MOCK TEST PAPER

Class – X

Session -2021-22 (TERM-2) **Time Allowed: 120 minutes**

Subject- Science **Maximum Marks: 40**

General Instructions:

1. The question paper consists of **15** questions divided into 3 sections **A, B, C**.

2. All questions are compulsory.

3. Section A comprises of **7** questions of 2 marks each. Internal choice has been provided in two questions.

4. Section B comprises of **6** questions of 3 marks each. Internal choice has been provided in one question.

5. Section C comprises of **2** questions of 4 marks each. An internal choice has been provided in one question. It contains two case study based questions

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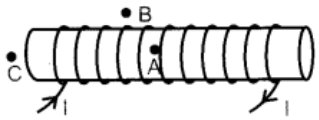
SECTION A

1. (a) For the current carrying solenoid as shown below, draw magnetic field lines and giving reason explain that out of the three points A, B and C at which point the field strength is maximum and at which point it is minimum.



(b) What is meant by solenoid? How does a current carrying solenoid behave? Give its main use.

Or

(a) How is the strength of magnetic field near a straight current-conductor

(i) related to the strength of current in the conductor?

(ii) is affected by changing the direction of flow of current in the conductor?

(b) State the rule to find the direction of magnetic field associated with a current carrying conductor.

2. (a) What is the first member of the series of alkenes?
(b) Calculate the difference in the formulae and molecular masses for C_3H_7OH and C_2H_5OH.

3. An element has the atomic number 12.
(a) Is "M' a metal or a non-metal? Give a reason in support of your answer.
(b)Write the formula and nature (acidic/basic) of the oxide for M.

4. A man with blood group A marries a woman with blood group O and their daughter has blood group O. Is this information enough to tell you which of the traits – blood group A or O is dominant? Why?

5. Differentiate between menarche and menopause.

6. What are the ill effects of ozone layer depletion?

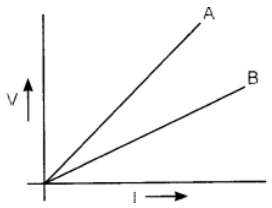
7. State any two practices which can help in the protection of our environment.

OR

What are fossils? What do they tell about the process of evolution?

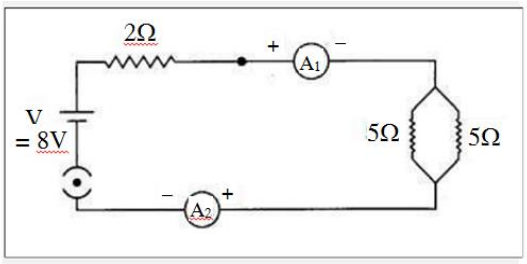
SECTION -B

8. (a) V-I graph for two wires A and B are shown in the figure. If both wires are of same length and same thickness, which of the two is made of a material of high resistivity? Give justification for your answer.



(b) Write two points of difference between electric energy and electric power. Out of 60 W and 40 W lamps, which one has higher electrical resistance when in use.

9. Calulate the following circuit parameters:



Equivalent resistance of two 5Ω resistors in combination.
Current flowing through 2 Ω resistor.
Potential difference across the 2 Ω resistor.
Power consumed by the 2 Ω resistor.
Will there be any difference in ammeter A1 and A2 readings?

Or

When a potential difference of 2 V is applied across the ends of a wire of 5 m length, a current of 1 A is found to flow through it. Calculate:

(i) The resistance per unit length of the wire

(ii) The resistance of 2 m length of this wire

(iii) The resistance across the ends of the wire if it is doubled on itself.

10. Four elements A, B, C and D have atomic numbers 12, 13, 14 and 15 respectively.

Answer the following questions giving reasons : **[3 Marks]**

(i) What is the number of valence electrons and valency of D ?

(ii) Which of them will have the largest atomic radii ?

(iii) Which of these elements will form the most basic oxide ?

11.(a) Explain the terms

(i) Implantation (ii) placenta

(b) what is the average duration of human pregnancy?

12. What are the steps one may take to check soil erosion?

13. Draw the structure of following compounds and identify the functional group present in:

(i) Butanoic acid

(ii) Bromopropane

(iii) Butyne

OR

Write the molecular formula of the following and draw their electron-dot structures:

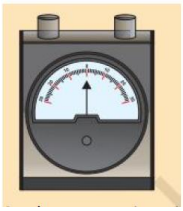
i) Ethane

ii) Ethene

iii) Ethyne

SECTION –C

14. A galvanometer is an instrument that can detect the presence of a current in a circuit. The pointer remains at zero for zero current flowing through it. It can deflect to the left or to the right of zero mark depending on direction of current



(a) If a coil wrapped with wire is connected with galvanometer and a magnet is moved near it, what will you observe?

(b) Galvanometer detects the amount of force in a circuit. True or False?

(c) How galvanometer can be use as ammeter.

Or

How galvanometer can be used as a voltmeter.

15. How can we control water pollution?

OR

What are the various trophic levels of the food chain? Explain with the help of an example of a food chain.