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SET NO-01

Candidates must write the Set no. on the title page of the answer book.

**DAV PUBLIC SCHOOLS, ODISHA ZONE
PERIODIC ASSESSMENT- II (2023-24)**

- Please check that this question paper contains **8** printed pages.
- Set number given on the right-hand side of question paper should be written on title pages of answer books by candidate.
- Check that this question paper contains **38** questions.
- Write down the serial number of the question in the left side of the margin before attempting it.
- 15 minutes time has been allotted to read this question paper. The question paper will be distributed 15 minutes prior to the commencement of the examination. The students will read the question paper only and will not write any answer on the answer script during this period.

CLASS-VIII

SUB: SCIENCE & TECHNOLOGY

Maximum Marks: 80

Time Allowed: 3 Hours

General instructions:

1. The question paper comprises five sections- **A, B, C, D and E**. There are 38 questions in the question paper. All questions are compulsory
2. Internal choice have been provided in some questions A student has to attempt only one of the alternatives in such questions.
3. **Section-A** consists of question number **1-19** these questions are MCQ's and Assertion-Reason question. They carry one mark each.
4. **Section-B** consists of question number **20 to 25**. These are short answer questions which carry two marks each.
5. **Section-C** consists of question number **26 to 31**. These are short answer questions which carry three marks each.
6. **Section-D** consists of question number **32 to 34**. These are long answer questions which carry five marks each.
7. **Section-E** consists of question number **35 to 38**. These are case based answer questions which carry four marks each.

SECTION-A

(1×19=19)

(These questions are MCQ's and Assertion-Reason question. They carry one (1) mark each.)

1. A fungus that causes food poisoning is- (1)
(a) Clostridium (b) Aspergillus
(c) Rhizobium (d) Azotobacter
2. Which of the following is incorrectly matched? (1)
(a) Polio-Virus (b) Common Cold-Bacteria
(c) Tuberculosis-Bacteria (d) Chickenpox - Virus
3. Pressure exerted by liquid (1)
(a) Increase with depth (b) Decrease with depth
(c) Does not change (d) Different in different directions

4. Two boys A and B are applying force on a block. If the block moves towards the boy A, which one of the following statements is correct? (1)
- (a) Magnitude of force applied by A is greater than that of B.
 - (b) Magnitude of force applied by A is smaller than that of B.
 - (c) Net force on the block is towards B.
 - (d) Magnitude of force applied by A is equal to that of B.
5. The layer containing petroleum oil and gas is— (1)
- (a) Above that of Saline water
 - (b) Below Saline water
 - (c) Below Sand
 - (d) Between Saline water and Sand
6. The relation between different types of friction is (1)
- (a) Static friction > Rolling friction > Sliding friction.
 - (b) Static friction = Sliding friction > Rolling friction
 - (c) Rolling friction > Static friction > Sliding friction.
 - (d) Static friction > Sliding friction > Rolling friction
7. We connect a torch bulb and a cell of 1.5volts using copper connecting wires. When the free ends of the two wires of the tester are dipped in four different liquids. The liquid, in which the bulb will not glow is: (1)
- (a) Lime juice
 - (b) distilled water
 - (c) Orange juice
 - (d) vinegar
8. Electroplating is based on (1)
- (a) Heating effect of electric current
 - (b) Chemical effect of electric current
 - (c) Physical effect of electric current
 - (d) Magnetic effect of electric current
9. If a glass plate /slide is held into the luminous part of candle flame, we see a circular blackish ring that represents (1)
- (a) Unburnt Carbon particles
 - (b) formation of coal
 - (c) Burnt carbon particle
 - (d) both unburnt carbon particles and formation of coal
10. Select the extinct species from the options given below: (1)
- (a) Snow leopard
 - (b) Lion tailed macaque
 - (c) Caribbean monk seal
 - (d) Sloth bear
11. Select the correct option that defines the domestic consequences of deforestation. (1)
- (a) Disrupted river flow and climate change
 - (b) Plant and wildlife extinction and scarcity of forest products.
 - (c) Drought and ozone depletion.
 - (d) Flooding and desertification

12. Read the statements carefully and choose which option is not associated with seed drill (1)
- (a) By seed drill, seeds are sown at a uniform distance
 - (b) It avoids overcrowding of seeds
 - (c) It levels the fields by breaking the crumbs
 - (d) It has a funnel with opening which is attached at the back of the plough
13. The process of separation of grains from chaff is known as: (1)
- (a) Threshing
 - (b) Weeding
 - (c) Tilling
 - (d) Winnowing
14. When wood is burnt in a closed room it produces gas X. The gas X can be fatal to the person sleeping in the room. Identify the gas X. (1)
- (a) CO₂
 - (b) SO₂
 - (c) CO
 - (d) N₂
15. We should reduce air pollution (1)
- (a) To get rid of respiratory problem
 - (b) to increase photosynthetic activity
 - (c) To reduce marble cancer
 - (d) All of the above

For Question number 16-19, two statements are given. Onelabelled Assertion (A) and the other labelled reason (R) select the correct answer to these question from the codes (a), (b), (c) and (d)

- (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): A piece of paper catches fire easily than a piece of wood. (1)
- Reason (R): Ignition temperature of paper is more than the wood.
17. Assertion: Farmers have to add manure to the fields to replenish the soil with nutrients. (1)
- Reason: Continuous cultivation of crops makes the soil rich in nutrients
18. Assertion (A): As we move to higher altitudes breathing can become difficult.
- (1) Reason (R): At higher altitudes there is decrease in the atmospheric pressure.
19. Assertion (A): -In a voltaic cell, zinc acts as the cathode and copper acts as the anode. (1)
- Reason (R): - The use of sulphuric acid makes the acidulated water behave as an electrolyte.

SECTION-B

(2×6=12)

(These are short answer questions which carry two marks each.)

20. Why do some birds and animals migrate? How do the birds navigate with the help of the sun and stars? (2)

OR

Why is conservation of biodiversity important ?

21. Munna observed that the yield of wheat, growing in his field is reduced in the current year. He got the soil tested and the report confirmed the deficiency of one particular nutrient. Accordingly, he was advised to grow peas after harvesting wheat. (2)
- (a) Name the nutrient found insufficient in the soil.
- (b) Growing peas will help in replenishing the soil. Justify
22. What is irrigation? Mention two methods of irrigation which conserve water. (2)
23. (a) X is a type of coal which contains 65% carbon and X is used to prepare a fuel Y. Identify X and Y. (2)
- (b) Write the chemical composition of water gas.
24. How would the pressure change if (2)
- (a) The area is doubled keeping the thrust constant?
- (b) The thrust is halved keeping the area constant?
25. A marble is allowed to roll down an inclined plane from a fixed height. At the foot of inclined plane, it moves on horizontal surface (2)
- (a) Covered with a layer of sand
- (b) Covered with glass sheet.
- On which surface will the marble move the shortest distance. Give reason for your answer.

SECTION-C

(3×6=18)

26. Give reasons for the following statements: (3)
- (a) Foods from puffed cans should not be consumed.
- (b) Antibiotics should only be taken in prescribed dosage and for the prescribed duration.
- (c) Jams and jellies are usually preserved by addition of sugar.
27. What is acid rain? State two harmful effects of acid rain. (3)
28. (a) The force, needed to start a cart, is (somewhat) greater than the force needed to keep it moving with a uniform speed. Give reason. (3)
- (b) Which method is used in shafts of motors, dynamos to reduce the friction?
- OR
- (a) Explain why sliding friction is slightly less than static friction.
- (b) What are lubricants?
- (c) Why are lubricants used?
29. (a) When 5.5kg of a fuel is completely burnt, the heat produced is measured to be 220,000 KJ. Calculate the calorific value of the fuel. (3)
- (b) State two characteristics of an ideal fuel.
30. (a) Mention any two Natural gas fields found in India. (3)
- (b) State any two uses of paraffin wax.
- (c) Define the term 'Carbonisation'.

OR

(a) Calorific value of coal is 30000KJ/Kg and that of wood is 20000 KJ/Kg. Identify the better fuel & justify your answer.

(b) Mention two major coal mines found in India.

(c) State any two uses of Coal-Tar.

31. (a) What is fluid friction? (3)

(b) Why are objects given special shape when they are moving through fluids?

(c) How does the air resistance vary with an increase in the speed of an object?

SECTION-D

(5×3=15)

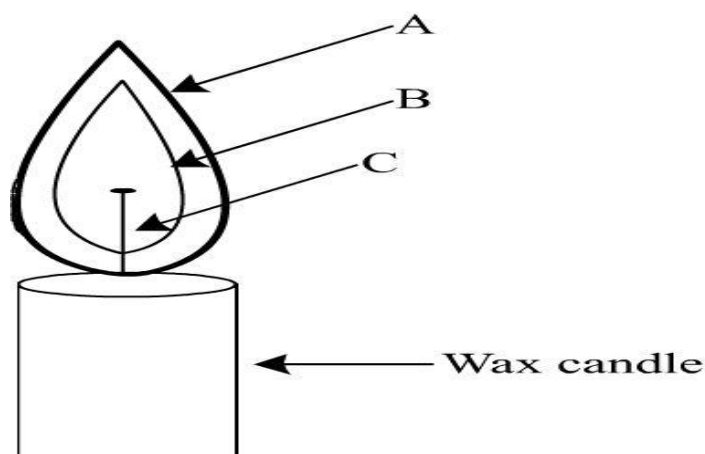
32.(a) Give reason for the following. (5)

(i) White phosphorus catches fire spontaneously.

(ii) If the clothes of a person catch fire the person should be immediately wrapped in a thick blanket.

(iii) We should not extinguish fire by pouring water caused by electric short circuit.

(b)



(i) From the above diagram identify which zone of the flame has maximum temperature? Justify your answer by giving the reason.

(ii) Arrange the above three zones of flame with decreasing order of temperature.

OR

(a) Give reasons:

(i) A piece of paper wrapped around an aluminium pipe does not catch fire.

(ii) Petrol / diesel is being replaced by CNG in automobiles.

(iii) A matchstick can be lighted by striking its tip on a rough surface.

(b)Mention two harmful effects of incomplete combustion of fuel.

33. (a) Solid copper sulphate does not conduct electricity, but when it is dissolved in water, it does conduct electricity. Justify. (5)

(b) Draw a neat labelled diagram to show the electrolysis of water. Also mention the gases evolved at cathode and anode.

(c) Name the scientist who introduced the (scientific) world to the Phenomenon of electrolysis.

OR

(a) Name the scientists who introduced the (scientific) world to the

(i) Voltaic cell

(ii) Phenomenon of electro-magnetic induction

(b) Explain why sodium chloride does not conduct electricity while sodium chloride solution conducts?

(c) Does distilled water conduct electricity? Suggest any two ways in which it can conduct electricity.

34.(a) Fill up the blank spaces by writing the preventive measures taken for the diseases given in the table. (5)

Diseases	Caused by microorganism	Measures taken for the prevention of diseases
Malaria	(i)_____	(ii)_____
Athlete's foot	(iii)_____	(iv)_____.
Cholera	(v)_____	(vi)_____.

(b) Name two animals infected by Rabies.

(c) Define antibiotics.

OR

(a)What are pathogens?

(b)Define communicable diseases. Give two examples.

(c) What do you mean by Pasteurisation? Why is pasteurised milk need to be stored under refrigeration?

SECTION-E

(4×4=16)

(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.Fluid friction is the resistance to an object's motion through a liquid or gas. When the motion is occurring in a liquid, it is referred to as viscous resistance. As an example, when an object falls through water, its speed reduces due to fluid friction acting on it.When we add lubricant between two surfaces,fluid friction acts between them. This helps reduce wear and tear between the two surfaces in contact caused due to friction in the absence of lubricant. (4)

(a) An object moves through water and oil with same speed. In which case the fluid friction is more?

(b) Write any disadvantage of fluid friction.

(c) What should be the shape of an aeroplane to reduce the effect of fluid friction?

(d) Name any animal whose body shape is made to reduce the drag?

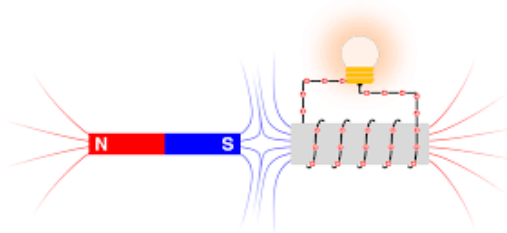
(e) What do you mean by streamlined flow?

36. A group of students went for picnic by bus to nearest hilly areas. In their path they have seen a place where construction of new road is going on. The workers are burning the woods and heating some black colour liquid. A lot of smoke and foul smell is there at the place of construction. (4)



- (a) Name the petroleum product that used for making roads.
 - (b) Name the petroleum product that used to run heavy vehicles like buses.
 - (c) Define Refining of petroleum.
 - (d) Mention the Latin words from which petroleum is derived.
 - (e) Give the other name of petroleum on the basis of these Latin words.
37. Biosphere is that part of the earth in which living organisms exist or which supports life. Biological diversity refers to the variety of organisms existing on the earth, their interrelationships and their relationship with the environment. Children along with Professor Kaushik and Madhavji entered the biosphere reserve area. Madhavji explained that “biosphere reserves are the areas meant for conservation of biodiversity”. As we are aware that biodiversity is the variety of plants, animals and micro-organisms generally found in an area. The biosphere reserves help to maintain the biodiversity and culture of that area. The Nilgiri Biosphere Reserve consists of five national parks one of them is Bandipur and two wildlife sanctuaries named Mudumalai and Wyanaad. As the children walked around the biosphere reserve, they appreciated the green wealth of the forest. They were very happy to see evergreen trees and animals inside the forest. Suddenly, Paheli found a rabbit and wanted to catch it. She started running after it. Professor Kaushik stopped her. He explained that animals are comfortable and happy in their own habitat. We should not disturb them. (4)
- (a) What do you mean by Biodiversity?
 - (b) What is the term used to describe the plants and animals found in a particular area?
 - (c) Why is Bandipur national park famous?
 - (d) Define Wildlife Sanctuary.
 - (e) What is biosphere Reserve?

38. Payal made a circuit as shown in the figure. She observed that when she is taking the bar magnet towards the coil the bulb starts to glow. Again, she observed that the bulb didn't glow when she stops the motion of the magnet with respect to the coil. She again tried to move the magnet faster relative to the coil then she observed that the intensity of the bulb changes. (4)



- (a) Identify the phenomena discussed in the above passage.
- (b) State the effect on the bulb that she will observe when she makes the magnet move faster.
- (c) Discuss the effect that Payal observes when she stops moving the magnet with respect to the coil.
- (d) Will the bulb glow, if the magnet is taken away with relative to the coil?
- (e) Identify the effect on the direction of the current if the magnet is moved away from the coil if earlier it was moved towards the coil.