28 February 2022

Pratap Public School, Karnal

Set-A

TERM-II Practice Test-1

Class - X

Subject -Science

Time : 2 Hours M.M :40

Name ..... Roll No. ..... Section .....

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. (a) What are the covalent compounds ? [2]
   (b) Draw the electron- dot structure of the following
   i) Methane
   ii) Nitrogen gas
2. Which of the following elements belong to [2]
   (a) same period? (b) same group?
   Explain giving reason.

Element	Atomic no.
A	3
B	11
C	17

3. Name any 2 bacterial infections that are sexually transmitted. How can they be prevented? [2]
4. How does the creation of variations in a species promote survival? [2]
5. What is a food chain? Give an example of a grassland food chain. [2]

   OR

   What is an ecosystem? Name 2 manmade ecosystem.
6. How do the following reproduce [2]
   a) Hydra
   b) Amoeba
   c) Rhizopus
   d) Planaria

   OR

   Explain double fertilization in a flower

7. Draw the pattern of lines of force due to magnetic field through and around a current carrying loop of wire. How would the strength of the magnetic field produced at the centre of the circular loop be affected if: [2]

i) The strength of the current passing through this loop is doubled.

ii) The radius of the loop is reduced to half of the original radius.

OR

Draw the well labelled diagram of an electric motor.

(SECTION - B)

8. A part of periodic table has been given below: [3]

Group→ 1 2 3 to 12 13 14 15 16 17 18 Period↓										
1										
2		A	C						E	G
3		B				D			F	

(a) Which element is a noble gas? Give reason.

(b) Which element is most electronegative? Give reason.

(c) Write the electronic configuration of B and E.

9. (a)What is homologous series ? Write the formulae of first three members of the carbon compounds having functional group –OH [3]

(b) Draw the electron dot structure of second member from the above homologous series.

OR

Define isomerism. Draw the structures of all possible isomers for the compound with the molecular formula C4H10?

10. Draw a sectional view of Human female reproductive system and label the parts where

(a) eggs develop

(b) Fertilization takes place

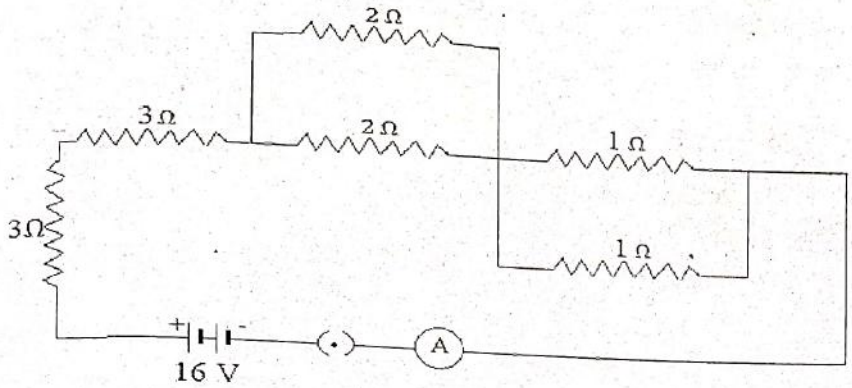
(c) Fertilized egg gets implanted

11. (a) An electric kettle of 2 kW works for 2 hours daily. Calculate the (i) energy consumed in SI and commercial unit, (ii) cost of running it in the month of June at the rate of Rs. 3.00 per unit. [3]

(b) What are the advantages of connecting electrical devices in parallel with the battery instead of connecting them in series (any two points) ?

12. (a) Find the equivalent resistance of the following circuit. [3]

(b) Find the reading shown by the ammeter. [3]



OR

(a) State Ohm's Law and

(b) Derive the relation $R_S = R_1 + R_2 + R_3$ when three resistors R_1, R_2 & R_3 are connected in series in an electric circuit. [1+2 =3]

13. How is ozone layer formed? List the causes and harmful effects of depletion of ozone layer. [3]

(SECTION – C)

This section has 02 case-based questions (14 and 15).

14. Mendel studied 7 contrasting characters for his breeding experiment with garden pea. He selected pure tall/short plants. He produced 1st generation plants by crossing them and found that and all plants were tall.

He produced 2nd generation by self-fertilization of hybrids and found that 3 quarters of the plant were tall and 1 quarter was short [4]

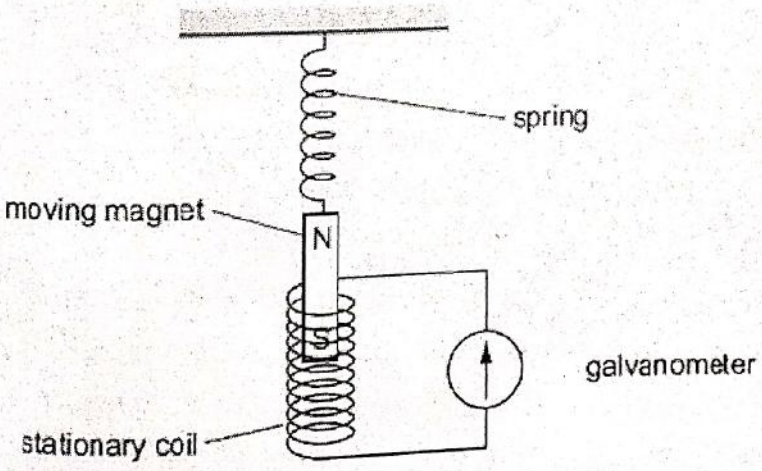
(a) What is the scientific name of garden pea?

(b) What was the phenotypic and genotypic ratio obtained by Mendel in 2nd generation?

(c) What is a mono hybrid cross?

(d) Differentiate between self-fertilization and cross-fertilization.

15. Physics teacher was demonstrating an experiment in his class with the setup as shown in the figure below.



A magnet is attached to a spring. The magnet can go in and out of the stationary coil. He lifted the Magnet and released it to make it oscillate through the coil. Based on your understanding of the phenomenon, answer the following questions.

a) State the principle which teacher is trying to demonstrate. [1]

b) What will be observed when the Magnet starts oscillating through the coil. Explain the reason behind this observation. [1]

c) Suggest any two methods to increase the deflection in the galvanometer. [2]

OR

What will be your observations in the galvanometer when the Magnet becomes stationary? Justify your answer.

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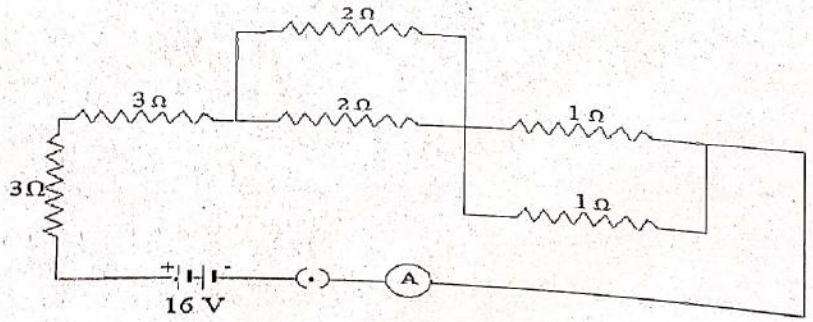

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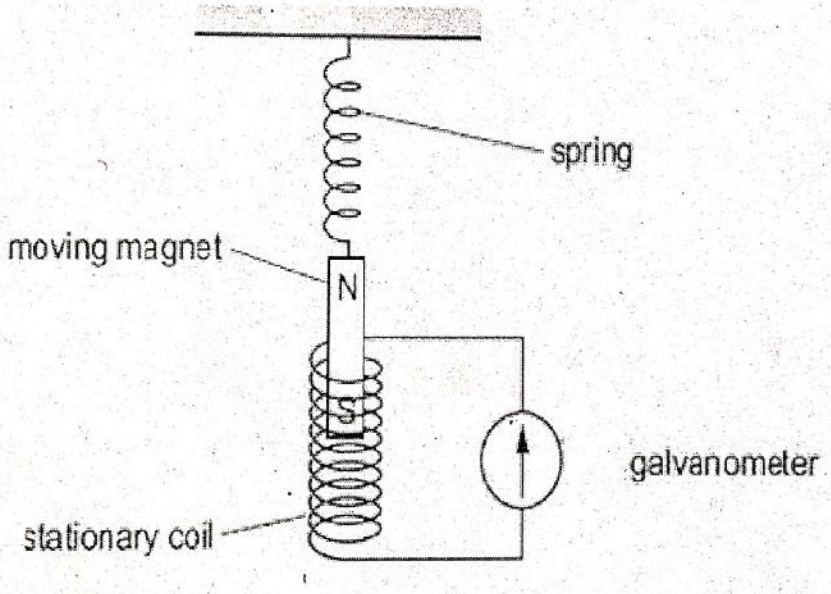

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