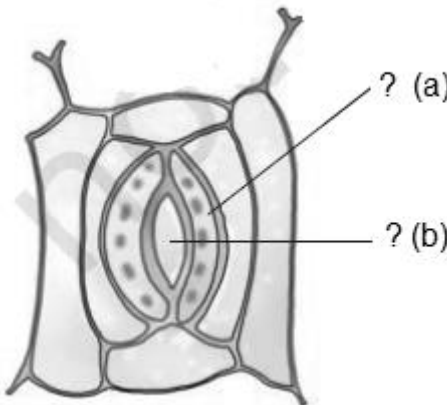


		<p>Marking Scheme/ Solutions</p> <p>Class: VII</p> <p>Mid Term Examination 2022-2023</p> <p>Science Set “A1 and A2”</p> <p>MM: 80</p>	
SetB1	Set B2	Expected Answers/ Value Points	Marks
Q.No1 (MCQ)	Q.No 4	<p>1.</p> <p>(i) The plant which traps and feeds on insects is:</p> <p>(a) cuscuta (b) china rose (c) pitcher plant (d) rose</p> <p>Answer: (c) pitcher plant (1)</p> <p>(ii) Calamine solution is</p> <p>(a) acidic in nature (b) basic in nature (c) both acidic and basic in nature (d) an indicator solution.</p> <p>Answer: (b) basic in nature (1)</p> <p>(iii) An iron ball at 65°C is dropped in a mug containing water at 65°C. The heat will</p> <p>(a) flow from iron ball to water. (b) not flow from iron ball to water or from water to iron ball. (c) flow from water to iron ball. (d) increase the temperature of both.</p> <p>Answer: (b) not flow from iron ball to water or from water to iron ball. (1)</p> <p>(iv) Fat is completely digested in the</p> <p>(a) stomach (b) mouth (c) small intestine (d) large intestine</p> <p>Answer: (c) small intestine (1)</p> <p>(v) Micro-organisms act upon the dead plants to produce</p> <p>(a) sand</p>	(6)

		<p>(b) mushrooms (c) humus (d) wood</p> <p>Answer: (c) humus (1)</p> <p>(vi) In cockroaches, air enters the body through</p> <p>(a) lungs (b) gills (c) spiracles (d) skin</p> <p>Answer: (c) (1)</p>	
Q.No2 (Fill up)	Q.No 1	<p>2</p> <p>(a) In photosynthesis solar energy is captured by the pigment called <b><u>CHLOROPHYLL</u></b>.</p> <p>(b) Bases are <b><u>SOAPY</u></b> in touch. (1)</p> <p>(c) Temperature of boiling water cannot be measured by a <b><u>CLINICAL</u></b> thermometer. (1)</p> <p>(d)The largest gland in the human body is <b><u>LIVER</u></b>. (1)</p> <p>(e) The insects, butterflies, honeybees and birds help flowering plants in <b><u>POLLINATION</u></b>. (1)</p> <p>(f) The number of times a person breathes in a minute is termed as the <b><u>BREATHING RATE</u></b>. (1)</p> <p>(g) The gas absorbed by green plants during photosynthesis is <b><u>CARBONDIOXIDE</u></b>. (1)</p> <p>(h) Factory waste is <b><u>NEUTRALISED</u></b> before disposing it into the water bodies. (1)</p> <p>(i) Air gets heated up by <b><u>CONVECTION</u></b> method. (1)</p> <p>(j) Amoeba digests its food in the <b><u>FOOD VACUOLE</u></b>. (1)</p> <p>(k) A forest is a purifier of air and <b><u>WATER</u></b> (1).</p> <p>(l) We often <b><u>SNEEZE</u></b> when we inhale a lot of dust-laden air. (1).</p>	(12)
Q.No3 (T/F)	Q.No 2	<p>3</p> <p>(a) The product of photosynthesis is not a protein. – <b><u>T</u></b>(1)</p> <p>(b) Solar energy is converted into chemical energy during photosynthesis. – <b><u>T</u></b>(1)</p>	(12)

		<p>(c) Nitric acid turns red litmus blue. –<u>F</u>(1)</p> <p>(d) Tooth decay is caused by the presence of a base. –<u>F</u>(1)</p> <p>(e) Sea breeze blows from sea to land. –<u>T</u>(1)</p> <p>(f) Heat and temperature are exactly the same physical quantities. –F (1)</p> <p>(g) Digestion of starch starts in the stomach. –<u>F</u>(1)</p> <p>(h) The gall bladder temporarily stores bile. –T (1)</p> <p>(i) Kerosene is a forest product - F (1)</p> <p>(j) Forests influence the climate and water cycle. –T (1)</p> <p>(k) Frogs breathe through their skins as well as their lungs. –T (1)</p> <p>(l) During heavy exercise the breathing rate of a person slows down. F (1)</p>	
Q.No4 (One word)	Q.No 3	<p><b>4.</b></p> <p>(a) A plant that is partially autotrophic.</p> <p>Answer: Pitcher (1)</p> <p>(b) Any one product of neutralization reaction.</p> <p>Answer: Salt/ water/ heat (1)</p> <p>(c) Name the mode/ process of transfer of heat in which there is no need of any material medium/ body.</p> <p>Answer: Radiation (1)</p> <p>(d) The organ where water from the undigested food is absorbed in human body.</p> <p>Answer: Large intestine. (1)</p> <p>(e) Forests can also be called as.</p> <p>Answer: Green lungs/ life line (1)</p> <p>(f) Carbon dioxide gas turns/ changes, this chemical milky from transparent.</p> <p>Answer: Lime water. (1)</p>	(6)
Q.No5	Q.No5	<p><b>5.</b> Write down the word equation of photosynthesis.</p> <p>Answer:</p>	(2)

		$\text{Carbondioxide} + \text{Water} \xrightarrow{\text{Sunlight and chlorophyll}} \text{Carbohydrate (Starch)} + \text{Oxygen}$ <p>(2)</p>	
Q.No6	Q.No6	<p>6. Define an indicator. Name any one natural indicator.</p> <p>Answer :</p> <p>Special type of substances/ chemicals which are used to test whether a substance is acidic or basic are called indicators. Indicators change their colour when added to a solution containing an acidic or a basic substance (1)</p> <p>Natural indicator- lichen/ turmeric/ china rose petal solution (1)</p>	(2)
Q.No7	Q.No7	<p>7.</p> <p><u>Assertion (A):</u> Black or dark coloured clothes are very good for us in summer season.</p> <p><u>Reason (R):</u> Black or dark coloured clothes are very good absorbers of heat.</p> <p>Answer: (d) A is false, but R is true. (2)</p>	(2)
Q.No8	Q.No8	<p>8.</p> <p><u>Assertion (A):</u> Thousands of minute finger-like projections or outgrowths found in the inner wall of small intestine are called villi to help in absorption of food nutrient.</p> <p><u>Reason (R):</u> These villi increase the surface area for maximum and quick absorption of digested food from small intestine into the blood stream.</p> <p>Answer: (a) Both A and R are true, and R is the correct explanation of the assertion. (2)</p>	(2)
Q.No9	Q.No9	<p>9. Explain how forests prevent floods.</p> <p>Answer:</p> <p>The roots of the trees anchor the top soil firmly and prevent erosion of soil and underlying rocks. Those banks of rivers and streams which are guarded by forests delimit them and prevent their overflow. Also, the heavy flow of rain is received by the forest canopy and as water reaches the ground its flow slows down. This further prevents cutting away of fertile top soil and provide ample time for seepage of water into the ground. Therefore, forests are helpful in preventing floods.(2)</p>	(2)
Q.No10	Q.No10	<p>10.</p> <p>(i). Write down word chemical equation for “Aerobic respiration happening in our cells”.</p> <p>Answer:</p> <p><b>Aerobic respiration (in presence of oxygen):</b></p>	(2)

		$\text{Glucose (food)} \xrightarrow{\text{presence of oxygen}} \text{Carbondioxide} + \text{Water} + \text{Energy} \text{ (2)}$													
Q.No11	Q.No11	<p>11. Like all other living cells of the plants, the root cells also need oxygen to generate energy. Where do roots get air from?</p> <p>Answer: Roots take up air from the air spaces present between the soil particles. (2)</p>	(2)												
Q.No12	Q.No12	<p>12. <u>Name</u> the part of leaf shown in the following picture and <b>label (a) and (b)</b> on your answer sheet.(No need to draw the picture on your answer sheet)</p> <div></div> <p>Answer: Name : Stoma (1)</p> <p>(a) Guard cells (1) (b) Stomatal opening (1)</p>	(3)												
Q.No13	Q.No13	<p>7. Draw the following table on your answer sheet and, <b><u>write the actual name of the acid or base</u></b> found in the following substances. (Do not write only the words acid or base in column 2)</p> <table><tr><th>Column 1</th><th>Column 2</th></tr><tr><td>(a) Soap</td><td></td></tr><tr><td>(b) Curd</td><td></td></tr><tr><td>(c) Spinach</td><td></td></tr></table> <p>Answer:</p> <table><tr><th>Column 1</th><th>Column 2</th></tr><tr><td>(a) Soap</td><td>Sodium hydroxide/ potassium hydroxide (1)</td></tr></table>	Column 1	Column 2	(a) Soap		(b) Curd		(c) Spinach		Column 1	Column 2	(a) Soap	Sodium hydroxide/ potassium hydroxide (1)	(3)
Column 1	Column 2														
(a) Soap															
(b) Curd															
(c) Spinach															
Column 1	Column 2														
(a) Soap	Sodium hydroxide/ potassium hydroxide (1)														

		<table> <tr> <td>(b) Curd</td> <td>Lactic acid (1)</td> </tr> <tr> <td>(c) Spinach</td> <td>Oxalic acid (1)</td> </tr> </table>	(b) Curd	Lactic acid (1)	(c) Spinach	Oxalic acid (1)	
(b) Curd	Lactic acid (1)						
(c) Spinach	Oxalic acid (1)						
Q.No14	Q.No14	<p>14. Read the following passage and answer the questions followed.</p> <p>Bhoojo was very happy and excited as his father was taking him on a tracking trip to snow mountains of great Himalayas in Uttarakhand state of India. This was his (Bhoojo's) first experience to go to see snow mountains after long tracking trip. His father asked him to pack lot of thin sweaters and jackets so that he could wear many such layers on each other for better protection from extreme cold weather in deep and high Himalayas. Bhoojo was surprised and asked his father why many thin sweaters were being packed. He (Bhoojo) further added that it would be more convenient to carry one or two thick jackets instead of many thin jackets and sweaters. His knowledgeable father explained him great concepts of Science related to carrying many thin sweaters instead of thick ones.</p> <p>(a) What explanation Bhoojo's father must have given to him to explain the importance of thin layers of sweaters for better effective protection from severe cold?</p> <p>(b) Would you like to call "air" a good conductor of heat or a good convector of heat for transferring heat through it?</p> <p>Answer:</p> <p>(a) More layers means , thin layer of air insulator trapped for added protection. (2)</p> <p>(b) Good convector (1)</p>	(3)				
Q.No15	Q.No15	<p>15. Why do we get instant energy from glucose?</p> <p>Answer: It does not need to undergo long digestion process as it is itself simpler molecule ready to be absorbed into blood so can quickly reach cells to give us energy. (3)</p>	(3)				
Q.No16	Q.No16	<p>16. Write any three uses/ benefits of forests for us.</p> <p>Answer:</p> <p><b>Importance of forests so we must preserve our forests:</b></p> <p>(a) Forests provide us with oxygen.</p> <p>(b) They protect soil and provide habitat to a large number of animals.</p> <p>(c) Forests help in bringing good rainfall in neighbouring areas.</p> <p>(d) They are a source of medicinal plants, timber and many other useful products.</p> <p><b><u>(any three) (1+ 1+ 1)</u></b></p>	(3)				
Q.No17	Q.No17	<p>17. (a)</p> <p>(i) Write any one points of difference between lab and clinical</p>	(5)				

- thermometer.  
(ii) Draw a lab thermometer and label any two parts of it.

**OR**

17(b)

Write down activity to show convection in liquids. Make labelled diagram also.

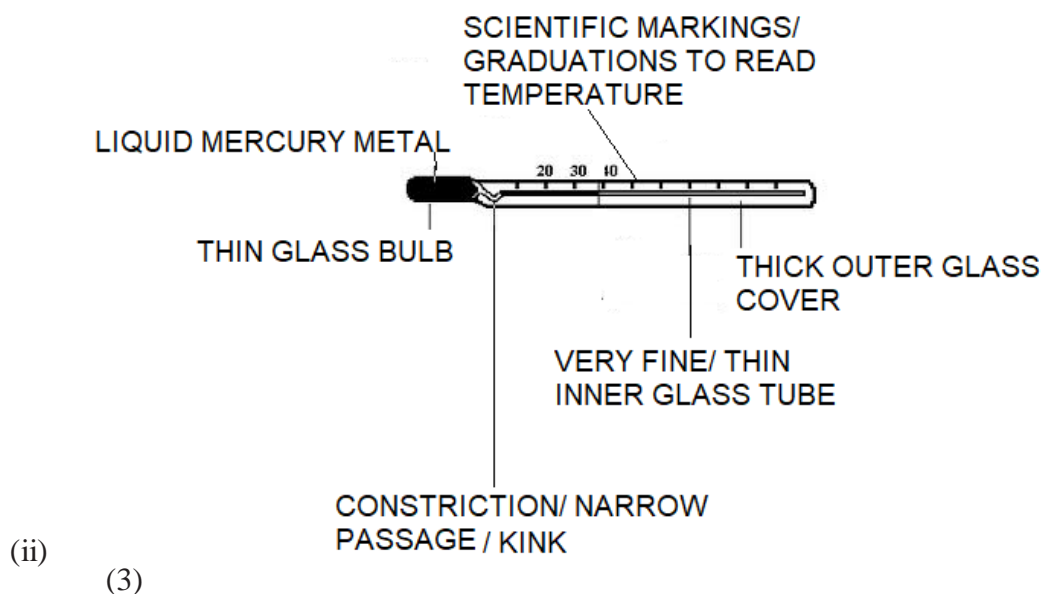
Answer:

17 (a)

(i)

<u>Clinical thermometer</u>	<u>Lab thermometer</u>	<u>Remarks/ Comments</u>
It has a kink	It does not have a kink	<b>Difference</b>
Its usual range is 35°C to 42°C (In Celsius scale)	Its usual range is –10°C to 110°C	<b>Difference</b>
It can be kept in any orientation (straight/ tilted etc) in touch with the human body whose temperature needs to be measured	It must be kept vertically straight in touch with the body whose temperature needs to be measured.	<b>Difference</b>
It can be read comfortably even after taking out of mouth of patient because mercury level will not fall down due to presence of kink.	It has to be read while its bulb is in touch with the body whose temperature is being measured.	<b>Difference</b>
It should be used only and only for measuring human body temperature.	For experiments it can be used to measure temperature of very hot or very cold bodies/ substances. (within its range)	<b>Difference</b>
Temperature of hot water, tea, milk etc must not be measured using clinical thermometer.	Temperature of hot water, tea, milk etc can be measured using lab thermometer.	<b>Difference</b>
After reading the value of temperature its mercury level needs to be brought down by jerk	After reading the value of temperature its mercury level itself comes down as soon as heat source is removed.	<b>Difference</b>

(any one ) (2)



OR

### **Experiment to show convection:**

**Aim:** To study the convection method of transfer of heat in liquid.

**Theory:** Convection is the method of transfer of heat in liquids and gases when heat travels due to actual movement of particles from hot to cold region. The cool and heavy particles get heat from the source and become hot and light so rise up to the cooler parts. There they lose heat by supplying heat to the cooler particles and become heavy so again sink down to receive heat again from the source. These rising and sinking movements of particles are termed as convection currents. Convection currents can be observed if a very small coloured crystal of potassium permanganate is dropped gently into water getting heated on a heat source.

**Things required:** a round bottom flask, water, few crystals of potassium permanganate, spirit lamp, clamp stand etc.

**Method:** We take a round bottom flask and fill it half with water. Now we drop very few crystals of potassium permanganate in it. The flask is heated slowly from the bottom as shown in the fully labeled diagram.

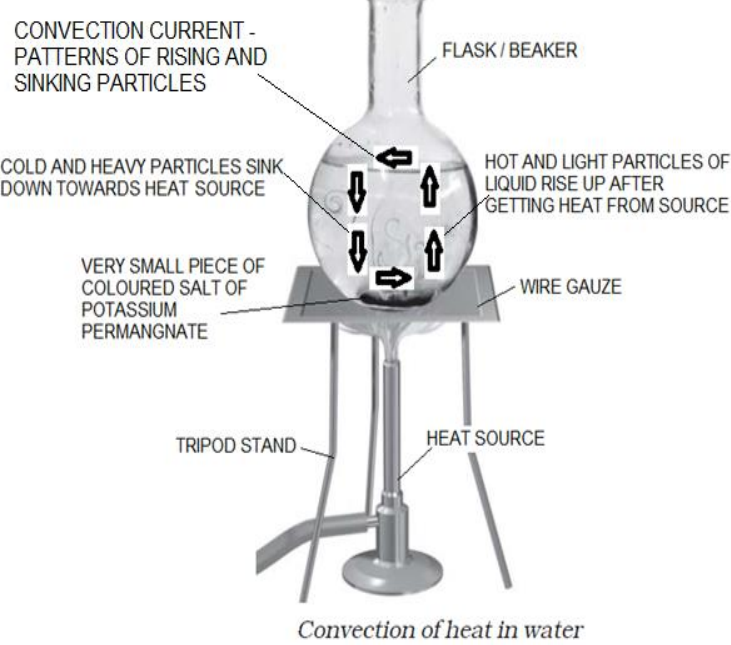
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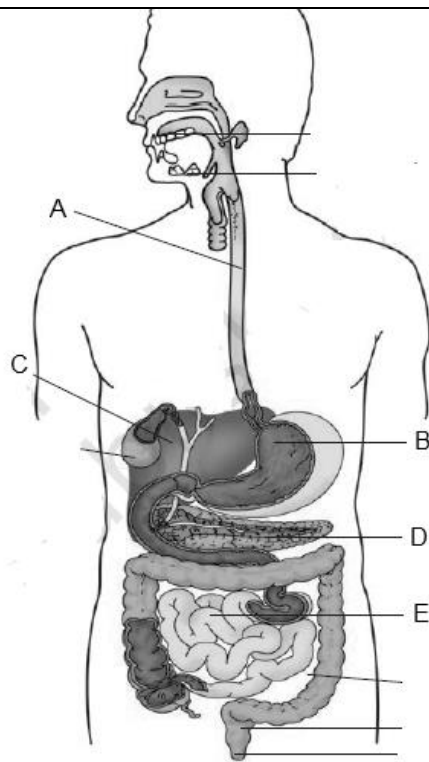
We arrange the experimental set up as shown in the fully labelled diagram.

**Observations:** As soon as we supply heat, lines of colour start moving up and come down and this sort of coloured movements are seen continuously and water becomes hot gradually.

**Result: The convection method of transfer of heat in liquid water has been studied.**



		 <p style="text-align: right;">(5)</p>	
Q.No18	Q.No18	<p>18. (a)</p> <p>(i) Write one difference between the nutrition in amoeba and human beings.</p> <p>(ii) Which part of the digestive canal is involved in:</p> <p>(a) absorption of food _____.</p> <p>(b) chewing of food _____.</p> <p>(c) killing of bacteria _____.</p> <p style="text-align: center;"><b>OR</b></p> <p>18. (b) Label the parts (A), (B), (C), (D), (E) in the following diagram. (No need to draw the diagram on answer sheet)</p>	(5)



Answer: 18 (a)

(i)

One of the important differences in the nutrition in Amoeba with that of human beings is the lack of alimentary canal and digestive organs. Amoeba being a single-celled organism contains organelles for performing different set of functions instead of organs and organ systems. (2)

(ii)

(a) Small intestine (1)

(b) Buccal cavity (1)

(c) Stomach (1)

**OR**

Answer: 19 (b) Labellings-

(A) Oesophagus (1)

(B) Stomach (1)

(C) Liver (1)

(D) Pancreas (1)

(E) Small intestine (1)

Q.No19

Q.No19

19. (a)

(5)

Explain the activity shown in the following picture, in your own simple words. Also write word chemical equation for the same.

Answer:

		<p>Activity to prove that we breathe out carbon dioxide (chemical test for detecting presence of carbon dioxide- lime water test- transparent lime water turns milky):</p> <p>Let us take a slender, clean test tube or a glass/plastic bottle. Make a hole in its lid and fix it on the bottle. Pour some freshly prepared lime water (Calcium hydroxide solution- transparent) in the test-tube. Insert a plastic straw through the hole in the lid in such a way that it dips in lime water. Now we blow gently through the straw a few times. We observe that transparent lime water turns (becomes) milky in appearance.</p> <p>It is a chemical change (chemical reaction) which we can depict by word chemical equation as follows</p> <p>(5)</p> <p>OR</p> <p>19 (b)</p> <p>(i) Why do we get cramps sometimes?  (ii) Explain with word equation.  (iii) What should be done to get relief?</p> <p>Answer:</p> <p>(i) We get muscles cramps after heavy exercise due to accumulation (collection) of lactic acid in muscles when they respire anaerobically. (2)  (ii) (2)  (iii) We get relief from cramps after a hot water bath or a massage as it improves blood circulation and so supply of oxygen to muscles increases. (1)</p> <p style="text-align: right;">SK</p>	
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