PRACTICE PAPER-3

CLASS X

Science (086)

Term 2 (2021-22)

Max. Marks:40 **Time allowed: 2 hours**

General Instructions:

i) All questions are compulsory.

ii) The question paper has **three sections** and **15 questions**. All questions are compulsory.

iii) Section–A has 7 questions of 2 marks each; Section–B has 6 questions of 3 marks each; and Section–C has 2 case based questions of 4 marks each.

iv) Internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.

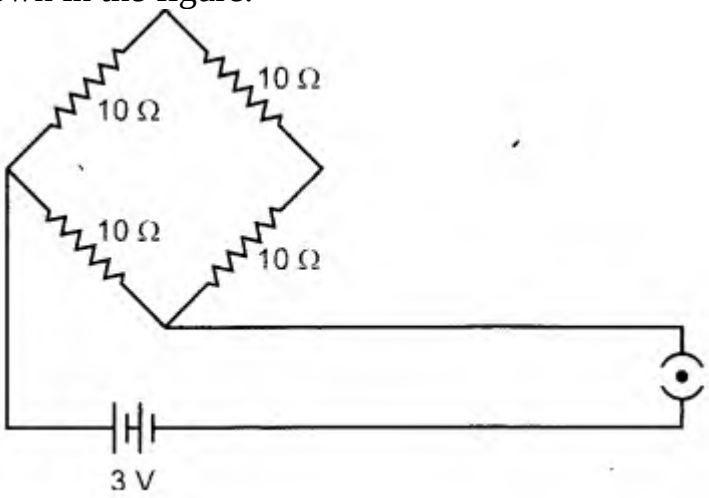
SECTION-A

1. What would be the ratio of chromosome number between an egg and its zygote? How is the sperm genetically different from the egg?
2. What are the benefits of using mechanical barriers during sexual act?
3. A woman has only daughters. Analyse the situation genetically and provide a suitable explanation.
4. What are the advantages of cloth bags over plastic bags during shopping?
5. (a) What is meant by a functional group in an organic compound? Name the functional group present in
   (i) CH_3CH_2OH
   (ii) CH_3COOH
6. (b) Write the name and molecular formula of an organic compound having its name suffixed with "-al" and having two carbon atoms in the molecule. Draw its skeletal structure.
7. Draw a closed circuit diagram consisting of a 0.5 m long nichrome wire XY, an ammeter, a voltmeter, four cells of 1.5 V each and a plug key.

SECTION-B

8. What is genotype and phenotype.
9. What are the by-products of fertiliser industries? How do they affect the environment?

10. Explain isomerism. State any four characteristics of isomers. Draw the structures of possible isomers of butane, C_4H_{10}
11. Define homologous series of organic compounds. List its two characteristics. Write the name and formula of the first member of the series of alkenes.
12. Find the current drawn from the battery by the network of four resistors Shown in the figure.



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

SECTION-C

14. In pea plant round seed is dominant over the wrinkled. If a cross is carried between these two plants, give answer to the following questions.
a) Mention the genes for the traits of parents.
b) State the trait of F_1 hybrids.
c) Write the ratio of F_2 progeny obtained from this cross. What is the name of the cross?
15. (a) Describe activity with labelled diagram to show that a current carrying conductor experience a force in a magnetic field.
(b) State the rule to determine the direction of force.