BURARI PUBLIC SCHOOL

…a venture with UNIQUE

PERIODIC TEST - II

CLASS- X

SUBJECT - SCIENCE **Date___/___/_____**

M.M.: 40

Name: ……..... Roll No..…….... T. sign.....

General Instructions:

Read the following instructions carefully and follow them.

(i) This question paper contains **19** questions. **All** questions are **compulsory.**

(ii) Question paper is divided into **THREE** sections- **A, B** and **C.**

Section A: Biology (14 Marks)

Section B: Chemistry (13 Marks) Section

C: Physics (13 Marks)

(iii) The question paper has MCQs, VSAs, SAs, LAs and C/S-BQs. Marks are given against each question.

(iv) There are case based questions (CBQs) with three sub-questions and are of **4** marks each.

Note- As per the guidelines of the New Education Policy (NEP), this holiday homework assessment will be conducted as an Open Book Assessment. Students are encouraged to refer to their textbooks, notebooks, and other learning resources while completing the assignment. The focus of this assessment is on understanding, application, and expression of ideas rather than rote learning. Students are advised to maintain honesty and originality in their work.

SECTION A (BIOLOGY)

1. The modes of reproduction in Spirogyra and Planaria respectively are: **1**

(a) Regeneration and budding
(b)Regeneration and fragmentation
(c) Fragmentation and regeneration
(d) Budding and regeneration

2. Part(s) of a flower which attracts insects for pollination is (are): **1**

(a) petals and Sepals (b) anther and Stigma

(c) petals only (d) sepals only

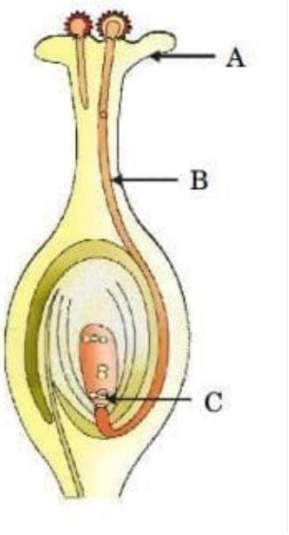
3. (i) Draw a diagram showing spore formation in Rhizopus and label the

(a) reproductive and (b) non-reproductive parts.

(ii) Why does Rhizopus not multiply on a dry slice of bread? **2**

4. List with brief explanation three advantages of practising this process for growing some types of plants. Select two plants from the following which are grown by this process: Banana, Wheat, Mustard, Jasmine, Gram. **2**

5. Identify A, B, and C in the diagram given below and write one function of each. **3**



6. (a) Write the functions of the following parts of human female reproductive system: **5**

(i) Ovary (ii) Fallopian tube, (iii) Uterus.

(b) State briefly two contraceptive methods used by human males.

SECTION B (CHEMISTRY)

7. Consider the following compounds: **1**

$FeSO_4$, $CuSO_4$, $CaSO_4$, Na_2CO_3

The compound having the maximum number of waters of crystallization in its crystalline form in one molecule is:

(a) $FeSO_4$ (b) $CuSO_4$ (c) $CaSO_4$ (d) Na_2CO_3

8. A few pieces of granulated zinc are taken in a test tube and 2 mL of sodium hydroxide solution is added to it. When the contents are warmed, the product formed is: (1 Mark)

(a) Na_2ZnO (b) $NaZnO_2$ (c) Na_2ZnO_2 (d) $NaZn(OH)_2$ **1**

9. Tooth enamel is made up of calcium hydroxyapatite (a crystalline form of calcium phosphate). These chemical starts corroding in the mouth when the pH is: **1**

(a) 7 (b) 5 (c) 10 (d) 14

10. Assertion (A) : The acid must always be added to water with constant stirring. **1**

Reason (R) : Mixing of an acid with water decreases the concentration of H+ ions per unit volume.

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true, but R is not the correct explanation of A.

(c) A is true, but R is false.

(d) A is false, but R is true.

11. A crystalline substance of green colour 'X' emits gases of characteristic odour when heated over a flame. It first loses water and changes colour. On further heating, it decomposes and produces a solid compound Y.

(a) Identify 'X' and 'Y'

(b) State the change in colour observed when 'X' is heated. **2**

12. An acid 'X' present in tamarind when mixed with 'Y', produces a mixture 'Z'. 'Z' on addition to a dough when heated makes cakes soft and spongy. 'Y' is prepared from common salt and helps in faster cooking. **3**

(i) Write the common names of 'X', 'Y' and 'Z', and the chemical formula of 'Y'.

(ii) How is 'Y' prepared and how does it help in making cakes soft and spongy?

13. Read the following passage and answer the following questions: **4**

Common salt is a very important chemical compound for our daily life. It's chemical name is sodium chloride and it is used as a raw material in the manufacture of caustic soda, washing soda, baking soda etc. It is also used in the preservation of pickles, butter, meat etc.

(i) Name the acid and the base from which common salt can be obtained.

(ii) State the nature (acidic/basic/neutral) of sodium chloride. Give reason for the justification for your answer.

(iii) What happens when electric current is passed through an aqueous solution of sodium chloride (called brine)? Name the products obtained along with the corresponding places in the electrolytic cell where each of these products is obtained.

SECTION C (PHYSICS)

14. An old person suffers from an eye defect caused by weakening of ciliary muscles and diminishing flexibility of eye lens. If the defect is 'a' corrected by lens 'b', then 'a' and 'b' respectively are: **1**

(a) Hypermetropia and convex lens (b) Presbyopia and bifocal lens
(c) Myopia and concave lens (d) Myopia and bifocal lens

15. **Assertion (A):** White light is dispersed by a glass prism into seven colours.

Reason (R): Red light bends the least while violet bends the most through a glass prism. **1**

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true, but R is not the correct explanation of A.

(c)A is true, but R is false.

(d) A is false, but R is true.

16. Give reasons: **2**

(i) The sky appears dark to passengers flying at very high altitude.
(ii) Danger' signal lights are red in colour.

17. What is a rainbow? Draw a labelled diagram to show its formation. **3**

18. Draw ray diagrams to show the nature, position and relative size of the image formed by a convex mirror when the object is placed (i) at infinity and (ii) between infinity and pole P of the mirror. **3**

19. (a) Upper half of a convex lens is covered with a black paper. Draw a ray diagram to show the formation of image of an object placed at a distance of 2F from such a lens. Mention the position and nature of the image formed. State the observable difference in the image obtained if the lens is uncovered. Give reason to justify your answer.

(b) An object is placed at a distance of 30 cm from the optical centre of a concave lens of focal length 15 cm. Use lens formula to determine the distance of the image from the optical centre of the lens. **3**