

Science2nd Term (Apr-May 2022)

Mega Test – 1

Class 10th

Time allowed: 2 h

Max. Marks: 40

Section	A	B	C
Q. No.	1 – 7	8 – 13	14 – 15
Marks	2	3	4

Section A

- Define catenation. Why no other element exhibits the properties of Catenation to the extent seen in Carbon compounds?
- A part of modern periodic table is given below. Answer the following questions based on this table.

H							He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	P	S	Cl	Ar

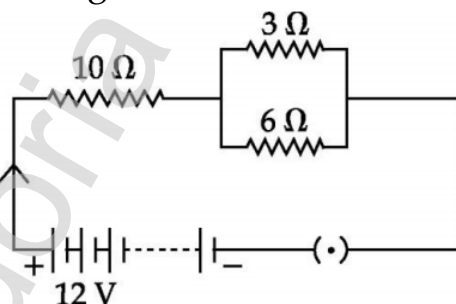
- Why do *H*, *Li* and *Na* show similar properties?
 - Atomic size of *Mg* is bigger than *Be*. Why?
 - Why are *He*, *Ne* and *Ar* called noble gases?
 - Write a common name of the family to which *F* and *Cl* belong.
- Write the function of the following with respect to the point given below:
 - Inner lining of uterus is richly supplied with blood.
 - Pollen tube develops from pollen grains when pollen grains land on stigma.
 - Write two differences Between Ovulation and Menstruation.
 - (a) Name the type of sex chromosome present in (i) human male and (ii) human female.
(b) What will be the sex of the offspring if a sperm carrying X – Chromosome fertilizes the egg?
 - (a) What is the direction of magnetic field lines inside a bar magnet and outside of it?
(b) What does the degree of closeness of the field lines represents?
 - The following organisms form a food chain:
Insect, Hawk, Grass, Snake, Frog.
Which of these will have highest concentration of non-biodegradable chemicals?
Name the phenomenon.

Section B

8. What were the anomalies in Mendeleev's periodic table? How they were corrected in the modern periodic table?
9. What is Homologous series of organic compounds? Write its two characteristics. Give an example of Homologous series.
10. Mendel crossed the round and green seeded pea plants with the wrinkled and yellow seeded pea plants. Give the phenotypic ratio of F₂ generation.
11. Consider the circuit shown in the diagram.

Find:

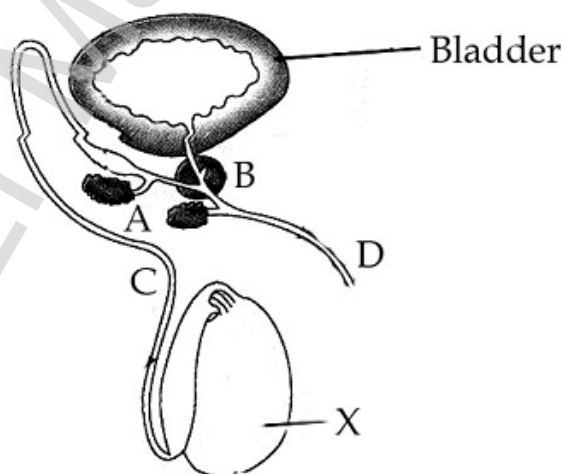
- (i) the current in 10 Ω resistor.
- (ii) potential difference across the parallel combination of 3 Ω and 6 Ω resistors.



12. State the factors on which the resistance of cylindrical conductor depends. How will resistance of a conductor change if it is stretched so that its length is doubled?
13. What are the biotic components of an ecosystem? Explain main function of each.

Section C

14. In the diagram of human male reproductive system given below:
 - (a) Label parts A and B.
 - (b) Name the hormone produced by organ 'X'. What is the role of this hormone in the human male?
 - (c) Mention the name of substances that are transported by tubes: (i) C, (ii) D.



15. Explain two ways to induce current in a coil.

