Indian School Al Wadi Al Kabir
Final Examination (2024-2025)

Class: VIII	Subject: SCIENCE	Max. marks: 80
Date:13/03/2025	SET: II	Time: 3 hours

General Instructions:

i. All questions are compulsory. Marks are indicated against each section.
*ii. The question paper comprises **8 pages** and **39** questions in 5 sections A, B, C, D and E.*
*iii. Q 1 to Q 16 in **section A** -MCQ carry ONE mark each. Write the correct answer along with the option in the answer script.*
*iv. Q 17 to Q 20 in **section A** -Assertion and Reason carry ONE mark each.*
*v. Q 21 to Q 26 in **section B** are Short Answer Type Questions and carry TWO marks each.*
*vi. Q 27 TO Q 33 in **section C** are Short Answer Type questions that carry THREE marks each.*
*vii. Q 34 TO Q 36 in **section D** are Long Answer Type Questions and carry FIVE marks each.*
*viii. Q 37 TO Q 39 in **section E** Case study/paragraph Questions carry FOUR marks each.*
ix. Write the same question number as the one given on the question paper.
x. Ink killer or whitener should not be used in the answer script.
xi. Diagrams should be drawn using a pencil.

SECTION A (20X1=20)

1. A farmer stored his harvested wheat, but after a few weeks, he found it had fungus and insects. What could be the reason for this?
a) The grains were stored in airtight containers.
b) The grains were not dried properly before storage.
c) The grains were kept in a cool and dry place.
d) The grains were treated with pesticides before storage.

2. The calorific values of some fuels are given. Based on this data, identify the correct order of fuel efficiency.

Fuel	**Calorific value kJ/kg**
Coal	25000-33000
Diesel	45000
LPG	55000
CNG	50000

a) LPG > CNG > Diesel > Coal
b) Coal > Diesel > LPG > CNG
c) Diesel > CNG > Coal > LPG
d) CNG > LPG > Diesel > Coal

3. According to the laws of reflection, which of the following statements is correct?
a) The angle of incidence is greater than the angle of reflection.
b) The angle of incidence is less than the angle of reflection.
c) The angle of incidence is not equal to the angle of reflection.
d) The angle of incidence is equal to the angle of reflection.

4. Given below are some crops and their respective growing seasons. Which pair is correctly matched?

Crop	**Season**
Maize	Rainy
Wheat	Winter
Paddy	Rainy
Mustard	Winter
Soybean	Rainy
Cotton	Rainy

a) Wheat -Rabi, Maize- Kharif
b) Paddy – Rabi, Mustard – Kharif
c) Soybean – Rabi, Cotton – Kharif
d) Cotton – Rabi, Mustard – Kharif

5. What should a mechanic do to reduce friction in the moving parts of a bicycle?
a) Increase the roughness of the surfaces.
b) Apply grease to the moving parts.
c) Leave the moving parts uncleaned.
d) Tighten the moving parts to make them fit better.

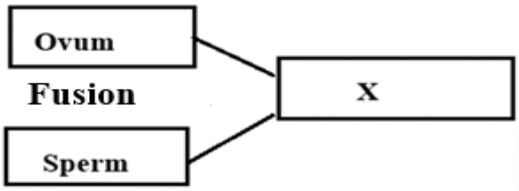
6. Which of the following adaptations helps nocturnal creatures like owls and bats to see in dim light?
a) Increased number of cones in the retina.
b) Small pupil size to limit light intake.
c) Retina with a high concentration of rods.
d) Smaller cornea for better focus.

7. X is a disease caused by a protozoan, X is transmitted by a female anopheles mosquito. Identify X.
a) Malaria
b) Measles
c) Hepatitis A
d) Typhoid

8. In the given picture, the friction acting on the wheels of a moving cart is:

a) Static friction
b) Sliding friction
c) Rolling friction
d) Fluid friction

9. The fusion of an ovum and a sperm results in the formation of a single cell called X. What is X?



a) Embryo
b) Foetus
c) Baby
d) Zygote

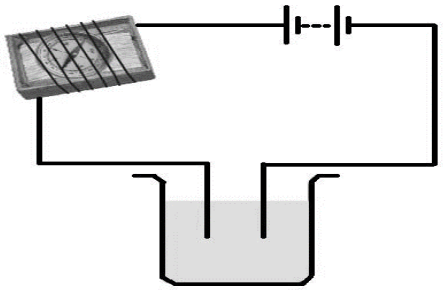
10. If the pancreas does not produce sufficient insulin, which condition is most likely to occur?
a) Acne and pimples.
b) Low- pitched voice.
c) High blood sugar levels
d) No increase in height.

11. In human females, how frequently does an ovary release an ovum?
a) One in a month
b) One every week
c) One every day
d) One every year

12. A woman has a child. If the child is a boy, which of the following combinations of chromosomes must have been passed by the father and the mother?
a) The mother passed one X chromosome, and the father passed one X chromosome.
b) The mother passed one X chromosome, and the father passed one Y chromosome.
c) The mother passed one Y chromosome, and the father passed one X chromosome.
d) The mother passed one Y chromosome, and the father passed one Y chromosome.

13. The roar of a lion is very loud, while the sound of a bird is quite feeble. The difference in loudness is related to the following.
a) The frequency of the sound waves is different.
b) The pitch of the sound waves is different.
c) The amplitude of the sound waves is different.
d) The pitch of the sound waves is the same.

14. Which of the following liquids, when tested in this manner, can cause a magnetic needle to deflect?



a) Honey
b) Sugar solution
c) Distilled water
d) Salt solution

15. Why is an LED preferred over a normal bulb in a tester circuit to check the conduction of liquids?
a) It requires more current to glow.
b) It requires less current to glow.
c) It heats up quickly.
d) It provides less light.

16. Which of the following musical instruments produces sound primarily through the vibration of an air column?
a) Guitar
b) Drums
c) Violin
d) Flute

For the following questions, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii), and (iv) as given below.
(i) Both A and R are true and R is the correct explanation of the assertion.
(ii) Both A and R are true but R is not the correct explanation of the assertion.
(iii) A is true but R is false.
(iv) A is false but R is true.
17. **Assertion (A):** The image created by a plane mirror is virtual.
Reason (R): Virtual images can be formed on a screen.

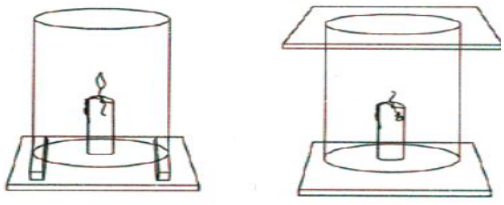
18. **Assertion(A):** Hens and ducks are called Oviparous animals.
    Reason(R): Oviparous animals lay eggs.
19. **Assertion (A):** Chromium does not corrode and resists scratches.
    Reason (R): Chromium has a dull appearance.
20. **Assertion (A):** Sound does not need a medium to travel, it can travel in vacuum.
    Reason (R): Sound propagates by causing the particles in the medium to vibrate.

SECTION B (6X2=12)

21. a) What is the difference between luminous and illuminated objects?
    b) When the angle between two plane mirrors is 45°, how many images will be formed by the mirrors?
22. Draw a neat and labelled diagram showing the process of binary fission in Amoeba.
23. What are secondary sexual characteristics? Mention one secondary sexual characteristic found in boys and one found in girls at the onset of puberty.
24. A simple pendulum completes 30 oscillations in 60 seconds.
    a) What is the time period?
    b) Calculate its frequency.
25. a) What is meant by the electrolysis of water?
    b) Name the gases formed at the electrodes connected to the positive and negative terminals of the battery, respectively.
26. a) A student sets up a circuit with a bulb and two electrodes immersed in a liquid, but the bulb does not glow. Give any one reason for this
    b) What happens when current is passed through a cut potato, and why does it occur?

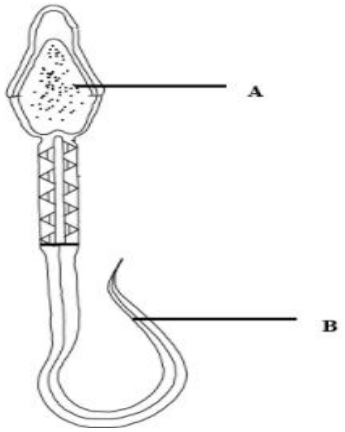
SECTION C (7X3=21)

27. a) What are weeds, and why is their removal important in agriculture?
    b) Why should the field be levelled before sowing seeds? Name an agricultural implement used for levelling.
28. a) What are antibiotics, and how do they help in treating infections? Give two examples of antibiotics.
    b) Which microorganism in curd helps in its formation, and how does it convert milk into curd?
29. a) Explain why kerosene oil produces a flame, whereas coal does not.
    b) Why do dry leaves catch fire easily, but green leaves are harder to burn?
    c) Fix a lighted candle on a table. Place a glass chimney over the candle and rest it on a few wooden blocks. In Case A, the flame will continue to burn. In Case B, when a glass plate is placed over the chimney, the flame gets extinguished. Why does the flame behave differently in each case?



Case A Case B

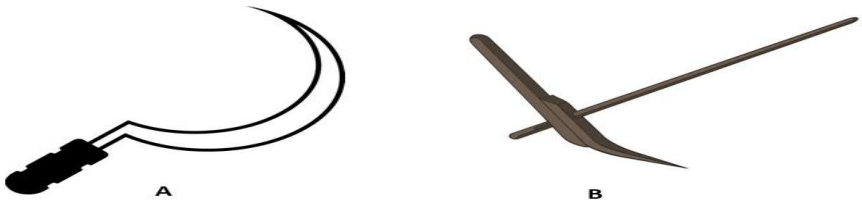
30. a) What is drag? State the factors that affect friction on an object moving through a fluid.
    b) Why are the soles of shoes and tyres of vehicles grooved?
31. a) Why is it necessary for frogs to produce a large number of gametes?
    b) (i) Label the parts marked as A and B in the given diagram of a human sperm.
    (ii) Write the function of part B



32. a) Why do we use ball bearings between the hubs and axles of a bicycle or a ceiling fan?
    b) Give any one disadvantage of friction.
    c) Two blocks of iron of different masses such as 10 kg and 50 kg are kept on a cemented floor. Which one of them would require a larger force to move it from the rest position Why?
33. a) A student is experimenting to electroplate copper over an iron ring. The student connects the iron ring and a copper strip to a battery and dips them into a solution.
    i) What is used as the positive terminal in the electroplating setup?
    ii) What is used as the negative terminal in the electroplating setup?
    b) What is the purpose of applying a zinc coating on iron used to make bridges and automobiles?
    c) You are given two copper plates and a copper sulphate solution. Draw a neat and labelled diagram to show the process of electroplating.

SECTION D (3X5=15)

34. a) How does using a seed drill benefit the process of sowing seeds?
    b) Write any two differences between manures and fertilisers.
    c) In which type of area is the drip irrigation system most beneficial?
    d) State the use of given agricultural implements: A and B



35. a) i) What are vaccines?
ii) Name any disease that can be prevented by a vaccine.
b) Two pots, A and B, contain different types of waste. Pot A has plant waste, while Pot B contains polythene bags, glass bottles, and broken plastic toys. After 3-4 weeks, what difference would you observe in the contents of the two pots?
c) What is the process used to kill harmful microbes in milk? Explain the process.

36. a) How does the larynx help us to speak? Explain.
b) What is the difference between audible and inaudible sounds in terms of their frequencies?
c) How can being around loud noise for a long time be dangerous?

SECTION E (3X4=12)

Read the passage and answer the following questions

37. **One evening, Ravi was in the kitchen preparing dinner. As he struck a matchstick and brought it near the gas stove, he turned on the knob. Immediately, the LPG gas caught fire and burned rapidly, producing heat and light. Ravi knew that this quick reaction was a classic example of rapid combustion, where the gas burned fast, releasing a lot of energy in the form of light and heat.**

Later that night, as Ravi's family prepared for the festival, they lit some fireworks. The crackers burst into flames with a sudden release of heat, light, and sound. It was an explosive reaction, where a large amount of energy was released quickly.

Ravi then remembered that substances like phosphorus can catch fire on their own, even without any external heat. This is known as spontaneous combustion when a material ignites without any apparent cause.

i) What is produced when LPG burns rapidly near a gas stove?
ii) What type of combustion occurs when fireworks burst into flames?
iii) Write the differences between rapid and spontaneous combustion with examples.

38. **Joel has trouble seeing distant objects clearly but can see nearby objects just fine. His grandmother, on the other hand, is experiencing cloudy vision due to cataracts, a condition where the lens of the eye becomes opaque, leading to severe vision loss. The doctor explains that cataracts can be treated by removing the cloudy lens and replacing it with a new artificial one. The doctor also advises Joel to take proper care of his eyes, get regular checkups, and use suitable spectacles if necessary. He warns that too little or too much light can harm the eyes, causing eyestrain or retinal damage, and suggests not looking directly at the Sun or powerful lights. If dust particles get in the eyes, Joel is reminded not to rub them but to wash his eyes with clean water, and if there's no improvement, he should visit a doctor.**

i) What steps should you take if dust particles get into your eyes?
ii) Why is it important not to look directly at the Sun or powerful lights?
iii) Explain what cataract is and how it can be treated.

39. **The growth patterns of boys and girls are similar, but girls typically experience a faster growth rate in the early years. By the age of 18, both genders generally reach their maximum height. However, the rate of growth varies among individuals—some undergo a sudden growth spurt during puberty, while others grow more gradually. This process is regulated by hormones, particularly the growth hormone secreted by the pituitary gland, which plays a vital role in ensuring normal development. The table below represents the percentage of height growth in boys and girls at different ages.**

Age in	*% of full height*	
Years	*Boys*	Girls
8	72%	77%
9	75%	81%
10	78%	84%
11	81%	88%
12	84%	91%
13	88%	95%
14	92%	98%
15	95%	99%
16	98%	99.50%
17	99%	100%
18	100%	100%

i) Do boys and girls grow at the same rate during their early years?
ii) At what age do both boys and girls reach their maximum height?
iii) Which hormone is responsible for normal growth, and which gland secretes it?