

DAV PUBLIC SCHOOLS, ODISHA ZONE

PERIODIC ASSESSMENT – III, 2023-24

- Please check that this question paper contains **04** printed pages.
- Check that this question paper contains **17** questions.
- Write down the Serial Number of the question in the left side of the margin before attempting it.

CLASS : VIII
SUBJECT : SCIENCE & TECHNOLOGY

Time Allowed : 1 Hour 30 Minutes

Maximum Marks: 40

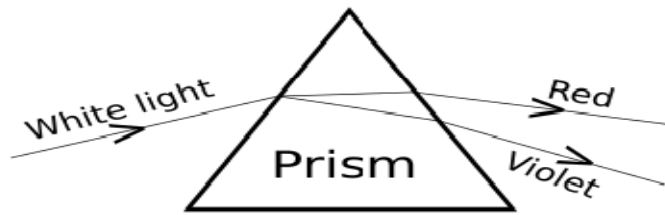
General Instructions :

- i) All questions are compulsory
- ii) Draw labelled diagram wherever necessary.
- iii) Questions 1 to 7 are very short answer type consisting of MCQs and assertion-reason questions and carry one mark each.
- iv) Questions 8 and 9 are case based questions which should be answered in one word or one sentence or simple drawing a diagram .They carry four marks each.
- v) Questions 10 to 12 are short answer questions and carry two marks each.
- vi) Questions 13 to 15 are short answer questions and carry three marks each.
- vii) Questions 16 and 17 are long answer type question and carry five marks each.

1. Metals are generally hard. Identify the metal which is an exception and can be cut with a knife. 1
a. Iron b. Sodium c. Zinc d .Copper
2. The composition of Gunmetal is ----- . 1
a. Lead and nickel b. Copper, tin and zinc
c. copper, zinc and nickel d. Lead and zinc
3. Find out the relationship between angle of incidence(i)and angle of emergence (e) in refraction of light through parallel faced glass slab. 1
a. $i = e$ b. $i > e$ c. $i < e$ d. i can not be related with e

4.

1



The colour that bends the most and that bends the least towards base of the prism respectively are -----.

- a. Red and violet b. Yellow and Violet
c. Violet and Red d. red and green

5.

A method of purifying water in which suspended impurities can be made to settle down by adding a piece of alum is called _____.

1

- a. Loading b. Chlorination c. Boiling d. Filtration

6.

Assertion(A): Filtration is a physical method of removing impurities from impure water.

1

Reason(R): In filtration impure water is passed through successive layers of sand, gravel and charcoal where impurities are trapped.

- a. Both Assertion and Reason are true and Reason is the correct explanation for Assertion.
b. Both Assertion and Reason are true but Reason is not the correct explanation for Assertion.
c. Assertion is true, but reason is false.
d. Assertion is false, but reason is true.

7.

Assertion (A): Chromosomes are responsible for the transfer of characteristics from parents to offspring.

1

Reason (R): Chromosomes are present in the nucleus.

- a. Both assertion (A) and reason (R) are true, and reason (R) is the correct explanation of assertion(A).
b. Both assertion (A) and reason(R) are true, but reason (R) is not the correct explanation of assertion(A).
c. Assertion (A) is true, but reason (R) is false.
d. Assertion (A) is false, but reason (R) is true.

8.

This is a case study based question and contains five sub-parts and you are expected to answer any four sub-parts of this question.

4

Cells of living organisms could be observed only after the discovery of improved microscopes. Today, we know a lot about cell structure and its functions because of improved microscopes having high magnification and also due to the use of stains (dyes) which impart colors to parts of the cell to study the detailed structure in the living world. Organisms differ from one another but all are made up of cells. Cells in the living organisms are complex. The egg of a hen represents a single cell and is big enough to be seen by the

unaided eye. There are millions of living organisms. You will be surprised to know that an organism with billions of cells begins its life as a single cell which is the fertilized egg. A single-celled organism performs all the necessary functions that multicellular organisms perform. The cells come in different shapes. Their shapes are related to their specific functions and location. Generally, cells are round, spherical or elongated, quite long and branched. However, most of the cells are microscopic in size and are not visible to the unaided eye. They need to be enlarged or magnified by a microscope.

- a. Represent PPLO in full form and write down its size .
- b. Name the jelly like substance present between cell membrane and nucleus.
- c. Draw the cell possessing a long fibre like structure. Write down one specific function carried out by this cell.
- d. Draw Euglena with the correct labelling of cilia/ flagellum if it has.
- e. Write down the function of leucoplasts.

9. This is a case study based question and contains five sub-parts and you are expected to answer any four sub-parts of this question.

4

Earthquake is basically the shaking of the Earth. Earthquakes either occur due to the movement of tectonic plates under the Earth's surface or because of the movement of magma in volcanoes. The ones caused due to magma movements may be followed by volcanic eruptions. Earthquakes can be weak as well as violent. Seismic waves are produced when some form of energy stored in Earth's crust is suddenly released, usually when masses of rock straining against one another suddenly fracture and slip. The Bhuj earthquake occurred on 26 January 2001 at 8.46 am. It was huge and disastrous about 20000 people were killed and 167000 injured.

- a. Name the point inside the earth crust where the earthquake is generated.
- b. Last month, there were earthquakes in two places A and B at the same time. The magnitudes of the earthquakes in places A and B are 5 and 8 respectively as per Richter scale reading. How many times the earthquake at place B is stronger than that of place A?
- c. Name the instrument to find out the source of the seismic waves.
- d. Suggest any two precautions which help in minimising the damages due to earthquakes in seismic zones.
- e. Define epicentre of an earthquake.

10. Write the balanced chemical equation for the following reactions.

2

- a. Zinc reacts with dilute sulphuric acid.
- b. Sodium reacts with oxygen.

11. a. Alloys are better than metals. Give reason.

2

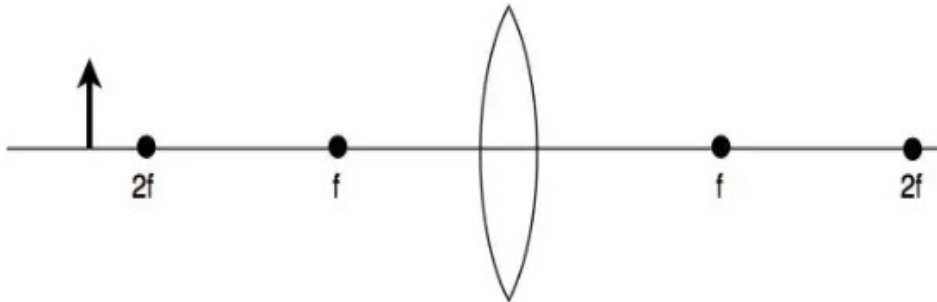
- b. Can we use pure gold to make jewellery? Give reason.

12. Define potable water. List down any two important parameters need to be followed before water is supplied for drinking purposes.

2

13. Rajesh performed an experimental activity by igniting a piece of magnesium ribbon in gas burner by holding it with a pair of tongs. 3
- Write down the two observations in this experiment.
 - Write the balanced chemical reaction for it.
 - Rajesh has dissolved the by product of this activity in water and dipped litmus papers into it. Write the changes of litmus observed by him.

14. 3



- Identify the lens shown in the figure given above .
 - Complete the ray diagram to show the formation of image by the lens .
 - Write the nature and size of the image formed here.
15. Interpret the following statements. 3
- Plant cells have an additional layer surrounding the cell membrane .
 - Cell consists of many organelles , yet we do not call any of these organelles as structural and functional unit of living organisms .
 - Animal cells show large variations in their shape.
16. 5
- Mitochondria are known as the “Powerhouse of the cell”. Explain.
 - Differentiate between Rough Endoplasmic Reticulum and Smooth Endoplasmic Reticulum on the basis of function.
 - Write any three differences between plant and animal cell.
17. David while learning swimming landed into the pool of water and realised that the pool was deeper than it seemed to be when he was outside the pool. 5
- Name the phenomena responsible for David’s observation.
 - Suggest any one other similar event in your surrounding exactly the same way as David observed here.
 - How is optical density related to the speed of light in a given medium?
 - Draw a neat labelled ray diagram to justify David’s observation in that pool.
