KOTHARI INTERNATIONAL SCHOOL, NOIDA
HALF YEARLY EXAMINATION, SESSION: 2025-26
GRADE: 8 SUBJECT: SCIENCE
SET A SECTION B (SUBJECTIVE)

DAY & DATE: TUESDAY, 9 SEPTEMBER 2025
MAXIMUM MARKS: 60 **TIME ALLOTTED: 1 HOUR 30 MIN**
NAME: _____ **ROLL NO: _____**

GENERAL INSTRUCTIONS:

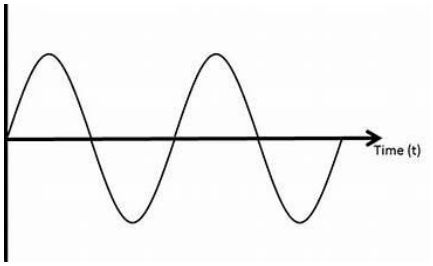
i). This question paper contains 22 questions. All questions are compulsory.
ii). Section A : Question Nos.1 to 10 carries 2 marks each.
iii). Section B : Questions Nos. 11 to 20 carries 3 marks each.
iv). Section B : Questions Nos. 21 to 22 carries 5 marks each.
v). There is no overall choice.

SECTION A

Q1. a) A petroleum refinery is compared to a "tower of separation". Justify this statement with the name of the process that leads to refining. **(1)**

b) Which of the following is associated with coal – Lubricating oil, Diesel, Anthracite, Paraffin wax. Write one characteristic of it. **(1)**

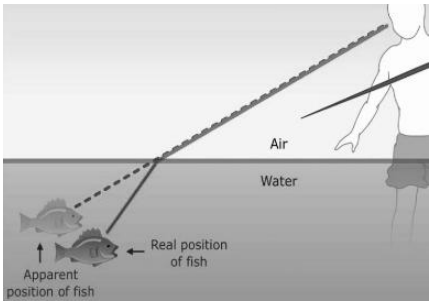
Q2. a) A wave is represented in a diagram with crests and troughs. If the wave is made faster without changing the medium, what changes will be observed in its frequency and wavelength? Explain. **(1)**



b) What is the speed of a sound wave with frequency 2000Hz and wavelength 0.4m? **(1)**

Q3. A farmer observes a fish in a pond. **(2)**
The fish appears closer to the surface than it really is.

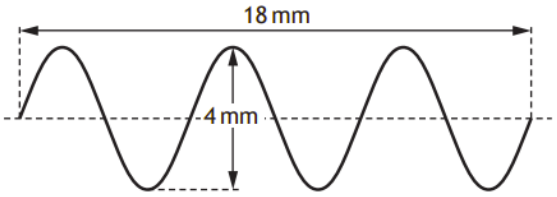
Explain why this happens and how it could affect the fisherman's aim.



Q4. a) While moving from a cinema hall to bright sunlight, Ria experiences difficulty in seeing for a short while. Is this effect temporary or permanent? **(1)**

b) Explain the phenomenon in the above situation. **(1)**

Q5. The picture represents a wave.



a) Write the measurement of Amplitude and Wavelength as per the picture. **(1)**

b) Define frequency. **(1)**

Q6. Identify the vibrating part of the following: **(2)**

a) Tabla b) Trumpet

Q7. Write two point of difference between Echo and Reverberation. **(2)**

Q8. Farmers often rotate crops like wheat and pulses. Explain how this practice benefits the soil without the need for chemical fertilizers like Nitrogen. **(2)**

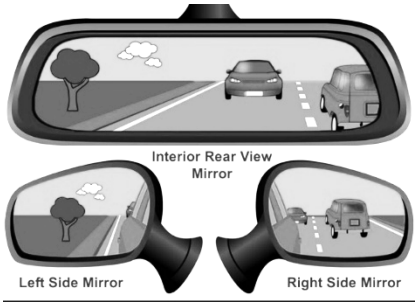
Q9. Sound wave travel in the air with the speed of about 300 m/s. **(1)**
a) Calculate wavelength of sound whose frequency is 550 Hertz.

b) How is pitch related to frequency? **(1)**

Q10. Wood has a high calorific value but is still discouraged as a fuel. If wood continues to be used excessively, what long-term effects might it have on the environment? **(2)**

SECTION B

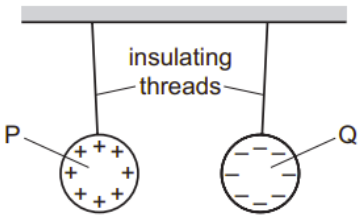
Q11. Observe the image seen by the driver on a highway. Answer the following questions.

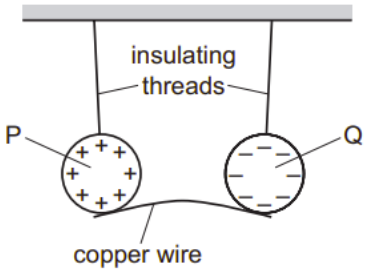


a) Which type of mirrors are used in rear view? **(1)**

b) Write two characteristics of this mirror. **(2)**

Q12. The diagram shows two charged metal spheres, P and Q, suspended from insulating threads. P is positively charged and Q is negatively charged.



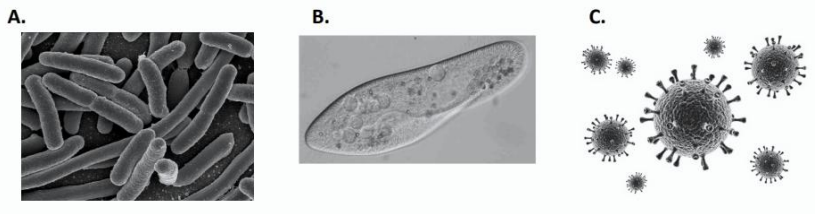


The spheres are now joined by a copper wire.
a) What happens to the charges due to copper wire? **(1)**
b) Name the process which takes place. **(1)**
c) What would be the net charge on the sphere where charge is transferred? **(1)**

Q13. a) Asin was cooking noodles and suddenly from blue flame of fuel she saw yellow flame for brief period of time. What can you conclude from this? **(1)**

b) Find calorific value of a fuel whose 1.5 Kg of mass produces 67,500 KJ of heat on burning completely. **(2)**

Q14. Look at the pictures of the micro-organisms and answer the questions that follow.

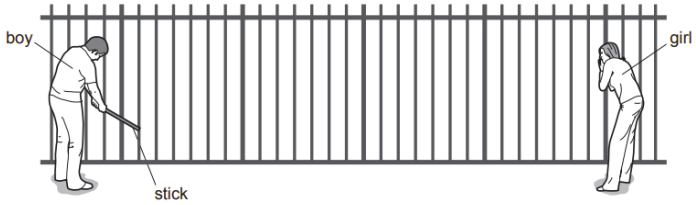


a) Which micro-organism does A represent? **(1)**
b) Name two insects that are responsible for spreading B. **(1)**
c) Out of these three organisms which one acts as a "parasite"? **(1)**

Q15. Once we hold a magnifying glass over text and identify the distance where we see the text becomes bigger than it is.

a) Which type of lens is a magnifying glass? **(1)**
b) Write two characteristics of this lens. **(1)**
c) Apart from magnifying glass, where do we use this lens? **(1)**

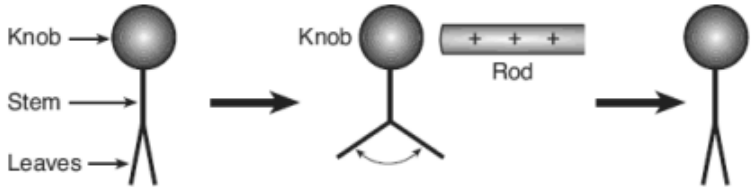
Q16. A boy strikes a rigid metal fence with a stick to create a sound along the fence.



a) If the girl forgets her hearing aid, which virtue of sound will help her to understand that stick was hit onto the rigid metal fence? **(1)**

b) A simple pendulum makes 10 oscillations in 30 seconds. What is the time period and frequency of its oscillation? **(2)**

Q17. The working of a device is shown in the diagram below. It is made completely of metal and consists of a knob, a stem, and leaves.
A positively charged rod is brought near the knob and then removed.



a) Name this device. **(1)**
b) Explain the working and basic principle behind this device. **(2)**

Q18. Your family is planning to travel to another city where mosquito-borne disease is prevalent.
a) Which microorganism is responsible for cause of malaria? **(1)**

b) Write two precautions that should you and your family will take during the trip? **(2)**

Q19. a) If air and cloud were good conductors of electricity, lightning would not occur. Explain. **(1)**

b) If the materials used for constructing a building were good conductors, do you think lightning will strike the building. Will the lightning conductor be still required to be installed in the building? **(2)**

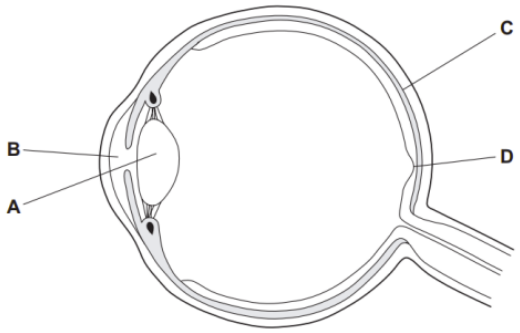
Q20. a) We cannot hear the sound of the exploding meteors in the sky, though we can see them. Why? **(1)**

b) Explain the role of ear in hearing and understanding sound produced by an object. **(2)**

SECTION C

Q21. The diagram shows a section through the human eye.
i) Name the part where:

a) Sensory cells are present **(2)**
b) Size of this part changes in each light condition



ii) Which defect is shown in the picture, if the image is formed – **X**? **(1)**

iii) Which lens is used for this correction? Write the two characteristics of this lens. **(2)**

Q22. a) There are three factors which supports burning. Name them and which factor gets affected by fire extinguisher? **(2)**

b) Rashi was heating ghee to cook food. The ghee all of a sudden caught fire; he poured water to extinguish the fire.

i) Do you think this action was suitable. If yes, why? If not, why not? **(1)**
ii) In such condition, what should Reshma have done? **(2)**