

DAV BR PUBLIC SCHOOL, BINA
PRACTICE PAPER SESSION 2023-24
Class- VIII Subject- Science

Time Allowed: - 3 hrs

MM: 80

Q.No.	QUESTIONS <u>SECTION A</u>	MARKS
1	The hinges of creaking doors are lubricated to: a) clean them b) to reduce wear and tear c) to increase friction d) both a and b	1
2	The statement which is incorrect is: a) friction acts on a ball rolling along the ground. b) friction acts on a boat moving in water. c) friction acts on a bicycle moving on a smooth road. d) friction does not act on a ball moving through air.	1
3	Light from the sun falling on a convex lens will converge at a point called: a) centre of curvature b) principal focus c) radius of curvature d) optical centre	1
4	The human eye forms the image of an object at its: a) iris b) eye lashes c) eye lens d) retina	1
5	The male gonad among the following is: a) ovary b) penis c) testes d) urethra	1
6	Hormone that controls metamorphosis is: a) thyroxine b) insulin c) growth hormone d) adrenaline	1
7	A medicine that is effective in killing or stopping the growth of a disease-causing microorganism to treat the infections is called: a) antibiotic b) antibody c) antigen d) vaccine	1
8	The microorganisms that can multiply only in other host organisms is: a) bacteria b) virus c) algae d) protozoan	1
9	The number of eggs produced in internal fertilisation is: a) more than external fertilisation. b) less than external fertilisation c) more or less than external fertilisation depending upon the organism d) equal to external fertilisation	1
10	Budding is observed in: a) humans b) amoeba c) hydra d) bacteria	1
11	The characteristics that is not relevant to an exhaustible natural resource is: a) they take millions of years for their formation b) they are present in abundance c) they generally cause pollution d) they are present in limited quantity	1
12	Conversion of dead plant material into coal is: a) destructive distillation of coal	1

- b) carbonisation
 - c) fuel formation
 - d) extraction of coal
- 13 The necessary requirements for combustion to take place are: 1
- a) fuel, N₂, ignition temperature
 - b) CO₂, water, O₂ gas
 - c) fuel, O₂, water
 - d) fuel, O₂, ignition temperature
- 14 An object is placed at a distance of 20 cm from a convex lens of focal length 20 cm. the image will form: 1
- a) at infinity
 - b) at focus
 - c) at the centre of curvature
 - d) between its focus and optical centre
- 15 The strongest fibre among the following is: 1
- a) rayon b) nylon c) acrylic d) silk

Note:

For question number 16-19, 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 and R is not the correct explanation of A.
 - c) A is true but R is false.
 - d) A is false but R is true.
- 16 Assertion (A): White light splits into seven colours as it passes obliquely from a prism. 1
- Reason (R): In a material medium, light rays of different colours propagate with different speeds.
- 17 Assertion (A): During Electrolysis, the bubbles of a gas may be formed near the electrodes.
- Reason (R): The passage of an electric current through an ionic solution does not cause a chemical change.
- 18 Assertion (A): All human beings have 23 pairs of chromosomes in the nuclei of their cells.
- Reason (R): The human gametes do not have 23 pairs of chromosomes.
- 19 Assertion (A): Water can be used to control fire in electrical equipment.
- Reason (R): Water is commonly used to control fire.

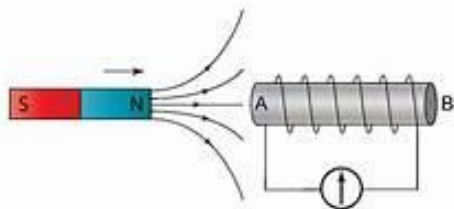
Section- B

- 20 "The cell membrane of a cell is called the gate of a cell." Justify. 2
- OR
- How are chloroplast different from chromoplast in their function?
- 21 Name-
- a) The electrodes that are made anode and cathode during

electroplating of copper on zinc.

b) Any two substances that help to increase conductivity of a given liquid.

22 Observe the given diagram carefully and answer the questions that follows:



a) It is often said, “Had there been no Faraday there would have been no electricity”. Justify.

b) What type of energy transformation takes place in the given set up?

OR

Enlist any one observation made by Michael Faraday during phenomenon of EMI.

23 Describe the role of microorganisms in the following:

a) cleaning the environment

b) energy production

24 Complete the given table:

Disease	Causative organism/ microorganism	Mode of transmission	Method of prevention
Tuberculosis	a) _____	b) _____	Vaccination
c) _____	Protozoan	Vector female Anopheles mosquito that spread disease	d) _____

25 a) How are the calorific value and efficiency of a fuel related to each other?

b) Complete burning of 10 kg of fuel “X” produces 50,000 KJ of energy. Calculate the calorific value of fuel “X”.

Section C

26 Gaseous fuels are considered the best”. Justify the given statement. (three points)

OR

a) Define flame.

b) On the basis of your understanding of flame of candle, name the following:

i) The zone of complete combustion.

- ii) The zone of partial combustion of wax vapours.
- iii) The coldest zone of the candle flame.
- iv) The hottest zone of the candle flame.

27 a) Kabaddi players rub their hands with soil. Why?

b) Friction is needed for so many activities in our daily life. Write any two applications of friction in day-to-day life.

OR

a) Friction gets affected by the nature of surface. How?

b) Friction is unwanted in certain situations. Write any two disadvantages of friction in day-to-day life.

28 a) The normal human eye can comfortably see a book lying on the table as well as stars in the sky. Explain this unique property of the eye.

b) The human eye exhibits phenomenon of Persistence of vision due to which it can see image for a short duration of time 'Y', even after the object is removed. Identify and write the value of 'Y'.

c) An old man cannot see objects kept closer than 1 m from his eyes clearly. Name the defect of vision with which he is suffering from? How can it be corrected?

29 Differentiate between a plant cell and an animal cell on the basis of three organelle.

30 Differentiate between metals and non-metals on the basis of their following chemical properties:

- i) Reaction with oxygen
- ii) Reaction with water
- iii) Reaction with acid

31 India is blessed with abundance of sunlight, water and biomass. Due to rapid economic development, growing population, a strain is put on natural non-renewable resources present in India.

a) Suggest two natural renewable resources which India can use for energy production.

b) Suggest two strategies which India can use to protect environment and reduce risk of global warming by overuse of coal and petrol.

Section D

32 a) Gravitational force is called a non-contact force and muscular force a contact force. Why?

b) Give one reason to justify each of the following:

- i) equal forces are applied on a car and a loaded truck but the car picks up speed faster.
- ii) The walls of a plastic bottle tend to get deformed or crushed inwards when the bottle is closed after pouring steaming hot water in it. Why?
- iii) It is difficult to cut cloth with scissors that has blunt blades.

OR

- a) i) Calculate net force on an object A, if two forces 20 N and 30N are applied on it from east direction.
ii) calculate net force on an object 'B' in one force of 20 N is applied from east direction and other of 30N is applied from west direction on it.

b) Give a reason to justify-

- i) Breathing becomes difficult on mountains.
ii) Porters place a round piece of cloth on their heads whenever they have to carry heavy loads.
iii) Two persons are applying forces to the two opposite sides of a moving cart. The cart still moves after applying the force, with the same speed and in the same direction.

33 a) Write one function of each of the following parts:

- i) Oviduct
ii) Uterus
iii) Testes

b) Draw a well labelled diagram of a male reproductive system

OR

a) Write the names of three reproductive patterns with one example of each.

b) Draw a well labelled diagram of a female reproductive system.

34 When a magnesium ribbon is dipped into copper sulphate solution the colour of the solution fades away and the magnesium ribbon gets coated with the brown layer.

5

a) Name the metal deposited on the surface of magnesium ribbon.

b) Name the type of reaction that has taken place.

c) Represent the reaction in the form of a chemical equation.

d) Arrange the following metals in increasing order of their reactivity:
Gold, Iron, Tin

e) Copper cannot displace zinc from zinc sulphate solution. Why?

OR

a) Explain the steps of extraction of metal from its ore.

b) Why is stainless steel preferred over iron?

c) Write composition of Duralumin alloy.

Section E

Question number 35 to 38 are Case Study based questions and contain five sub-parts each. You are expected to answer any four sub-parts in these questions:

35 Mansi passed a ray of light through lens 'M' and it diverged after

refraction. When she passed ray of light through lens 'N', it converged after refraction.

Based on the observations made by her, answer the following questions:

a) Identify the lens M and N.

b) what happens to path of light as it passes through optical centre of lens M.

c) Define focal length of a concave lens.

d) In case of lens N, where should Mansi place on object so as to get real image of same size as that of an object.

e) Calculate the radius of curvature of a convex lens, if distance between its focus and optical centre is 20 cm.

36 Sohan learnt in the school that sound is a form of energy and the basic cause of all sounds is vibrations. So, he took a simple pendulum of length of 1 meter and allowed it to oscillate. He was confused that why could not he hear any sound even when vibrations are made by his pendulum. He raised his concern to his teacher, to this, his teacher said that his pendulum must be oscillating less than 20 times in a second. So, the sound produced is inaudible.

a) What are the sounds with frequency of vibrations below 20 Hz known as?

b) Mention the audible range of frequency of sound for human ears.

c) Apart from frequency, mention other factor on which audibility of sound depends.

d) Calculate the time period of a simple pendulum whose frequency is 10 Hz.

e) How are frequency and pitch of a sound related to each other?

37 During the biology class the teacher explained the process of fusion of male gamete wherein, she explained penetration of male gamete into the female gamete. Aishwarya was very inquisitive and she wanted to know more about the reason for penetration and structure of both gametes. So, teacher decided to explain the process with the help of an informative video to all the students.

a) Define fertilisation.

b) Apart from estrogen, name the other female hormone secreted by ovaries.

c) A sperm containing Y chromosomes fuses with an egg having X chromosome, then a zygote is formed. What will be the sex of the foetus produced from this zygote?

d) When do ovaries become active in human females?

e) Enlist a change that occurs in human females during puberty.

38 Synthetic fibres and plastics are made by humans through chemical synthesis. They are result of extensive research by scientists to replicate naturally occurring substance. Synthetic fibres account for about half of all fibre usage, with application in every field of fibre and textile technology, although they are non-biodegradable. Many synthetic polymers have been evaluated as potentially valuable commercial products, four of them are nylon, polyester, acrylic and polyolefin- dominate the market. Some plastics like melamine are more hazardous to environment than plastics like PVC.

a) Select the articles from the following list which are non-biodegradable.

i) paper ii) wood iii) dead plants iv) nylon v) plastic bag
vi) peels of vegetables

b) Plastic is used for making a large variety of articles of daily use and these articles are very attractive. But it is advised to avoid the use of plastic as far as possible. Why? (Give any one reason)

c) Rohan is going for rock for rock climbing. Why did he select nylon ropes instead of ropes made of cotton or jute?

d) Name two different types of synthetic plastics.

e) Why melamine is used to make kitchenware?
