HALF YEARLY EXAMINATION, 2024-25

SCIENCE

Time – 3:00 Hrs. **Class – VIII** **M.M. : 80**

Date – _____

Name of the student _____Section _____

INSTRUCTIONS-

1. **All Questions are compulsory.**
2. **The question paper consists of two sections - Section A – Objective questions and Section B – Subjective questions**
3. **Read the question paper carefully before answering. Internal choices have been provided in some sections.**

SECTION - A

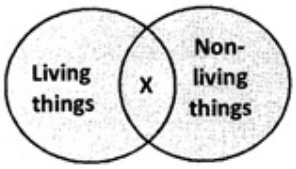
Q1. Choose the correct option. **(1 mark each)**

i) Kharif crops are grown from June to September. The reason behind this is -

a) They need a lot of water. b) They can adapt the water logging.

c) They need high humidity d) All of the above

ii) Which of the following is represented by 'X' in the figure?



a) Protozoa b) Bacteria c) Viruses d) Algae

iii) Which of the following represents the correct increasing order of calorific value of the given fuels?

a) Hydrogen < LPG < Biogas < Cow dung cake < coal

b) Cow dung cake < Biogas < LPG < Coal < Hydrogen

c) Cow dung cake < Coal < Biogas < LPG < Hydrogen

d) Hydrogen < Cow dung cake < LPG < Biogas < Coal

iv) Sakshi took a piece of four substances W, X, Y, and Z. She tried to burn each of them by bringing a lighted matchstick near them. She observed that Y and Z burn readily, whereas W burns readily only after sustained heating. However, X burns at last all. Among the given substances taken by Sakshi, which substance has the highest ignition temperature?

a) W b) X c) Y d) Z

v) Which of the following is not a protected area for wild animals?

a) Biosphere reserve b) National park c) Wildlife sanctuary d) Farmland

vi) **ASSERTION (A):** When we stop pedaling a bicycle, it gradually slows down and finally comes to a rest.

REASON (R) : No force appears to be acting on the object yet their speed gradually decreases and they come to rest after some time.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false.

d) A is false but R is true.

vii) Assertion (A): Ball bearings are used in machines to reduce friction.

Reason (R): Ball bearings replace sliding friction with rolling friction, which is less.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false.

d) A is false but R is true.

viii) In an experiment, two identical blocks are moved over different surfaces. Block A moves over sandpaper, and Block B moves over ice. Which of the following is true about the frictional forces?

a) Block B experiences greater friction than Block A.

b) Block A experiences greater friction than Block B.

c) Both blocks experience the same frictional force.

d) Frictional force does not depend on the surface material.

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

a) _____ bacteria helps in the formation of curd.

b) _____ is a poisionous gas which is produced due to incomplete combustion of coal.

c) The effect of pressure is greater if the area is _____.

d) Kabaddi players rub their hands with soil to _____ friction for better grip.

Q.3 Correct and rewrite the following statements. (1x4=4)

a) The bacteria called salmonella typhae is present in the root nodules of leguminous plants.

b) The process of conversion of sugar into alcohol is called pasteurization.

c) Pressure applied by the blunt surface of knife is more.

d) The degradation process by which a fertile land changes itself into a desert by loosing its flora and fauna is called afforestation.

Q.4 Give one word answer for the following. (1x4=4)

a) Force of friction due to air and water -

b) The pressure exerted by air around us -

c) The resource book that maintains the record of endangered animal and plant species -

d) The amount of heat energy produced on complete combustion of 1 kg of a fuel -

SECTION - B

Q.5 Very short answer questions. (2x6=12)

a) Why raw vegetables and fruits are kept in refrigerators whereas jams and pickles can be kept outside.

b) Write any two advantages of manure.

c) 60 kg of fuel was completely burnt for an experiment. The amount of heat energy was found to be 1,80,000 kJ. Calculate the calorific value of the fuel.

d) What are the consequences of deforestation on rural and urban areas?

e) A force of 100 N is applied on an area of 4 m^2. Calculate pressure being applied on the area.

f) We have two identical metal sheets. One of them is rubbed with sandpaper and the other

with ordinary paper. The one rubbed with sandpaper shines more than the other. Give reason.

Q 6. Short answer questions. (3x6=18)

a) Draw a well labeled diagram of **<u>any one</u>** of the following. (Label any 4 parts)

i) Chlamydomonas ii) Soda - acid fire extinguisher iii) Candle flame

b) What are weeds? Write any 2 methods of controlling weeds.

c) **CASE BASED QUESTION-**

The Black Rhinoceros is critically endangered due to poaching and habitat loss. Native to eastern and southern Africa, the Black Rhino population has drastically declined over the past decades. Conservation efforts include anti-poaching patrols, community-based conservation programs, and translocation projects to establish new populations in safer areas.

i) Identify the primary reasons for the decline in Black Rhino populations.

ii) Discuss the role of habitat loss in the endangerment of Black Rhinos.

iii) Suggest one way to save the species of Black Rhinos.

d) i) Mention the SI unit of pressure. (1+2)

ii) A person wearing pointed heels sinks into a soft ground more than a person wearing flat shoes. Explain why in terms of pressure.

OR

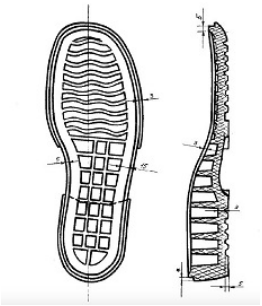
In the following situations, state the effect of the force in terms of change in position/ direction / shape in each case.

i) Squeezing a piece of lemon between the fingers to extract its juice.

ii) Hitting a ball with a bat.

iii) A load suspended from a spring while its other end is on a hook fixed to a wall.

e) See the adjacent figures and answer the following questions: (1+2)



i) Why are the grooves given in the tyre?

ii) What is the relation between the similar patterns given in the soles of shoes and the tyre? Explain why athletes wear shoes with spikes during race?

f) i) Explain how CO_2 is able to control fires. (2)

ii) Write any one characteristic of an ideal fuel. (1)

Q 7. Long answer questions. (5x6=30)

a) Explain Nitrogen cycle. (3+2)

b) i) How do some tribals depend on the jungle? (2)

ii) How does deforestation lead to frequent floods and droughts? (3)

c) i) What do you mean by food preservation? Give a suitable method to preserve the following food items

(A) Fruits & vegetables (B) milk (3)

ii) Can we store lemon pickles in iron containers? Justify your answer with reason. (2)

d) A fire broke out in a chemical factory due to a short circuit, quickly spreading to other areas because of the presence of flammable materials. The fire department was called, and the fire was eventually extinguished after several hours. (1+2+2)

a) What are inflammable substances?

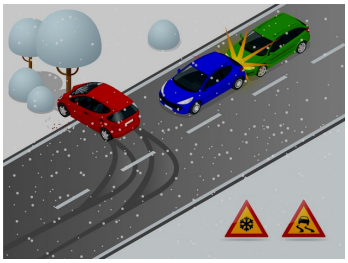
b) Write any two conditions necessary to cause the fire on a substance.

c) Which type of fire extinguishers are used to extinguish the fire caused due to short circuit and why?

e) Describe an activity to show with the help of diagram- (3+2)

"The pressure exerted by a liquid at same depth is same in all directions".

f) Imagine a scenario where a group of students wants to improve the performance of a toy car in a race. They notice that the car often slips on the track. They decide to experiment with increasing and reducing friction to achieve better results. (1+2+2)



i) How does friction affect the motion of the toy car on the track?

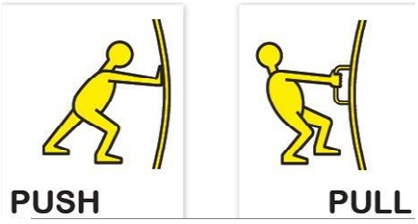
ii) What are two ways to increase friction between the toy car and the track?

iii) Describe any two examples from daily life where reducing friction is advantageous.

OR

Read the following passage and answer the questions

Force is a push or pulls acting upon an object as a result of its interaction with another object. Forces can be classified into contact forces and non-contact forces. Contact forces include muscular force, frictional force, and mechanical force, where objects must touch each other to exert force. Non-contact forces include gravitational force, magnetic force, and electrostatic force, where objects can exert force without direct contact. (1+2+2)



i) Why is electrostatic force called non-contact force?

ii) What will be the net force when –

(A) force is applied from the same direction

(B) force is applied from the opposite direction

iii) Define frictional force with a suitable example.