SYNERGY SCHOLARS SOLUTIONS (SSO)

CLASS IX – SCIENCE OLYMPIAD SYLLABUS

Syllabus Framework

No.	Unit	Syllabus / Chapter
1	*Physics*	*Motion, kinematics*
2	*Physics*	*Kinematics*
3	*Physics*	*Force, Inertia and Laws of Motion*
4	*Physics*	*Work, Power and Energy*
5	*Physics*	*Sound*
6	*Physics*	*Reflection Refraction of Light*
7	*Chemistry*	*Is Matter Around Us Pure?*
8	*Chemistry*	*Atoms and Molecules*
9	*Chemistry*	*Structure of Atom*
10	*Chemistry*	*Foundation Extension: Atomic Structure & Periodicity*
11	*Chemistry*	*Chemical Bonding*
12	*Chemistry*	*Organic Chemistry*
13	*Biology*	*The Fundamental Unit of Life*
14	*Biology*	*Tissues*
15	*Biology*	*Foundation Extension: Life Processes*

QUESTION-DESIGN MATRIX

Question Type	Percentage	Approx. Questions
Conceptual	*30%*	*15*
Application-based	*30%*	*15*
Diagram / Picture / Data-based	*20%*	*10*
Numerical / Logical	*10%*	*5*
HOTS / Integrated Science	*10%*	*5*
TOTAL	**100%**	**50**

REMEMBER → UNDERSTAND → APPLY → ANALYSE → INTEGRATE

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SAMPLE QUESTIONS

1. Which pair is correctly matched?

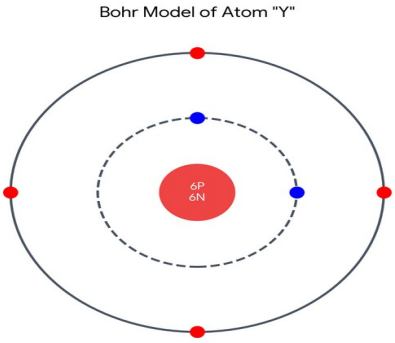
A. Xylem – transport of food
B. Phloem – transport of water only
C. Meristematic tissue – active cell division
D. Nervous tissue – transport of minerals in plants

2. A passenger in a moving bus falls forward when the driver applies the brakes suddenly. Which concept best explains this observation?

A. Inertia of motion B. Inertia of rest C. Buoyant force D. Potential energy

3. **Study the Bohr model of Atom "Y" shown above. What are the atomic number and mass number of atom Y? (centre area shows 6N, 6P)**

A. Atomic number = 6, Mass number = 12
B. Atomic number = 6, Mass number = 13
C. Atomic number = 12, Mass number = 6
D. Atomic number = 13, Mass number = 6

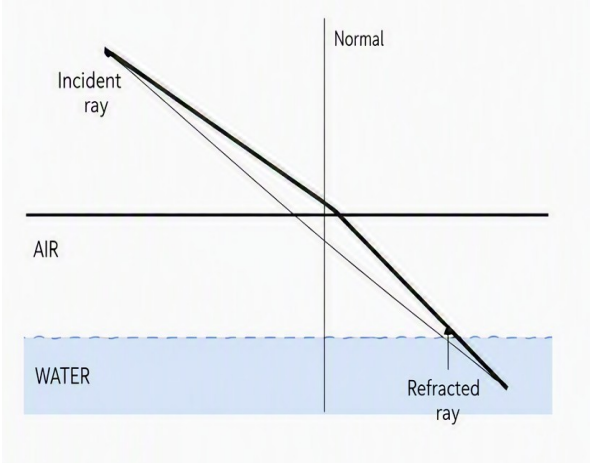


4. **Which statement correctly distinguishes a homogeneous mixture from a heterogeneous mixture?**

A. A homogeneous mixture has uniform composition throughout.
B. A homogeneous mixture always contains only one substance.
C. A heterogeneous mixture cannot be separated.
D. A heterogeneous mixture is always a pure compound.

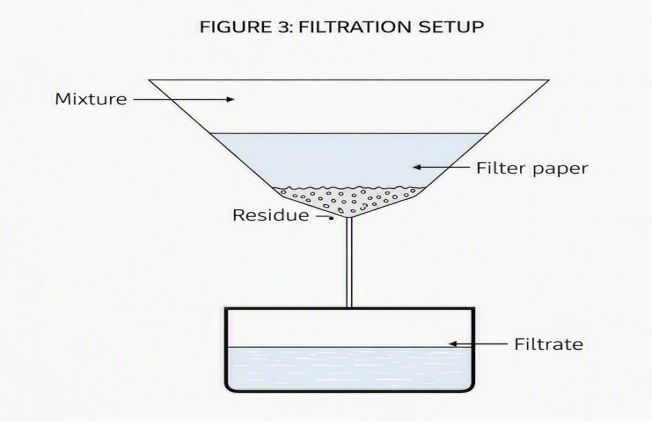
5. Study the figure. A ray of light travels from air into water. Why does the ray bend at the boundary?

A. Its colour changes.
B. Its speed changes when it enters the second medium.
C. It stops at the surface.
D. It changes into a sound wave.



6. Study the figure. Which separation technique is shown and what property makes it suitable?

A. Filtration – difference in particle size/insolubility
B. Sublimation – difference in magnetic properties
C. Distillation – difference in magnetism
D. Chromatography – difference in mass only



7. A body of mass 4 kg moves with a speed of 5 m/s. What is its kinetic energy?

A. 20 J B. 10 J C. 50 J D. 100 J

8. Which structure is mainly associated with photosynthesis in a plant cell?

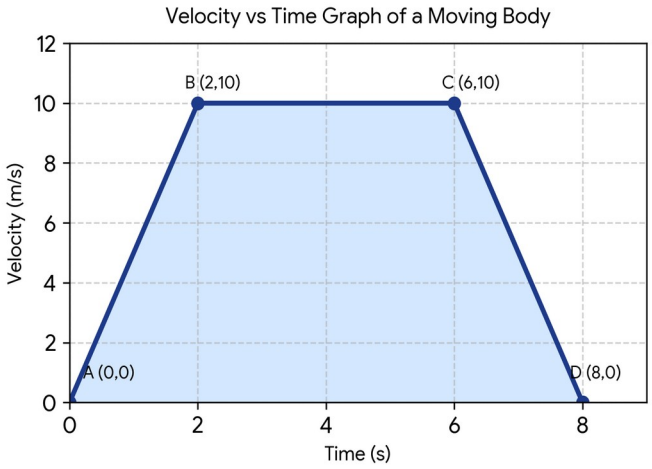
A. Nucleus B. Vacuole C. Chloroplast D. Cell wall

9. What is the valency of Carbon (C)

A. 6 B. 3 C. 2 D. 4

10. Study the velocity–time graph shown above. What is the total distance travelled by the body during the first 8 seconds?

A. 50 m **B.** 60 m
C. 70 m **D.** 80 m



1 C	**2 B**	**3 A**	**4A**	**5 -B**
6 A	**7C**	**8 C**	**9 D**	**10 B**

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