

# SWAMINARAYAN VIDYAPITH

Model Test Paper-2021-22

CLASS XI- SCIENCE

Date :

TIME : 45 min

M.M : 30

## SECTION – A CHEMISTRY (10 MARKS)

Q.1 Write the balanced chemical equation of chemical reaction which take place between methane and chlorine in presence of sunlight. [1]

Q.2 Write the balanced chemical equation for the following reaction. [1]  
Aqueous solution of lead nitrate reacts with aqueous solution of potassium iodide and gives aqueous solution of potassium nitrate and precipitate of lead iodide.

Q.3 Write structural formula of following. [1]  
(i) Methanal (ii) Butanoic acid

Q.4 State the modern periodic law. [1]

Q.5 Draw electron dot structure of following: (i) C<sub>2</sub>H<sub>4</sub> (ii) NH<sub>3</sub>. [1]

Q.6 Give reason for the following: [2]  
(i) Ethyne burns with a yellow flame and lots of black smoke.  
(ii) Ionic compounds have high melting points

Q.7 Consider the part to the periodic table given below and answer the following question. [3]

Group →	1	2	13	14	15	16	17	18
↓Period								
I	a							j
II	b	e				g	h	k
III	c			f			i	l
IV	d							

- (i) Which element is the most electropositive element ?  
(ii) What is the valency of i?  
(iii) Which has more atomic radius g or h? Give reason.

## SECTION – B BIOLOGY (10 MARKS)

Q. 1 What is the significance of DNA copying during reproduction? [1]

Q.2 What is the ratio when Pea plants with round seeds is crossed with Pea plants with wrinkled seeds in F<sub>2</sub> generation of Mendel's experiment? [1]

- Q.3 Differentiate between sperm and ovum. [1]
- Q.4 Name the type of asexual reproduction exhibited by each of the following : [1]  
(i) Rhizopus (ii) Hydra
- Q.5 What are bryophytes? [1]
- Q.6 Draw a well labeled diagram showing the structure of plant cell.. [2]
- Q.7 Write function of each of the following : [3]  
i) Sclerenchyma ii) Vas deference iii) Mitochondria

**SECTION – C PHYSICS (10 MARKS)**

- Q.1 How should the resistance  $4\Omega$  and  $6\Omega$  be connected so as to give maximum effective resistance? [1]  
What will be the value of effective resistance then?
- Q.2 Why does the bottom of a lake appear raised, explain using diagram. [1]
- Q.3 What material is used in making the filaments of bulbs? Why? Name the law on which this is based? [2]
- Q.4 A current carrying loop is placed on the plane of the table. Current flows in it in clockwise direction.[2]  
Give the direction of magnetic field lines inside and outside the loop? Name and state the rule used.
- Q.5 A lens used in spectacles has power - 4.0 D. What is focal length of the lens? Is the lens converging or diverging? [2]
- Q.6 An object 4 cm high is placed at a distance of 27 cm in front of a convex lens of focal length 18 cm. [2]  
Find the position, nature and size of the image formed.