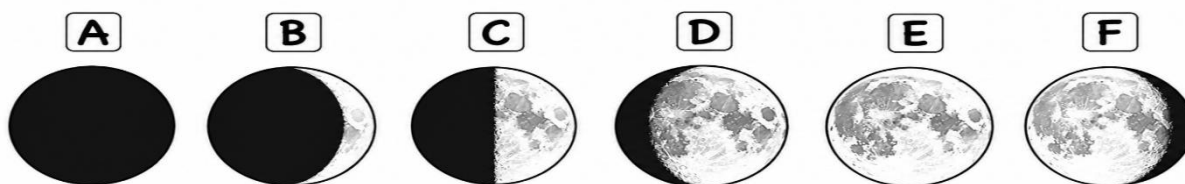
|                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 6                                                                                                                                                                                                                                                                                                                                                                                                                | A cell needs to control all its activities and store genetic information. Which organelle performs this function?<br>A) Cytoplasm<br>B) Cell membrane<br>C) Nucleus<br>D) Vacuole                                                                                                                                                                                                                                                                            | 1 |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                | Amala frequently eats junk food and does very little physical activity. Which health problem is she more likely to develop over time?<br>A) Malaria<br>B) Obesity<br>C) Cholera<br>D) Dengue                                                                                                                                                                                                                                                                 | 1 |
| <p>The following two questions consist of two statements – Assertion (A) and Reason (R). Answer this question by selecting the appropriate option given below:</p> <p>A) Both A and R are true, and R is the correct explanation of A.<br/>         B) Both A and R are true, and R is not the correct explanation of A.<br/>         C) A is true but R is false.<br/>         D) A is false but R is true.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                | <p><b>Assertion (A):</b> Antibiotics are effective against bacterial diseases but not viral diseases.</p> <p><b>Reason (R):</b> Antibiotics act on bacteria and cannot destroy viruses.</p>                                                                                                                                                                                                                                                                  | 1 |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                | <p><b>Assertion (A):</b> Microorganisms help in converting organic waste into manure.</p> <p><b>Reason (R):</b> Microorganisms convert manure into harmful chemicals.</p>                                                                                                                                                                                                                                                                                    | 1 |
| 10                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Observe the experimental setup shown in the figure and answer the following questions.</p>  <p><b>Student 1:</b> What happens to the sugar solution in flask A after some time?</p> <p><b>Student 2:</b> What do you observe in test tube B after four hours, and why do you think this change occurs?</p>                                                             | 2 |
| 11                                                                                                                                                                                                                                                                                                                                                                                                               | <p>During a health awareness activity, Anu and Riya discuss organisms that can spread diseases.</p> <p>Anu says, "I learned about a tiny organism that lives on the human hair and feeds on blood."</p> <p>Riya says, "I learned about an insect that can carry disease-causing microorganisms from uncovered food to people."</p> <p>Identify the organism described by Anu and the insect described by Riya, and define the terms parasite and vector.</p> | 2 |
| 12                                                                                                                                                                                                                                                                                                                                                                                                               | While observing a plant cell under a microscope, Arun notices its different parts. Draw                                                                                                                                                                                                                                                                                                                                                                      | 2 |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------------------------------------------------------|--|---|-----------------------------------------------------------------------|--|------|----------------------------------------------------------------------------|--|-----------|--|--|-------|-----------------------------------------------------------------------|--|--|
|           | a neat, labelled diagram of a plant cell and label any two parts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| 13        | <p>A) Rohan had a bacterial infection and was prescribed antibiotics. He stopped taking the medicine as soon as he felt better. Later, the same antibiotic was less effective against the infection.</p> <p>i) Why might the same antibiotic fail to kill the bacteria that it previously killed?</p> <p>ii) Suggest two measures that can help prevent this problem.</p> <p style="text-align: center;"><b>OR</b></p> <p>B) During a biology class, the teacher explained that diseases can be either acute or chronic. Mala said, "I had a fever, which was an acute illness, but my grandfather suffers from hypertension, which is a chronic disease. Differentiate between acute and chronic diseases using any three points.</p> | 3 |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| 14.       | <p>Ravi visited the school laboratory and observed Amoeba under the microscope. He noticed that this tiny organism performs all life processes like movement, feeding, and reproduction within a single cell. Later, he compared this with a cat, whose body has specialized organs such as lungs, heart, stomach, and brain — each made of many cells performing different functions.</p> <p>Based on the above observation answer the questions given below:</p>                                                                                                                                                                                                                                                                     | 4 |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
|           | <table border="1"> <tr> <td>A</td><td>Name the organism which is unicellular and the one which is multicellular.</td><td></td></tr> <tr> <td>B</td><td>Write one difference between unicellular and multicellular organisms.</td><td></td></tr> <tr> <td>C(I)</td><td>Describe how life processes are carried out differently in Amoeba and cat.</td><td></td></tr> <tr> <td colspan="3" style="text-align: center;"><b>OR</b></td></tr> <tr> <td>C(II)</td><td>Explain the levels of organisation seen in cat, but absent in Amoeba.</td><td></td></tr> </table>                                                                                                                                                                      | A | Name the organism which is unicellular and the one which is multicellular. |  | B | Write one difference between unicellular and multicellular organisms. |  | C(I) | Describe how life processes are carried out differently in Amoeba and cat. |  | <b>OR</b> |  |  | C(II) | Explain the levels of organisation seen in cat, but absent in Amoeba. |  |  |
| A         | Name the organism which is unicellular and the one which is multicellular.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| B         | Write one difference between unicellular and multicellular organisms.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| C(I)      | Describe how life processes are carried out differently in Amoeba and cat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| <b>OR</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| C(II)     | Explain the levels of organisation seen in cat, but absent in Amoeba.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| 15(I)     | <p><b><u>Attempt either option (I) or (II).</u></b></p> <p>A) How are communicable diseases different from non-communicable diseases? Give one example of each.</p> <p>B) Write any two symptoms of diabetes.</p> <p>C) A communicable disease is spreading rapidly in a community. List any two measures that can be taken to control its spread.</p>                                                                                                                                                                                                                                                                                                                                                                                 | 5 |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
|           | <b>OR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |
| 15(II)    | <p>A) Arun has heart disease and his doctor advises him to follow a healthy lifestyle. What type of disease is heart disease? Define this type of disease and give one more example.</p> <p>B) Fida often eats junk food and spends most of her free time watching television. What two measures can Riya follow to reduce the risk of lifestyle diseases?</p>                                                                                                                                                                                                                                                                                                                                                                         |   |                                                                            |  |   |                                                                       |  |      |                                                                            |  |           |  |  |       |                                                                       |  |  |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                                                                                                                                                                                                                                                                                                                                                                                          | C) Maya was given a vaccine against measles. Later, when she came in contact with a measles patient, she did not fall sick. How does vaccination help her body to fight diseases?                                                                                                          |   |
|                                                                                                                                                                                                                                                                                                                                                                                          | <b>SECTION B - CHEMISTRY</b>                                                                                                                                                                                                                                                               |   |
| 16                                                                                                                                                                                                                                                                                                                                                                                       | Interparticle attractions are strongest in<br>A) Solid<br>B) Liquid<br>C) Gas<br>D) None of these                                                                                                                                                                                          | 1 |
| 17                                                                                                                                                                                                                                                                                                                                                                                       | Anything has mass and volume is known as<br>A) Energy<br>B) Matter<br>C) heat<br>D) Force                                                                                                                                                                                                  | 1 |
| 18                                                                                                                                                                                                                                                                                                                                                                                       | The metal that is liquid at room temperature.<br>A) Iron<br>B) Aluminium<br>C) Bromine<br>D) Mercury                                                                                                                                                                                       | 1 |
| <p>The following one question consists of two statements – Assertion (A) and Reason (R). Answer this question by selecting the appropriate option given below:</p> <p>A) Both A and R are true, and R is the correct explanation of A.<br/> B) Both A and R are true, and R is not the correct explanation of A.<br/> C) A is true but R is false.<br/> D) A is false but R is true.</p> |                                                                                                                                                                                                                                                                                            |   |
| 19                                                                                                                                                                                                                                                                                                                                                                                       | <b>Assertion:</b> Gases have no fixed volume.<br><b>Reason:</b> Interparticle attractions in gases are maximum.                                                                                                                                                                            | 1 |
| 20                                                                                                                                                                                                                                                                                                                                                                                       | Sara takes a few ice cubes from the freezer and places them on a plate. After some time, she notices that the ice cubes become smaller and water collects on the plate.<br>A) What change of state is taking place?<br>B) Why does the ice change into water?<br>C) What is melting point? | 2 |
| 21                                                                                                                                                                                                                                                                                                                                                                                       | In science, a pure substance is the one that has no other substance present in it. Write any two characteristics of pure substances.                                                                                                                                                       | 2 |
| 22                                                                                                                                                                                                                                                                                                                                                                                       | Describe an activity to show that gases are compressible.                                                                                                                                                                                                                                  | 3 |
| 23                                                                                                                                                                                                                                                                                                                                                                                       | Matter is made up of tiny particles that are continuously moving. The movement and arrangement of these particles vary in different states of matter. Explain how particles move in solids, liquids, and gases.                                                                            | 3 |
| 24                                                                                                                                                                                                                                                                                                                                                                                       | A) In our daily lives, we encounter many substances that are made up of two or more components.<br>a) What are mixtures?<br>b) What are the differences between uniform and non-uniform mixtures? ( 2 points)<br><b>OR</b>                                                                 | 3 |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |                     |   |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------|---|
|                     | B) Complete the table below by identifying the type of mixture, giving a suitable example, and stating whether the mixture is uniform or non-uniform.                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                        |                     |   |
|                     | Mixture type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Examples                                                               | Uniform/non-uniform |   |
|                     | a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Air                                                                    | uniform             |   |
|                     | Gas and liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Soda water                                                             | b                   |   |
|                     | Solid and liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | c                                                                      | Non-uniform         |   |
|                     | d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Baking powder                                                          | Uniform             |   |
|                     | ii) When carbon dioxide gas is passed through clear lime water, the lime water turns milky. Write the word equation for the reaction between carbon dioxide and lime water.                                                                                                                                                                                                                                                                                                                                                                           |                                                                        |                     |   |
| 25                  | Everything around us is made up of matter, and matter is made up of tiny particles. Elements have different properties and uses. For example, iron is strong and is used in construction, bridges, and machinery. Aluminium is light and is used for making utensils, cans, and aircraft parts. Copper is a good conductor of electricity and is therefore used in electrical wires. Oxygen is essential for respiration, while carbon is present in all living organisms. Thus, different elements are useful because of their different properties. |                                                                        |                     | 4 |
|                     | A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | What is an element?                                                    |                     |   |
|                     | B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Classify iron, copper, oxygen, and carbon as metals or non-metals.     |                     |   |
|                     | C(I)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Why metalloids are considered different from metals and non-metals?    |                     |   |
|                     | OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                        |                     |   |
|                     | C(II)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | What is meant by an alloy? Name one commonly used alloy as an example. |                     |   |
| 26(I)               | A) The particles of matter have different amounts of space between them in different states.<br>Arrange the following in increasing order of interparticle space.<br>Glycerin, Oxygen, iron rod<br>B) Explain how the interparticle space differs in each state and how it affects their properties.<br>C) Define interparticle attraction.                                                                                                                                                                                                           |                                                                        |                     | 5 |
|                     | OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                        |                     |   |
| 26(II)              | A) Differentiate between evaporation and boiling with respect to temperature, the place where they occur, and the speed of the process.<br>B) Why does the water in the ocean taste salty, even though the salt is not visible? Explain.                                                                                                                                                                                                                                                                                                              |                                                                        |                     |   |
| SECTION C - PHYSICS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |                     |   |
| 27                  | Two balloons rubbed with the same woollen cloth move away from each other because:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                        |                     | 1 |

|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                        |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                                                                                                                                                                                                                                                                                                                                                                                       |  <p>A) unlike charges attract<br/>C) gravity pushes them apart</p> <p>B) both balloons acquire similar charges<br/>D) friction disappears</p>                        |   |
| 28                                                                                                                                                                                                                                                                                                                                                                                    | <p>A day and night is primarily based on:</p> <p>A) Rotation of Earth<br/>C) Rotation of the Sun</p> <p>B) Revolution of the Moon<br/>D) Revolution of Earth around the Sun</p>                                                                        | 1 |
| 29                                                                                                                                                                                                                                                                                                                                                                                    | <p>A weather satellite shows a large rotating system of clouds, strong winds and rain forming over warm ocean water. Which phenomenon is most likely being observed?</p> <p>A) Sea breeze<br/>C) Land breeze</p> <p>B) Cyclone<br/>D) Thunderstorm</p> | 1 |
| 30                                                                                                                                                                                                                                                                                                                                                                                    | <p>A spring balance has 10 equal divisions between 0 N and 5 N. What is the value of each division?</p> <p>A) 0.2 N<br/>C) 0.5 N</p> <p>B) 1 N<br/>D) 2 N</p>                                                                                          | 1 |
| 31                                                                                                                                                                                                                                                                                                                                                                                    | <p>Two identical containers are filled with water up to different heights. At the bottom, the container with the taller water column will have:</p> <p>A) Less pressure<br/>C) Equal pressure</p> <p>B) More pressure<br/>D) No pressure</p>           | 1 |
| 32                                                                                                                                                                                                                                                                                                                                                                                    | <p>The tropical year is measured with reference to which event?</p> <p>A) One full Moon to the next<br/>C) One sunrise to the next sunrise</p> <p>B) One spring equinox to the next spring equinox<br/>D) One new Moon to the next new Moon</p>        | 1 |
| <p>The following one question consists of two statements – Assertion (A) and Reason (R). Answer this question by selecting the appropriate option given below:</p> <p>A) Both A and R are true, and R is the correct explanation of A.<br/>B) Both A and R are true, and R is not the correct explanation of A.<br/>C) A is true but R is false.<br/>D) A is false but R is true.</p> |                                                                                                                                                                                                                                                        |   |
| 33                                                                                                                                                                                                                                                                                                                                                                                    | <p>Assertion: Applying force to an object does not necessarily make it move faster.<br/>Reason: Depending on the direction of force, the speed of an object may increase or decrease.</p>                                                              | 1 |
| 34                                                                                                                                                                                                                                                                                                                                                                                    | <p>Observe the figure showing the different phases of the Moon.</p>                                                                                                                                                                                    | 2 |



- A) Name the phases of the Moon labelled as A, C and E.  
 B) Which phase of the Moon is not visible from the Earth?

35

A) Study the table:

| Situation | Force | Area               |
|-----------|-------|--------------------|
| P         | 20 N  | 0.2 m <sup>2</sup> |
| Q         | 20 N  | 0.1 m <sup>2</sup> |
| R         | 40 N  | 2 m <sup>2</sup>   |

- 1) Calculate the pressure in situations P and Q.  
 2) If the force in situation P is doubled while the area remains unchanged, state how the pressure changes and calculate the new pressure.

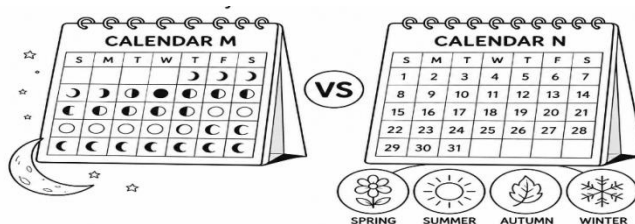
OR

- B) 1) During a school picnic, Aarav notices that his friend finds it easier to carry a bag with broad straps. Why are school bags designed with broad shoulder straps?  
 2) Boat X has a base area of 10 m<sup>2</sup> and carries 5 people, each weighing 600 N. Boat Y has a base area of 5 m<sup>2</sup> and carries 3 people, each weighing 600 N. Determine the pressure exerted on the base of each boat. Which boat exerts greater pressure and by how much?

3

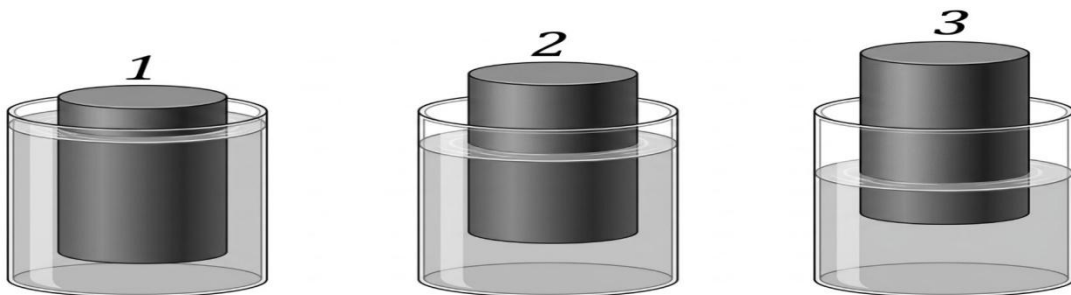
36

Two calendars are compared. Calendar M follows the Moon closely, while Calendar N keeps dates connected with the seasons.



- A) Write the approximate length of the year of Calendar M and Calendar N.  
 B) Explain why the dates in Calendar M gradually shift through the seasons.  
 C) Identify the type of calendar represented by Calendar N and name the natural cycle on which it is based.

3

|       |                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |   |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 37    | Observe the table and answer the following questions.                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3 |
|       | Surface                                                                                                                                                                                                                                                                                                                                                                         | Observation                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |
|       | Polished floor                                                                                                                                                                                                                                                                                                                                                                  | Block moves easily                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |
|       | Rough mat                                                                                                                                                                                                                                                                                                                                                                       | Block moves with some difficulty                                                                                                                                                                                                                                                                                                                                                                                                                                               |   |
|       | Gravel surface                                                                                                                                                                                                                                                                                                                                                                  | Block requires greater effort                                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |
|       | A) Which surface offers the least friction?<br>B) Arrange the three surfaces in decreasing order of friction.<br>C) How does the roughness of a surface affect the friction between the surface and the block?                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |   |
| 38    | A student is conducting an experiment with a wooden block. She uses two different balances to measure the block and records the readings obtained. She then places the same wooden block in a beaker of water and observes that the block floats on the water surface. She repeats the experiment carefully and records her observations.                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4 |
|       | A)                                                                                                                                                                                                                                                                                                                                                                              | What does the measurement obtained using a beam balance and spring balance represent?                                                                                                                                                                                                                                                                                                                                                                                          |   |
|       | B)                                                                                                                                                                                                                                                                                                                                                                              | Why does the wooden block float on water?                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
|       | C(I)                                                                                                                                                                                                                                                                                                                                                                            | a) Three objects 1,2, and 3 of the same size and shape but made of different materials are placed in the water. They dip to different depths as shown in the figure. If the weights of the three objects in air 1,2, and 3 are $W_1$ , $W_2$ , and $W_3$ , respectively, find the correct order of their weights from greatest to least.<br><div></div><br>b) State Archimedes' principle. |   |
|       | OR                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |   |
|       | C(II)                                                                                                                                                                                                                                                                                                                                                                           | A suitcase has a mass of 20 kg on Earth. It is taken to the Moon without adding or removing anything.<br>a) What happens to its mass and weight on the Moon?<br>b) Why are the mass and weight affected differently?                                                                                                                                                                                                                                                           |   |
| 39(I) | <b><u>Attempt either option (I) or (II).</u></b><br>A family living in a coastal area receives a warning about very strong winds. Before the storm becomes severe, they open the doors and windows of their house.<br>A) Why can strong winds create a pressure difference around the roof?<br>B) How does opening the doors and windows help reduce the risk of the roof being |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5 |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|        | <p>blown away?</p> <p>C) In which direction does air naturally move between two regions having different pressures?</p> <p>D) Describe an activity using two balloons to show that high-speed winds are accompanied by reduced air pressure.</p>                                                                                                                                                                                                                                                                                                                    |  |
|        | <b>OR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 39(II) | <p>During a rainy evening, Anaya is at home when she notices a bright flash in the sky followed by a loud sound. She also observes that the nearby school building has a special arrangement installed on its roof to protect it during such weather conditions.</p> <p>A) Identify the natural phenomenon observed by Anaya and explain how it occurs.</p> <p>B) Mention any two safety measures that should be followed during this phenomenon.</p> <p>C) What is the special arrangement installed on the roof called? Explain how it protects the building.</p> |  |

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