



विद्या सर्वार्थ साधिका

ANANDALAYA
ANNUAL EXAMINATION
Class: VIII

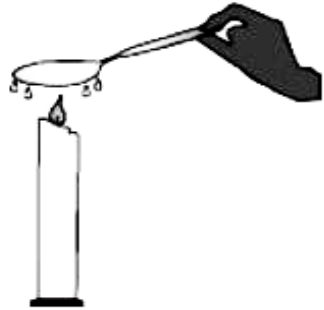
Subject: Science
Date : 12-03-2024

MM : 80
Time: 3 hours

General Instructions:

- This question paper consists of 39 questions in 5 sections.
- All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
- Section A consists of 20 objective type questions carrying 1 mark each.
- Section B consists of 6 Very Short questions carrying 02 marks each.
- Section C consists of 7 Short Answer type questions carrying 03 marks each.
- Section D consists of 3 Long Answer type questions carrying 05 marks each.
- Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts.

SECTION A

- Which of the following fuels is expected to last the longest? (1)
(A) Wood (B) Coal (C) Petroleum (D) Natural gas
- Which of the following is a greenhouse gas? (1)
(A) Carbon dioxide (B) Carbon monoxide (C) Hydrogen (D) Nitrogen
- In presence of water ignition temperature of paper _____. (1)
(A) decreases (B) increases (C) remains constant (D) can decrease or increase
- A spoon is kept in contact with ice cubes for some time. Later, the same spoon was held over the flame of a small candle. The observation is shown in the figure. What do you infer from the given figure? (1)

(A) spoon is an inflammable substance.
(B) burning of candles is a spontaneous process.
(C) CO₂ is a product of combustion.
(D) water vapour is a product of combustion.
- Cloning in a sheep was successfully done in 1996 by the scientist _____. (1)
(A) Watson (B) Ian Wilmut (C) Robert Hook (D) Robert Koch
- Among the following diseases, which one is caused by bacteria? (1)
(A) Hepatitis (B) Malaria (C) Typhoid (D) Measles
- A group of individuals capable of interbreeding and able to produce fertile offspring is called as a _____. (1)
(A) population (B) genus (C) species (D) community
- Which among the following animals is an endemic species found in Gir National park? (1)
(A) Elephant (B) Rhino (C) Asiatic lion (D) Wild buffalo
- Different water sources in the town of Anantapur were tested for their total dissolved solutes (TDS) value and are listed in Table below.

Water source	TDS Level (ppm)
Borewell/ Groundwater	440
Pond	278
River	380
Tap water (water supplied by the community water supply plant)	193

Choose the correct option from the following.

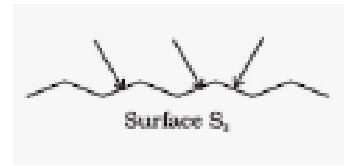
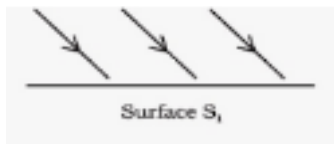
(A) Borewell water is good for drinking and it is a better conductor than the rest.

(B) River water is good for drinking and borewell water is a good conductor.

(C) Tap water is good for drinking and it is a better conductor than the rest.

(D) Tap water is good for drinking and borewell water is the best conductor.

10. Adam's apple is the common name of _____. (1)
 (A) enlarged thyroid gland (B) growing voice box (C) thymus gland (D) adrenal gland
11. Which of the following food item will supply iron to an adolescent girl? (1)
 (A) Pulses (B) Jaggery (C) Tubers (D) Nuts
12. Among the following animals, which pair shows external fertilization? (1)
 (A) fish and bird (B) frog and bird (C) bird only (D) fish and frog
13. Two objects repel each other. The repulsion is due to _____ force. (1)
 (A) magnetic (B) gravitational (C) frictional (D) muscular
14. Fluid friction on a moving object in a fluid depends on _____. (1)
 (A) speed of the moving object (B) nature of the fluid
 (C) shape of the object (D) all of the above
15. Light is falling on the surfaces S1, S2 and S3 as shown in the figures. The laws of reflection are true for _____. (1)



- (A) S1 and S2 only (B) S1 and S3 only (C) S2 and S3 only (D) all three surfaces
16. Image formed by a plane mirror is _____. (1)
 (A) virtual, behind the mirror and enlarged.
 (B) virtual, behind the mirror and of the same size as the object.
 (C) real at the surface of the mirror and enlarged.
 (D) real, behind the mirror and of the same size as the object.

For question numbers 17 to 20, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (A), (B), (C) and (D) as given below.

(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 and R is also false.

17. Assertion (A): Frictional force reduces the speed of a moving object. (1)
 Reason (R): Friction is always opposite to the direction of motion of the object.

18. Assertion (A): Kerosene oil is having lower ignition temperature than vegetable oil. (1)
Reason (R): The ignition temperature is the maximum temperature at which combustible substance catches fire.
19. Assertion (A): The colour of LPG flame is blue while a candle flame is yellow. (1)
Reason (R): LPG undergoes complete combustion while wax undergoes incomplete combustion.
20. Assertion (A): A new human individual develops from a single cell called zygote. (1)
Reason (R): Zygote further develops into embryo and then to a foetus.

SECTION B

21. What will be the magnitude and direction of the resultant force when two forces 20N and 5N act in the (i) same direction and (ii) opposite direction on a box of 2kg? (2)
22. Explain why: (2)
(a) rolling friction is smaller than static friction.
(b) lubricants reduce friction between the surfaces.
23. Which zone of a flame does a goldsmith use for melting gold and silver? Why? (2)
24. Is coke a better fuel than coal? Justify your answer. (2)
25. Microorganisms cause many human diseases and spoil our food. Do you think that they are still needed in the environment? Support your answer with reasons. (2)
26. Define the following terms: (A) Endemic species (B) Ecosystem (2)

SECTION C

27. What is coal tar? Write its uses. (3)

OR

What are the measures given by PCRA for saving petrol and diesel?

28. Differentiate between rapid combustion and spontaneous combustion. Also give one example for each. (3)
29. (a) Define one pascal. (3)
(b) A box of dimensions 15 m x 10 m x 5 m applies a force of 1.5 N when placed on a surface. Find out the pressure it exerts when it is placed (i) in vertical position (ii) in horizontal position with the longest side as its base.

(OR)

Explain the following properties of liquid with the help of an activity.

- (i) Liquid exerts equal pressure at equal depth.
(ii) Liquid pressure depends on the height of the liquid column.
30. (a) How is sound produced and transmitted in a medium? (3)
(b) In which medium the speed of sound is the fastest? Why?
31. (a) State the laws of reflection. (3)
(b) How many images of an object will be formed by two plane mirrors when they are kept (i) parallel to each other and (ii) right angle to each other?
32. Using a schematic representation, explain the cycling of Nitrogen in the environment. (3)
33. (a) What do you mean by migration of organisms? (3)
(b) Why do the animals migrate? Explain with examples.

SECTION D

34. With the help of an activity, distinguish between a good conductor and a poor conductor of electricity. Include the following in your answer. (5)
Materials required, procedure (in short), labelled diagram, observation and inference.

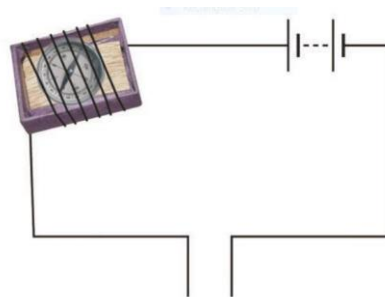
OR

Observe the circuit shown in the Figure.

(a) Current does not flow in the circuit if there is a gap between the two wires. Does it indicate that air is a poor conductor of electricity? Does air never conduct electricity? Explain.

(b) Soham observes the deflection in the compass during his experiment. What would be the effect of the increase in the number of turns in the coil wound around the magnetic compass in the above experiment?

(c) Does milk conduct electricity? Justify your answer.



35. (a) Write audible frequency range of sound for the human ear. (5)
(b) What are ultrasound and infrasound?
(c) Represent graphically by drawing two separate diagrams in each case.
(i) Two sound waves of same amplitude but different frequencies.
(ii) Two sound waves of same frequency but different amplitudes.
(iii) Two sound waves of different amplitudes and different frequencies

OR

- (a) What is noise pollution?
(b) List any four sources of noise pollution in your surroundings.
(c) Explain in what way noise pollution is harmful to humans.
36. (a) Arun studying in class 7th is 12 years old and his height is 110 cm. The standard growth chart says that he should have attained 84% of his full height now. At the end of the growth period what would be the height of Arun? (5)
(b) What are the physical changes that a boy undergoes during adolescence?
(c) Name the hormone that is responsible for the secondary sexual characteristics in males.

OR

- (a) Explain the primary sexual characteristics of an adolescent girl. Which endocrine gland is known as the master gland?
(b) Explain sex determination in human with the help of a schematic diagram.
(c) What is the importance of exercise among adolescents?

SECTION E

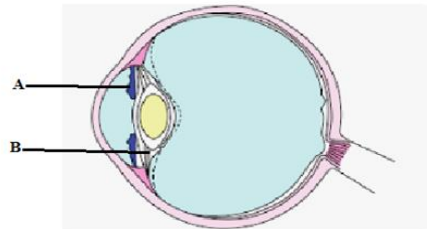
Questions 37 to 39 are source-based/case study based questions of 4 marks with sub-parts.

37. Light gives the sensation of vision. The human eye is a remarkable organ. Eyes capture visible light from the world around us and turn it into a form our brain uses to create our sense of vision. Normal eye can clearly see distant objects as well as objects nearby. The eye adjusts its focus according to the distances of objects. We have to value our vision, the most among all of our senses and take care of it properly.
- (i) The most comfortable distance at which one can read with a normal eye is _____. (1)
(ii) How do you take care of your eyes? Write any two points (1)

- (iii) Identify the parts of the eye marked as A and B and also write their functions. (2)

OR

- (iii) What are rod cells and cone cells? Where are they present in human eye?



38. Electroplating is basically the process of plating a metal onto the other by hydrolysis mostly to prevent corrosion of metal or for decorative purposes. The process uses an electric current to reduce dissolved metal cations to develop a lean coherent metal coating on the electrode. Electroplating is often applied in the electrical oxidation of anions on a solid substrate like the formation of silver chloride on silver wire to form silver chloride electrodes. Electroplating is majorly applied to modify the surface features of an object (e.g corrosion protection, lubricity, abrasion), but the process can also be used to build thickness or make objects by electroforming.

- (i) Write your observation which would happen when current is passed in the solution of copper sulphate having iron nail as cathode and copper rod as anode. (1)
- (ii) A student made a list of the applications of electroplating on metals. He learns that zinc metal is electroplated over iron. Why is electroplating of iron essential? (1)
- (iii) During electroplating of chromium, an object is made from a cheaper metal and only a coating of chromium over it is deposited. Justify the statement. (2)

OR

- (iii) What happens when electricity is passed through copper sulphate solution?

39. Reproduction is the fundamental characteristic of living organism. The production of new individuals from their parents is known as reproduction. Sexual reproduction involves two individuals, the male and the female. In humans, two different individuals, ie the male and female contribute sperm and egg for sexual reproduction. The fusion of male and female sex cells leads to the formation of a zygote which further develops into a foetus. Every stage of reproduction is controlled by hormones.

- (i) What is the indication of starting of reproductive age in females? (1)
- (ii) How do hormones reach the target organs? (1)
- (iii) Differentiate between menopause and menarche. (2)

OR

- (iii) Which are the two functions of human testis?