



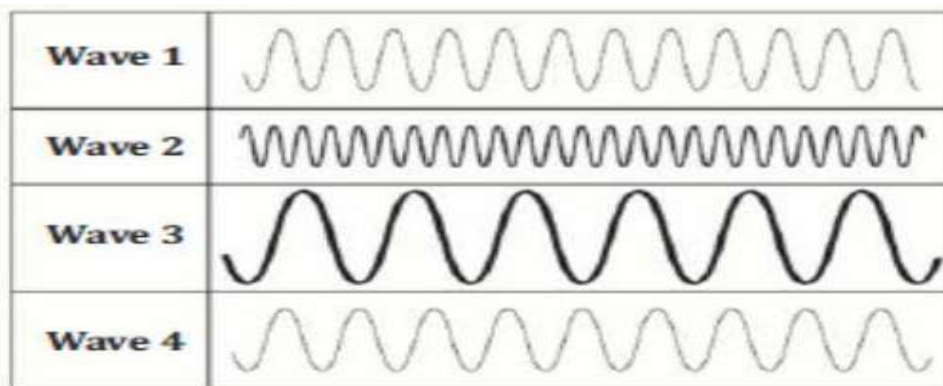
GRADE: VIII	SUBJECT: SCIENCE	DATE: 10.02.2025	TIME: 3HRS	MARKS: 60
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SECTION A

Q I. Multiple choice questions.

(16Q X 1M = 16M)

- Ball bearings are used in machines to:
a. Increase friction b. **Decrease friction** c. Stop motion d. Maintain constant friction
- In the electrolysis of water, oxygen gas is liberated at the:
a. Cathode b. **Anode** c. Electrolyte d. Electrode
- Which of the following lenses is used to correct hypermetropia (farsightedness)?
a. Concave Lens b. **Convex lens** c. Bifocal Lens d. Cylindrical Lens.
- Identify the odd one:
a. Sweat Gland b. Oil Gland c. **Adrenal Gland** d. Salivary Gland.
- When two or more forces act on a body in the same direction, the net force is:
a. The difference of the forces b. Zero
c. **The sum of the forces.** d. The product of the forces
- Which of the following factors does not affect the pressure exerted by a force?
a. Magnitude of the force b. Area of application c. **Direction of force** d. Mass of the object
- Which type of friction is the strongest?
a. **Static friction** b. Sliding friction c. Rolling friction d. Fluid friction
- The zygote divides repeatedly to give rise to _____.
a. Foetus b. **Embryo** c. Egg d. Clone
- The Picture shows four sound waves. Which sound wave has the highest pitch?



- a. Wave 1 b. **Wave 2** c. Wave 3 d. Wave 4
- The frequency of a sound wave is measured in:
a. **Hertz (Hz)** b. Decibels (dB) c. Joules (J) d. Meters per second (m/s).
- Which of the following is an example of a chemical effect of electric current?
a. Heating effect in a filament bulb. b. **Electroplating.**
c. Magnetic effect in an electromagnet. d. Production of sound in a buzzer.
- Development of foetus in human females takes place in the _____.
a. Ovary b. **Uterus** c. Oviduct d. Fallopian tube.

13. The process in which a charged body induces charge on a nearby neutral object is called:
 - a. Conduction
 - b. **Induction**
 - c. Friction
 - d. Polarization
14. The sudden flow of electric charge from a charged body is called:
 - a. Thunder
 - b. Lightning
 - c. Electric current
 - d. **Electric discharge**
15. The image formed by a plane mirror is:
 - a. Virtual and erect
 - b. Real and inverted
 - c. **Real and erect**
 - d. Virtual and inverted
16. Which of the following is a secondary sexual characteristic in females?
 - a. Broadening of shoulders
 - b. Growth of facial hair
 - c. **Widening of hips**
 - d. Deepening of voice

SECTION B

Q II.A. Fill in the blanks

(6Q X 1/2M = 3M)

17. Metamorphosis is a distinct change in form, from one stage to the next stage in the life cycle of an organism.
18. The hormones released into the bloodstream reach a particular body part called Target site.
19. Force per unit area is called Pressure.
20. Fluid friction can be minimized by giving suitable Shape to bodies moving in fluids.
21. The frequency determines the Pitch of a sound.
22. Willhem Nicoloson is best known for discovering water electrolysis.

B. Match the following:

(6Q X 1/2M = 3M)

- | ‘A’ | ‘B’ |
|--------------------------------|--|
| 23. Menstruation (f) | a. Blood pressure and deafness |
| 24. Static electricity (e) | b. Forms real and inverted image |
| 25. Cathode (d) | c. Occurs inside the female body |
| 26. Internal fertilization (c) | d. Electrode that connected to negative terminal |
| 27. Concave mirror (b) | e. Involves the buildup of charges on an object |
| 28. Noise pollution (a) | f. Periodic shedding of uterine lining. |

C. True or false

(6Q X 1/2M = 3M)

29. Friction is a contact force. **T**
30. A barometer is an instrument used for measuring the force exerted by the water. **F**
31. Rolling friction is less than sliding friction. So, a heavy suitcase can be pushed easily on wheels. **T**
32. Distilled water is a good conductor of electricity. **F**
33. The number of oscillations or vibrations per second is called the frequency of oscillation. **T**
34. Splitting of light into its constituent colours is known as reflection. **F**

D. Very short answer questions.

(3Q X 2M = 6M)

35. Explain in what ways noise pollution is harmful to human.
Lack of sleep, hypertension, anxiety and many more health disorders may be caused by noise pollution. A person who is expose to loud sound continuously may get temporary or even permanent impairment of hearing.
36. Does pure water conduct electricity? If not, what can we do to make it conduct.
No. Due to lack of ions pure water doesn't conduct electricity. We can add salt acids or bases to make it conducting.
37. Explain why a charged body loses its charge if we touch it with our hand.

When charged body is touched by hand, the excess charge is transfer to earth to the body. This is called earthing. As a result the charged body becomes neutral.

SECTION C

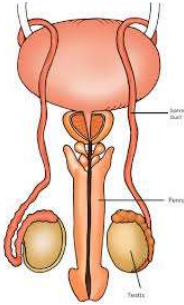
Q III. Short answer questions (any 5)

(5Q X 3M = 15M)

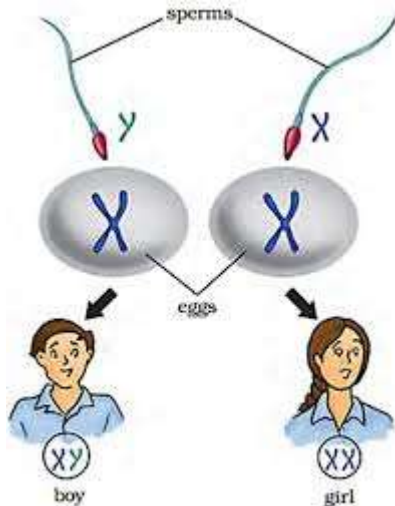
38. Define Menarche and menopause. Draw a neat labeled diagram of male reproduction organs in human.

The menstrual flow that begins at puberty is called menarche.

Stoppage of menstruation is termed as menopause.



39. With the help of diagram explain how father determine the sex of an unborn baby.



All human beings have 23 pairs of chromosomes. Out of these 2 chromosomes are the sex chromosomes X & Y. A female 2 X chromosomes and male has 1X and 1Y chromosome. The gametes have only one set of chromosomes. When sperm containing X chromosome fertilizes the egg, the baby develops into female child. If the sperm contributes Y chromosome to the egg, the zygote would develop into a male child.

40. With suitable examples, explain any three disadvantages of friction.

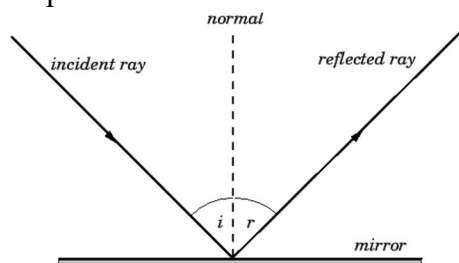
Friction reduces the speed of a moving object.

Friction causes wear and tear.

Frictional heat damages the machine parts.

A large amount of fuel is wasted while running machines to overcome friction.

41. Explain the laws of reflection with the help of diagram.



Angle of incidence is always equal to the angle of reflection

The incident ray, the normal at the point of incidence and reflected ray all lie in the same plane.

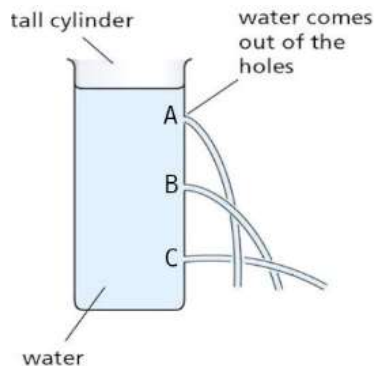
42. Give reason for the following.

a. We hear echoes in an empty room but not in a fully furnished room. In an empty hall, there are fewer surfaces to absorb sound. So it reflects back as an echo.

b. Sound is unable to travel in a vacuum. Sound requires a medium to travel through vibrations in particles.

c. Sometimes we feel vibrations when we stand near a large speaker. Large speakers produce low frequency sound with high energy. These vibrations can be felt physically.

43. In the diagram below, water is placed in a container with a hole at different levels.



a) Identify the level where the pressure is exerted most and least – Most C least A

b) Explain how the pressure varies with depth in the liquid -Pressure in a fluid varies with depth density, and the weight of the fluid above it.

c) Is pressure at a depth same in different liquids? – NO. it will be different.

SECTION D

Q IV. Long answer questions.

(2Q X 5M = 10M)

44. a) A pendulum oscillates 60 times in 6 seconds. Find its time period and frequency.

Time period = Time taken / Number of oscillations

$$6/60 = 0.1 \text{ sec}$$

Frequency = Number of oscillations / Time taken

$$60/6 = 10 \text{ hz.}$$

b) Define electroplating. Write any two advantages and disadvantages of electroplating.

The process of depositing a layer of any desired metal or material is called electroplating.

Advantages – Chromium coating, ornaments, tin cans,

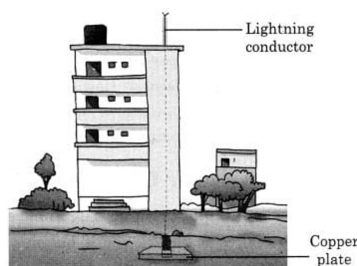
Disadvantages – Harmful products after electrolysis

Industrial wastes

45. a) What is a lightning conductor? How does a lightning conductor work?

A metal rod spike that protects a structure from lightning

Protects buildings from lightning strikes by redirecting charges to the ground.



b) Explain the factors affecting the reproductive health during adolescences.

1. Nutritional need of the adolescents

2. personal hygiene

3. Physical exercises

SECTION E

Q V. Case study

(1Q X 4M = 4M)

46. Read the given paragraph carefully and answer the following questions.

Ravi and his friends were playing football in an open field when dark clouds gathered in the sky. Soon, they noticed lightning flashing, followed by loud thunder. Worried, they rushed to a large tree to seek shelter. Ravi remembered his science teacher's advice about staying safe during lightning and immediately warned his friends that standing under a tree during a thunderstorm can be dangerous.

He suggested moving to a safe place indoors. However, one of his friends, Rohit, questioned him, asking why they couldn't stay under the tree since it seemed like a safe spot. Ravi explained the concept of lightning, how it is caused by the accumulation of charges in clouds, and why tall objects like trees attract lightning.

Questions:

1. Lightning occurs because of Electric charge.

a. Electric charges b. Thunder c. Supernatural causes d. Wind

2. Why is standing under a tree during a thunderstorm dangerous?

Tall objects like trees are more likely to attract lightning because they provide a path to the electric discharge

3. Suggest 2 safety measures one should follow during a thunderstorm.

Stay indoor and avoid open fields

Avoid using electrical appliances

If you are outdoor crouch low with your feet close together.

4. Which instrument can be used to detect charges? Who invented it?

Electroscope

Benzamine Franklin