SYNERGY SCIENCE OLYMPIAD (SSO)

GRADE VII – SCIENCE SYLLABUS FRAMEWORK

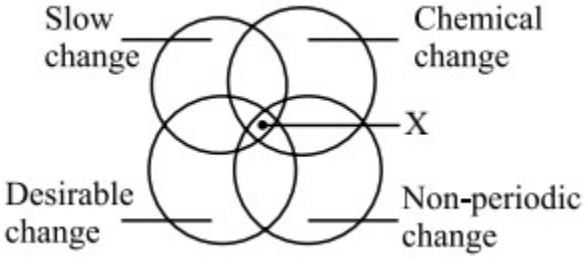
1. SSO EXAMINATION STRUCTURE

Section	Component	Coverage / Focus	Questions
SECTION 1	*General Science*	*Core Grade 7 Science concepts from Biology, Physics, Chemistry, Earth & Environment*	*20*
SECTION 2	*Observational & Applied Science*	*Everyday science, observation, application, health, environment and real-life situations*	*10*
SECTION 3	*Logical & Pictorial Reasoning*	*Science reasoning, diagrams, graphs, tables, classification and visual interpretation*	*10*
SECTION 4	*Basics of Science – Physics, Chemistry & Biology*	*Fundamental concepts and interdisciplinary understanding*	*5*
SECTION 5	*Synergy Challenge*	*Higher-order thinking, multi-concept application and analytical problems*	*5*
	TOTAL	**Comprehensive Grade 7 Science Assessment**	**50**

1. *When a vessel containing boiling water is taken away from the flame, it cools down. The mode of heat transfer here is*

A)Conduction B) Convection C) Radiation D) Both (B) and (C)

2. **Study the given Venn diagram.**



Centre point 'X' represents

A) Eruption of volcanoes B) Burning of paper C) Rusting of bicycle D) Ripening of guava

3) Breathing is a _____ process and respiration is a _____ process.

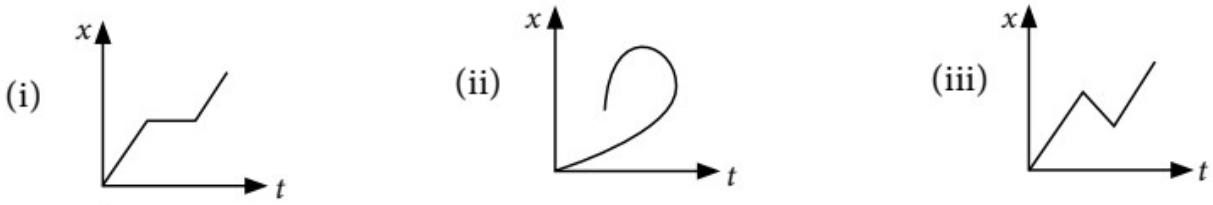
A) Chemical, physical B) Physical, mechanical

C) Physical, biochemical D) Biochemical, physical

4) A solution has a pH of 9. What is the hydroxide ion concentration [OH−]? (Use: [H+]·[OH−]=1×10−14)

A) 1×10^{-5} mol/L B) 1×10^{-9} mol/L C) 1×10^{-14} mol/L D) 1×10^{-6} mol/L

5) Which of the following cannot be a distance-time graph?



A) (ii) only B) both (i) and (ii) C) both (ii) and (iii) D) All the above.

6) *Two bodies 'A' and 'B' of same masses are moving with velocities V and 2V respectively. Then the ratio of their inertia is*

A) 1:1 B) 2:1 C) 3:1 D) 4:1

7) *Consider the following:*

P. Ice melting Q. Paper burning R. Water freezing S. Iron rusting

Which pair represents chemical changes?

A) P and Q B) Q and S C) P and R D) R and S

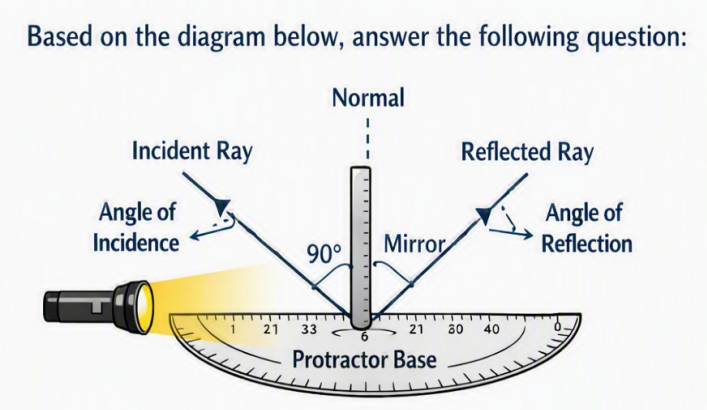
8) *A farmer finds his soil too acidic. Which of the following substances can be added to neutralize it?*

A) Common salt (NaCl) B) Quicklime (CaO) C) Sugar solution D) Distilled water

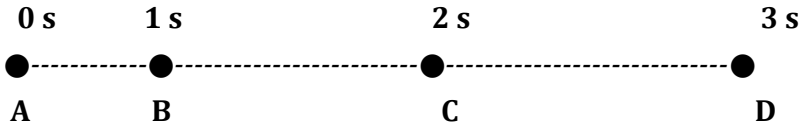
9) **In the experiment shown, the Angle of Incidence is 35°. What will be the Angle of Reflection**

A) 25° B) 35°

C) 55° D) 70°



10) **A toy car is observed at equal time intervals**:



What can you conclude?

A) The car is stationary B) The car is moving with uniform speed

C) The car is moving with increasing speed D) The car is moving backwards

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