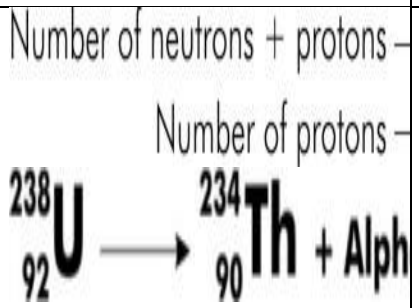
Question Paper

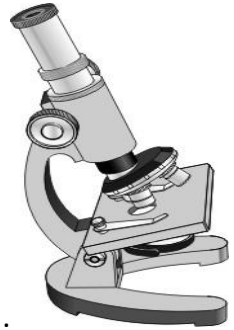
Subject: Science

Grade: 9th

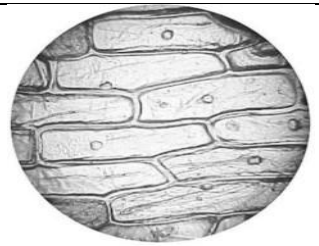
Set-4

Q.N	Folder name & Question Code	Topic	Question with Answer Option	Image (If Any)	Correct Answer (Option-A,B,C,D)
1	**2_9 Science 6145**	STRUCTURE OF ATOM	Atoms consist of electrons, protons and neutrons. Isotopes of an element show similar chemical properties, but have different atomic weights. Thus they are likely to have:		**D**
Answer Options					
		Option A same number of	Option B same number of electrons and neutrons;	Option C same number of neutrons	Option D same number of

		electrons, protons and neutrons.	different number of protons	and protons; different number of electrons	electrons and protons; different number of neutrons
2	**3_15 Science 3654**	STRUCTURE OF ATOM	We know that like charges repel each other. Then how do the protons, which are all positively charged, stay together in an atom's nucleus?		**C**
Answer Options					
		Option A The neutral charge of the neutron keeps them together.	Option B Nuclei keep decaying in short intervals because of this.	Option C The nucleic force is stronger than their mutual repulsion.	Option D That like charges repel is not true at the level of the nucleus.
3	**3_16 Science 2536**	STRUCTURE OF ATOM	The number of protons and neutrons in the atom of an element are represented in the given form.Uranium-238 undergoes radioactive decay by losing an alpha particle to produce Thorium. This is expressed mathematically by the following equation.What is the number of protons and neutrons in an alpha particle?		**C**
Answer Options					
		Option A 2 protons and no neutrons	Option B 4 protons and no neutrons	Option C 2 protons and 2 neutrons	Option D No protons and 4 neutrons

4	**3_16 Science 2537**	STRUCTURE OF ATOM	The half-life of a radioactive material is the time in which half its atoms decay. Technetium-99 is a radioactive material with a half-life of 6 days. It is used to study blood flow around the body. A sample of technetium-99 has an activity of 96 counts per minute when injected into a patient's blood stream. Its activity after 18 days would be		**D**
Answer Options					
		Option A 48 counts per minute	Option B 24 counts per minute	Option C 16 counts per minute	Option D 12 counts per minute
5	**3_16 Science** **2519**	The fundamental unit of life	Sunil views a slide of onion root cells in a compound microscope under low power objective. He wants to increase the magnification to see the slide better. His teacher tells him to centre the portion of the slide he wants to see in the field of view, before he shifts to the high power objective. This is important because_____	 .	A
Answer Options					
		Option A Under high power a smaller area of the slide is	Option B Under high power a larger area of the slide is observed.	Option C Under high power the entire slide is magnified.	Option D Under high power focussing is not possible at all.

<table>
<tr><td></td><td></td><td>observed.</td><td></td><td></td><td></td></tr>
<tr><td>6</td><td>3_16
Science

2520</td><td>The fundamental unit of life</td><td>The diameter of a field of view while using a 10X objective in a microscope is determined to be 2 millimetres (mm). From the picture of the cells as observed in the picture, the average length of each cell is about: (1mm = 1000 micrometres)</td><td>  </td><td>B</td></tr>
<tr><td colspan="6">Answer Options</td></tr>
<tr><td></td><td></td><td>Option A
250 micrometres</td><td>Option B
1000 micrometres</td><td>Option C
2000 micrometres</td><td>Option D
4000 micrometres</td></tr>
<tr><td>7</td><td>3_17
Science
1833</td><td>FUNDAMENTAL UNIT OF LIFE</td><td>The table below describes some of the organelles visible in a cell under a microscope. Identify the type of organism to which the cell belongs.</td><td><table><tr><th>Cell Organelle</th><th>Description</th></tr><tr><td>Cell Wall</td><td>Present</td></tr><tr><td>Vacuole</td><td>Large</td></tr><tr><td>Centriole</td><td>Not visible</td></tr><tr><td>Nucleus</td><td>Present</td></tr></table></td><td>B</td></tr>
<tr><td colspan="6">Answer Options</td></tr>
<tr><td></td><td></td><td>Option A
It is the cell of an animal.</td><td>Option B
It is the cell of a plant.</td><td>Option C
It is the cell of a bacterium.</td><td>Option D
It is the cell of a virus.</td></tr>
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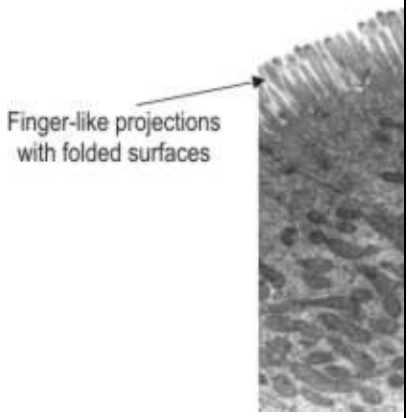
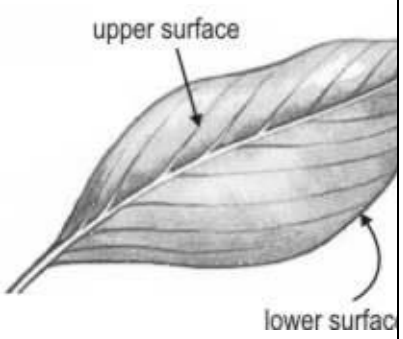
8	4_24 Science 10390	FUNDAMENTAL UNIT OF LIFE	Outer surfaces of some cells are folded into finger-like projections as shown in the figure here.Which of the following could be the function of such folded surfaces		C
Answer Options					
		Option A to increase the energy production in the cell	**Option B** to increase the rate of cell division of the cell	**Option C** to increase the absorption of nutrients by the cell	**Option D** to help the cell move about much more effectively
9	3_17 Science 1847	TISSUES	Among the following, which has the highest BRAIN TO BODY LENGTH ratio?		B
Answer Options					

		Option A Human	**Option B** Monkey	**Option C** Cat	**Option D** Squirrel
10	4_24 Science 10360	TISSUES	In a leaf, chloroplast-containing cells are known to be the sites of photosynthesis. In which part of the leaf are the majority of chloroplast-bearing cells likely to be found?		A
Answer Options					
		Option A upper surface of the leaf	**Option B** lower surface of the leaf	**Option C** equally throughout the leaf	**Option D** edges of the leaf
11	4_25 Science 11801	TISSUES	The figure below shows a potometer with its parts marked. Its functioning is described below: shoot is held in place in the tube using a rubber stopper with a hole. A bubble is introduced into the capillary. The position of the bubble is set at the start of the experiment by turning the tap on the reservoir. The distance the bubble travels in a given time is noted. What does the potometer probably measure?		C

Answer Options					
		Option A Oxygen intake by a plant.	**Option B** Carbon dioxide intake by a plant.	**Option C** Water intake by a plant.	**Option D** Effect of water salinity on a plant.
12	4_23 Science 9131	TISSUES	Cell theory states that all organisms are made up of one or more similar units of organization called cells. Which of the following organisms do not strictly adhere to this theory?		C
Answer Options					
		Option A protozoa	**Option B** bacteria	**Option C** viruses	**Option D** algae
13	4_24 Science 10352	TISSUES	Which of the following protects the ANIMAL cell from the outside environment?		B
Answer Options					

		Option A Cell wall	**Option B** Plasma membrane	**Option C** Nuclear membrane	**Option D** Cytoplasm
14	**2_9 Science 5071**	Diversity In Living Organisms	Animals which have three body parts, each having one pair of legs are called:		**C**
Answer Options					
		Option A arachnids	Option B amphibians	Option C insects	Option D beetles
15	**2_9 Science 6132**	Diversity In Living Organisms	One of the purposes of HAIR in mammals is to keep them warm. How do elephants and rhinos - which are not completely covered by hair - keep themselves warm?		**D**
Answer Options					
		Option A They have a layer of fat instead of hair.	Option B They move around a lot which keeps them warm.	Option C They have hair underneath the skin which keeps them warm.	Option D They live in the tropics where the surrounding temperatures are not too low.