

## SUBJECT : INTEGRATED SCIENCE

Time : 2½ Hrs.

MM: 80

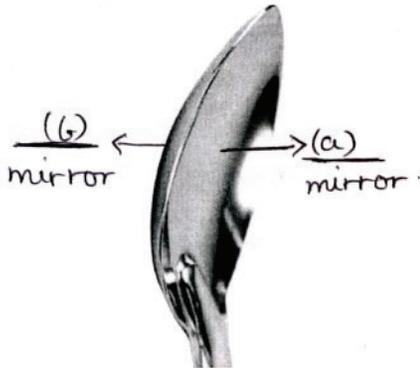
**General Instructions :**

- (i) This paper consists of three sections A, B and C. Attempt each section on a separate sheet.
- (ii) Draw neat and well labelled diagrams wherever required.
- (iii) Marks are indicated against each question.

## SECTION-A (PHYSICS)

Q1. Answer the following in one sentence each : (1x4=4)

- (i) SONU was playing with a plane mirror. He placed a placard with his name written on it in front of the mirror. His name appeared as UMOZ. What is this phenomenon called?
- (ii) Draw a distance time graph for a car standing in a parking area.
- (iii) Label (a) and (b) in the following diagram.



- (iv) CDs (Compact Discs) appear colourful when sunlight falls on them. Give reason.

Q2. Fill in the blanks : (1x4=4)

- (i) An image formed by concave \_\_\_\_\_ cannot be obtained on a screen.

(1)

- (ii) The basic unit of time is \_\_\_\_\_
- (iii) \_\_\_\_\_ is used by dentists to see the enlarged view of teeth.
- (iv) The two extreme colours of a rainbow are \_\_\_\_\_ and \_\_\_\_\_.

Q3. Give one technical term for the following : (1x2=2)

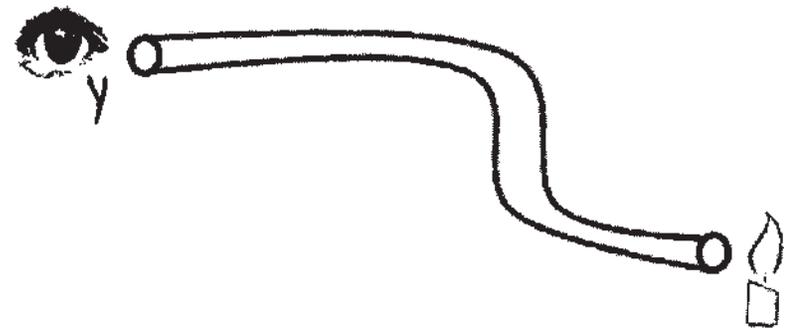
- (i) A device used to measure the distance travelled by a vehicle in km.
- (ii) An image that can be obtained on a screen.

Q4. Answer briefly : (2x3=6)

- (i) Following data represents time taken by a car to cover certain distance

Time taken (h)	Distance travelled (km)
1	30
2	60
3	90
4	120

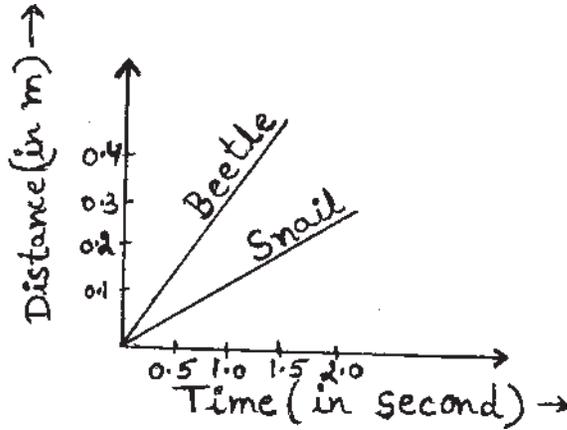
- (a) Identify the type of motion.
- (b) Define it.
- (ii) Observe the given figure and answer the following question.



Will light from the candle reach point 'Y'? Give reason.

(2)

- (iii) The graph given below represents the motion of a snail and a beetle crawling on ground. Who is moving faster? Justify your answer.



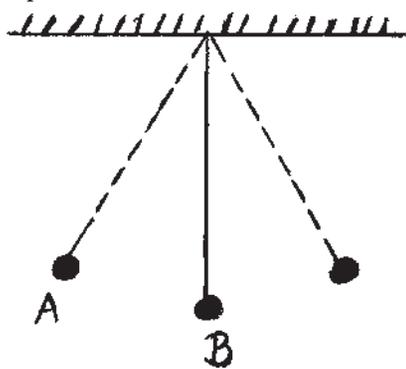
Q5. Answer the following questions : (3x2=6)

- (i) Nishant was not able to capture an image formed by lens 'A' on a screen.

- Identify lens 'A'.
- Draw its diagram.
- Write the nature and size of the image formed by it.

- (ii) (a) A truck is moving at a speed of 54 km/hr. What is its speed in m/s?

- (b) Label positions A and B of an oscillating simple pendulum shown below.



(3)

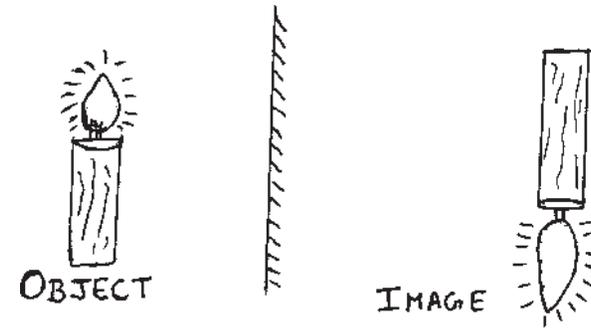
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Q6. Answer the following questions :

(2+3=5)

- (a) Observe the given figure carefully and identify any two errors in it.



- (b) Abhay cycles down from his house to his school at a speed of 24 km/hr and reaches there in 40 minutes. Find the distance between his school and house in kilometre and metre?

### SECTION-B (CHEMISTRY)

Q1. Answer in one word or one sentence : (1x4=4)

- 'X' and 'Y' are the two chemicals used to disinfect water during the chemical treatment of sewage. Identify 'X' and 'Y'.
- Eucalyptus trees should be planted all along sewage ponds. Justify the statement.
- What are silk fibres made up of.
- 'M' is the process of selecting parents for obtaining special characteristics in their offsprings, such as soft under hair. Identify 'M'.

Q2. Fill in the blanks : (1x4=4)

- \_\_\_\_\_ is a liquid waste having dissolved and suspended impurities called contaminants.
- \_\_\_\_\_ are immersed in hot water which loosens the silk filaments.
- The water left after the removal of sludge and scum is called \_\_\_\_\_.

(4)

(d) \_\_\_\_\_ sheep from Jammu and Kashmir provides wool for shawls.

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PAPER-1  
6

Q3. Answer briefly : (2x4=8)

(a) Give reason for the following :

- (i) Using compost is better than using fertilisers in the gardens.
- (ii) Chemicals like paints, motor oil, insecticides should not be thrown in the drain.

(b) Name the most common silkworm. What are the characteristics of silk fibres obtained from the cocoons of this silkworm?

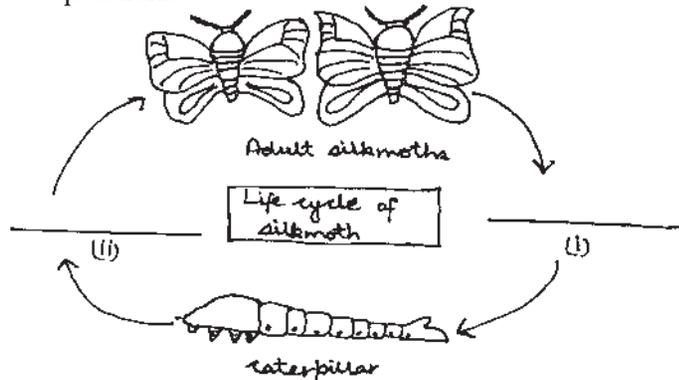
(c) Some low cost-on-site sewage disposal systems are used as an alternative arrangement for sewage disposal.

- (i) Name an alternative arrangement for sewage disposal in which earthworms are used to treat human excreta.
- (ii) State the significance of this arrangement.

(d) Define Sericulture. Why do workers of sericulture industry often develop asthma, chronic bronchitis and difficulty in breathing?

Q4. Answer the following : (3x2=6)

(a) Study the diagram given below and answer the questions :



(5)

(i) Draw and label the missing stages in the diagram.

(ii) Name the resting and active stage in the life cycle of silkworm.

(b) Sludge and clarified water are the end products obtained during the physical treatment of waste water. How do micro-organisms help in the biological treatment of sludge and clarified water in the waste water treatment plant?

Q5. Waste water treatment plant involves physical, biological and chemical processes. Name the devices used in physical process. Also mention the significance of each device. (5)

### SECTION-C (BIOLOGY)

Q1. Answer in one word or one sentence : (1x4=4)

(a) 'X' is the movement of animals in groups from one part of the world to another according to season for food and reproduction. Identify 'X'.

(b) Amoeba is a unicellular micro-organism found in pond water which has finger-like projections on its surface. Write two advantages of these projections for amoeba.

(c) Pigment 'M' imparts green colour to the leaves. Identify 'M' and state its role in the process of food manufacture in plants.

(d) Grazing animals are known as ruminants. What is the scientific term used for the partially digested food which is brought back from stomach to mouth of a ruminant for re-chewing? Also name the process involved.

Q2. Fill in the blanks : (1x3=3)

(a) \_\_\_\_\_ is defined as the average weather condition at a particular place over a long period of time.

(6)

- (b) The occurrence of photosynthesis can be tested by the presence of \_\_\_\_\_ in the leaf.
- (c) Under normal conditions, a person breathes \_\_\_\_\_ times per minute.

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Q3. Answer briefly : (2x4=8)

- (a) Rohan is eight years old. His milk teeth have been replaced by a set of permanent teeth. But when he met with an accident he lost two of his teeth.
- one cutting and biting tooth.
  - one piercing and tearing tooth
- Name the two types of teeth Rohan has lost.
  - Write the function of two other kind of teeth present in human jaw.
- (b) Give reason :
- We suffer from muscle cramps after heavy exercise.
  - We often sneeze when we inhale a lot of dust laden air.
- (c) Weather is the day-today condition of the atmosphere at a particular time and place. Name the department of the government that prepares weather reports. Also mention any two elements of weather.
- (d) Lichens is an example of a relationship between two different species of plants 'X' and 'Y'. The plant 'X' makes food by photosynthesis and shares it with plant 'Y'. The plant 'Y' supplies water, minerals and shelter to plant 'X'.
- Identify 'X' and 'Y'.
  - Name the relationship exhibited by plants 'X' and 'Y'.

(7)

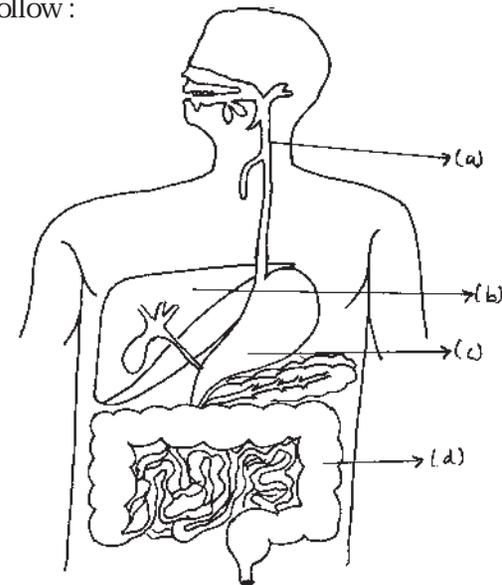
Q4. Answer the following : (3x2=6)

- (a) Given below are the adaptations of some animals found in polar and tropical regions. Identify the organism and write the significance of their adaptation.

	Adaptation	Organism	Significance of adaptation
(i)	a long large beak	_____	_____
(ii)	has large fan like ears	_____	_____
(iii)	wide and large paws	_____	_____

- (b) Define anaerobic respiration. Write a word equation for this process. Name an organism which always respire anaerobically.

Q5. Observe the diagram given below and answer the questions that follow : (1x5=5)



- What does the above figure represent?
- Label parts a, b, c and d.
- State the significance of any two secretions produced by part (c).

(8)