

**Sample Question Paper 2020 – 7**  
**Science - Class – X**

**Time allowed: 03 Hours**

**Maximum Marks: 80**

**General Instructions:**

- I. The Question paper comprises of three Sections A, B and C. You have to attempt all the sections.
- II. All Questions are compulsory but some questions have internal choice.
- III. Question number 1 to 20 in Section - A are one - mark questions. Question number 1 to 10 are multiple choice questions. Each has four choices (a), (b), (c) and (d) out of which only one is correct. Question number 11 to 20 are very short answers (VSA) and Assertion-Reasoning. These are to be answered in brief.
- IV. Question number 21 to 30 in Section - B are three marks questions. These are to be answered in about 50 words each.

**SECTION - A**

1. Pick out the mismatch.

A. Asexual reproduction	–	Retaining desirable characters.
B. Sexual reproduction	–	Bringing wide variety variety of the living beings.
C. Tissue culture	–	Only animal tissues are cultured
D. Ovule	–	Formation of seed

(a) A                      (b) B                      (c) C                      (d) D
2. The chief function of lymph nodes in mammalian body is to

(a) produce RBCs.	(b) collect and destroy pathogens.
(c) produce a hormone.	(d) destroy the old and worn out red blood cells.
3. The substance which gives \_\_\_\_\_ is called oxidising agent. The substance which removes \_\_\_\_\_ is called reducing agent.

(a) oxygen, hydrogen	(b) oxygen, oxygen
(c) hydrogen, oxygen	(d) oxygen, hydrogen peroxide
4. Find the incorrect match.

(a) Air - tires	(b) Petrol - cooking
(c) Natural gas - heat	(d) Water - hydroelectricity
5. An object is situated at a distance of  $f/2$  from a convex lens of focal length  $f$ . Distance of image will be:

(a) $+(f/2)$	(b) $+(f/3)$	(c) $+(f/4)$	(d) $-f$
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6. Forests participate in:

(a) Controlling pollution	(b) Prevention of soil erosion
(c) Maintenance of ecological balance	(d) All of the above

7. Which of these is NOT balanced correctly?
- (a)  $\text{Mg} + \text{H}_2\text{O} \rightarrow \text{Mg}(\text{OH})_2 + \text{H}_2$   
(b)  $2\text{AlCl}_3 + 3\text{Ca}(\text{OH})_2 \rightarrow 2\text{Al}(\text{OH})_3 + 3\text{CaCl}_2$   
(c)  $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$   
(d)  $2\text{Al} + 3\text{H}_2\text{SO}_4 \rightarrow \text{Al}_2(\text{SO}_4)_3 + 3\text{H}_2$
8. Consider the following statements:  
(i) Rusting is a double decomposition reaction.  
(ii) Silver salt are generally sensitive to light.  
Which of these statement(s) is/are **correct**?
- (a) (i) only  
(b) (ii) only  
(c) Both (i) and (ii)  
(d) Neither (i) nor (ii)
9. Homogeneous reactions  
(a) are those in which all reactants, products and catalyst are in different physical state.  
(b) are those in which all reactants and products are in different physical state.  
(c) are those in which all reactants and products are in same physical state.  
(d) are those in which all reactants, products and catalyst are in same physical state.
10. Which of the following lenses would you prefer to use while reading small letters found in a dictionary?  
(a) A convex lens of focal length 50 cm.  
(b) A concave lens of focal length 50 cm.  
(c) A convex lens of focal length 5 cm.  
(d) A concave lens of focal length 5 cm.
11. Five solutions A, B, C, D and E when tested with universal indicator show pH as 4, 2, 12, 7 and 9 respectively. Which solution is:  
(a) Strongly acidic  
(b) Weakly alkaline
12. Write word equations and the balanced equations for the reaction taking place when  
(a) dilute sulphuric acid reacts with zinc granules.  
(b) dilute hydrochloric acid reacts magnesium ribbon.
13. How does binary fission differ from multiple fission? Give any two difference.  
**OR**  
Why is the use of iodised salt advisable?
14. How does the embryo get nourishment inside the mother's body?  
**OR**  
What is budding?
15. Why are some patients of diabetes treated by giving injections of insulin?
16. A current of 0.5 A is drawn by a filament of an electric bulb for 10 minutes. Find the amount of charge that flows through the circuit.  
**OR**  
How can three resistors of resistances 2  $\Omega$ , 3  $\Omega$  and 6  $\Omega$  be connected to give a total resistance of 4 $\Omega$ ?
17. Find the focal length of a convex mirror whose radius of curvature is 32 cm.

**Directions Qs. 18 – 20:** Each of the following questions contains an assertion followed by reason. Read them carefully & answer the question on the basis of following options you have to select the one that best describes the two statements.

- (a) If both Assertion and Reason are correct & Reason is the correct explanation of Assertion.  
(b) If both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion.  
(c) If Assertion is correct but Reason is incorrect.  
(d) If Assertion is incorrect but Reason is correct.

18. **Assertion:** Microscope is used to magnify the object.  
**Reason:** Telescope is used to see the far-off objects.
19. **Assertion:** A reducing agent is a substance which can either accept electron.  
**Reason:** A substance which helps in oxidation is known as reducing agent.
20. **Assertion:** Runners are underground stem.  
**Reason:** Runners bear nodes and internodes.

### **SECTION - B**

21. What is the nature of graph between current and potential difference? What does it indicate?
22. How was petroleum formed?
23. (a) Name an acid which helps in the preservation of food. How does it work?  
(b) What property do all elements in same column of the periodic table as boron have in common?
24. The elements Li, Na and K each having one valence electron, are in period 2, 3 and 4 respectively of modern periodic table.  
(a) In which group of the periodic table should they be?  
(b) Which one of them is least reactive?  
(c) Which one of them has the largest atomic radius? Give reason to justify your answer in each case.

**OR**

An element X has mass number 23 and contains 12 neutrons in its atom. To which group of the periodic table does it belong?

25. What is the principle of dialysis?
26. How many number of chromosomes are present in the human beings? What is sex determination?

**OR**

What are analogous organs?

27. A convex lens has a focal length of 15 cm. An object is placed at a distance of 10 cm, find the nature, distance of the image and magnification.

**OR**

A 2 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 10 cm. The distance of object is 15 cm. Find the nature, position and size of image and also find magnification.

28. An acid and a base react to form a salt, which consists of positive and negative ions. Which forms the positive ions, the acid or the base? Which forms the negative ions?
29. What are vestigial organs? Give an example.
30. Why does menstruation occur?

### **SECTION - C**

31. Give an experiment to show magnetic effect of current.
32. Write down balanced chemical reactions for given statements.  
(a) When iron (III) oxide is heated with aluminium powder, then aluminium oxide and iron metal are formed.  
(b) When silver nitrate solution is added to sodium chloride solution, a white precipitate of silver chloride and sodium nitrate solution are formed.  
(c) When chlorine gas react with potassium iodide solution, potassium chloride and iodine are formed.  
(d) When copper oxide is heated with magnesium powder magnesium oxide and copper are formed.  
(e) When a copper strip is placed in a solution of silver nitrate, then copper nitrate solution and silver metal are formed.

OR

- (a)  $\text{Si}_2\text{H}_6 + \text{H}_2\text{O} \longrightarrow \text{Si}(\text{OH})_4 + \text{H}_2$
- (b)  $\text{C}_2\text{H}_6 + \text{Cl}_2 \longrightarrow \text{C}_2\text{H}_5\text{Cl} + \text{HCl}$
- (c)  $\text{B}_4\text{H}_{10} + \text{O}_2 \longrightarrow \text{B}_2\text{O}_3 + \text{H}_2\text{O}$
- (d)  $\text{H}_2 + \text{N}_2 \longrightarrow \text{NH}_3$
- (e)  $\text{CS}_2 + \text{O}_2 \longrightarrow \text{CO}_2 + \text{SO}_2$
- (f)  $\text{N}_2\text{O}_5 \longrightarrow \text{N}_2\text{O}_4 + \text{O}_2$
- (g)  $\text{KNO}_3 \longrightarrow \text{KNO}_2 + \text{O}_2$
- (h)  $\text{NH}_4\text{NO}_3 \longrightarrow \text{N}_2\text{O} + \text{H}_2\text{O}$
- (i)  $\text{NH}_4\text{NO}_2 \longrightarrow \text{N}_2 + \text{H}_2\text{O}$
- (j)  $\text{NaHCO}_3 \longrightarrow \text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$
33. (a) What is a neuron? What is its structure and function?  
(b) What is cerebellum? What is its function?  
(c) What is medulla oblongata? What is its function?
34. (a) Calculate the power of eye lens of a normal eye when it is focused at (i) far point (ii) near point. Assume the distance of retina from the eye lens to be 2.5 cm.  
(b) The far point of a myopic person is 150 cm. Calculate the focal length and the power of the lens required that enables him to see distant objects clearly.
35. What is an alloy? Name the constituents of (a) brass (b) bronze (c) solder. Give one use of each.
36. "Damage to the ozone layer is a cause of concern." Justify the statement. Suggest any two steps to limit this damage.

OR

What activities do you perform that are good for the biosphere? What activities do you perform that harm the biosphere?