



VASHISTH VATSALYA PUBLIC SCHOOL

An English Medium Co-Educational School
PRAYAGRAJ

UNIT TEST IV 2023-24

HOME ASSIGNMENT

CLASS- XI

SUBJECT- BIOLOGY

I- Answer the following questions-

1. Vascular bundle is composed of _____.
2. Which kind of transport is present in xylem?
3. Cytoplasmic streaming is a form of active transport for short distances _____.
4. Mineral Nutrients are taken up by _____.
5. Minerals are re-exported by _____.
6. What are solute potential and water potential?
7. Explain how almost all the water moves into the root?
8. Name a molecular movement that is highly selective requiring special membrane proteins without needing any energy.
9. Define Plasmolysis and osmosis.
10. Explain why the intracellular levels of K^+ in animal cells are higher than the extracellular levels.
11. List out the differences between Guttation and Transpiration in plants?
12. Will the ascent of sap be possible without the cohesion and adhesion of the water molecules? Explain.
13. Define Uniport, Symport and Antiport. Do they require energy?
14. Explain active transport in plants. How they are helping in the transportation of substances inside the plant body?
15. Explain stomatal opening and closing theory by potassium ions.
16. Explain the process of transpiration. Briefly explain the role of different forces applied in the movement of water in the upward direction.
17. How transportation of mineral or translocation of food takes place in plants.
18. Explain water potential, solute potential, pressure potential. DPD, OP, TP and WP.
19. Name the different kinds of elements present in plant body. Explain the role of each.
20. Explain micronutrient and macronutrient.

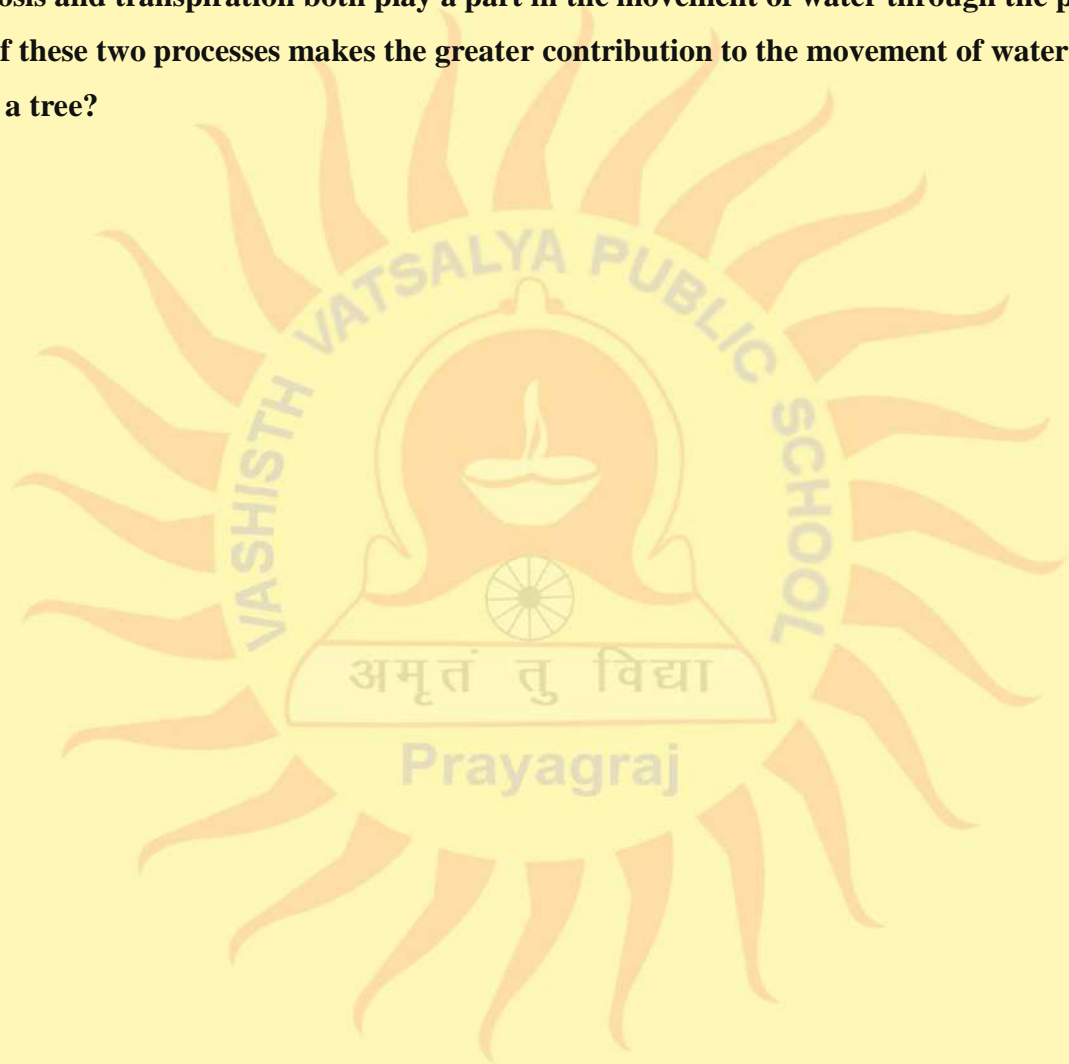


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21. Briefly explain the importance of nitrogen in plants with the help of nitrogen cycle.
22. What is hydroponics? Why this method of cultivation is gaining importance in the field of agriculture?
23. Osmosis and transpiration both play a part in the movement of water through the plant. Which of these two processes makes the greater contribution to the movement of water up the trunk of a tree?





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UNIT TEST IV 2023 HOME ASSIGNMENT CLASS: XI HINDI

क. निम्नलिखित प्रश्नों के उत्तर दीजिए

1. हिंदी की प्रथम कहानी का नाम लिखिए ।
2. 'उक्ति उक्ति' प्रकरण रचना किसकी है?
3. 'भारत दुर्दशा' नाटक के रचयिता का नाम लिखिए।
4. छायावाद युग की समय सीमा लिखिए ।
5. 'कबीर आलोचना' ग्रंथ के आलोचक का नाम बताइए।
6. काव्य के कितने प्रकार होते हैं ,नाम लिखिए।
7. आदिकाल को और किस नाम से जाना जाता है ?
8. किस कवि को बाल वर्णन के क्षेत्र में सर्वश्रेष्ठ माना जाता है ?
9. 'कठिन काव्य का प्रेत' किसे कहा जाता है ?
10. जायसी का पद्मावत किस भाषा में लिखा गया है ?

ख. राहुल सांकृत्यायन एवं महा कवि भूषण जी का साहित्यिक परिचय दीजिए।

ग. 'आकाशदीप' कहानी का सारांश अपने शब्दों में लिखिए।

घ. 'सूत पुत्र' नाटक के आधार पर कर्ण का चरित्र-चित्रण लिखिए।

ड०. निम्नलिखित श्लोक का अर्थ लिखें

वासंसि जीर्णानि यथा विहाय

नवानि गृह्णाति नरोपराणि।

तथा शरीराणि विहाय जीर्णा-

न्यन्यानि संयाति नवानि. देही ॥



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च उपमा, रूपक व उत्प्रेक्षा अलंकार की परिभाषा

उदाहरण सहित लिखिए।

श्रृंगार रस, करुण रस व शांत रस की परिभाषा

उदाहरण सहित लिखिए।

दोहा ,सोरठा व रोला छंद के लक्षण उदाहरण सहित
लिखिए

छ. पत्र-1. भारतीय स्टेट बैंक के शाखा प्रबंधक को निजी

उच्च शिक्षण संस्थान में इंजीनियरिंग के
अध्ययन हेतु शिक्षा ऋण प्राप्ति के लिए
एक आवेदन पत्र लिखिए ।

2 . बिजली समस्या के निराकरण हेतु अपने जिले
के बिजली विभाग को एक शिकायती पत्र
लिखिए।

ज. निम्नलिखित विषय पर अपनी भाषा शैली में
निबन्ध लिखिए।

आधुनिक जीवन की समस्याएं एवं साहित्य समाज
का दर्पण है।



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UNIT TEST IV 2023-24 HOME ASSIGNMENT CLASS XI CHEMISTRY

Topic: Chemical Bonding and Molecular Structure

1. Write the configuration of following species and find if they are paramagnetic or diamagnetic.

(i) N_2

(ii) B_2

2 - Find out which of the following molecules does not exist -

(i) Be_2

(ii) C_2

3 - What is resonance and resonating structures?

4 - Explain why CCl_4 as a zero dipole moment although C-Cl bonds are polar.

5 - Name and draw structure of two compounds which can form intra molecular hydrogen bonding.

Q6 - Find bond order of O_2 , O_2^- , O_2^{2-} and O_2^+ and arrange these species in decreasing order of bond lengths.

7 - What type of orbitals can overlap to form a covalent bond?

8- Name the electrons which take part in bond formation.

9 - Find out the compound in the following in which does not obey the octet rule. SF_2 , SF_6 , SO_2 , SF_4 .

10- Define octet rule. Give two examples of compounds, which do not follow octet rule.

11- Draw Lewis structures of

(i) AlF_3 ii) CaO iii) H_2S (iv) C_2H_4 (v) HBr

12- Calculate the sigma and pi bonds in the following compound $(CH_3)_6C_6H_4(OH)$.

13- Define bond length and bond angle.

14- Which type of hybridization is present in SF_6 ?

15- Find the bond order of NO and CO .

16- Name the type of hybridisation in each carbon atom of the following compounds —

(i) 1, 2 – butadiene

. (ii) Propyne



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17- Find

i) Formal charge on S in HSO_4^-

(ii) Formal charge on P in orthophosphoric acid.

18- What is hydrogen bonding? Name the two types of hydrogen bonding?

19- Which of the following bond is most polar?

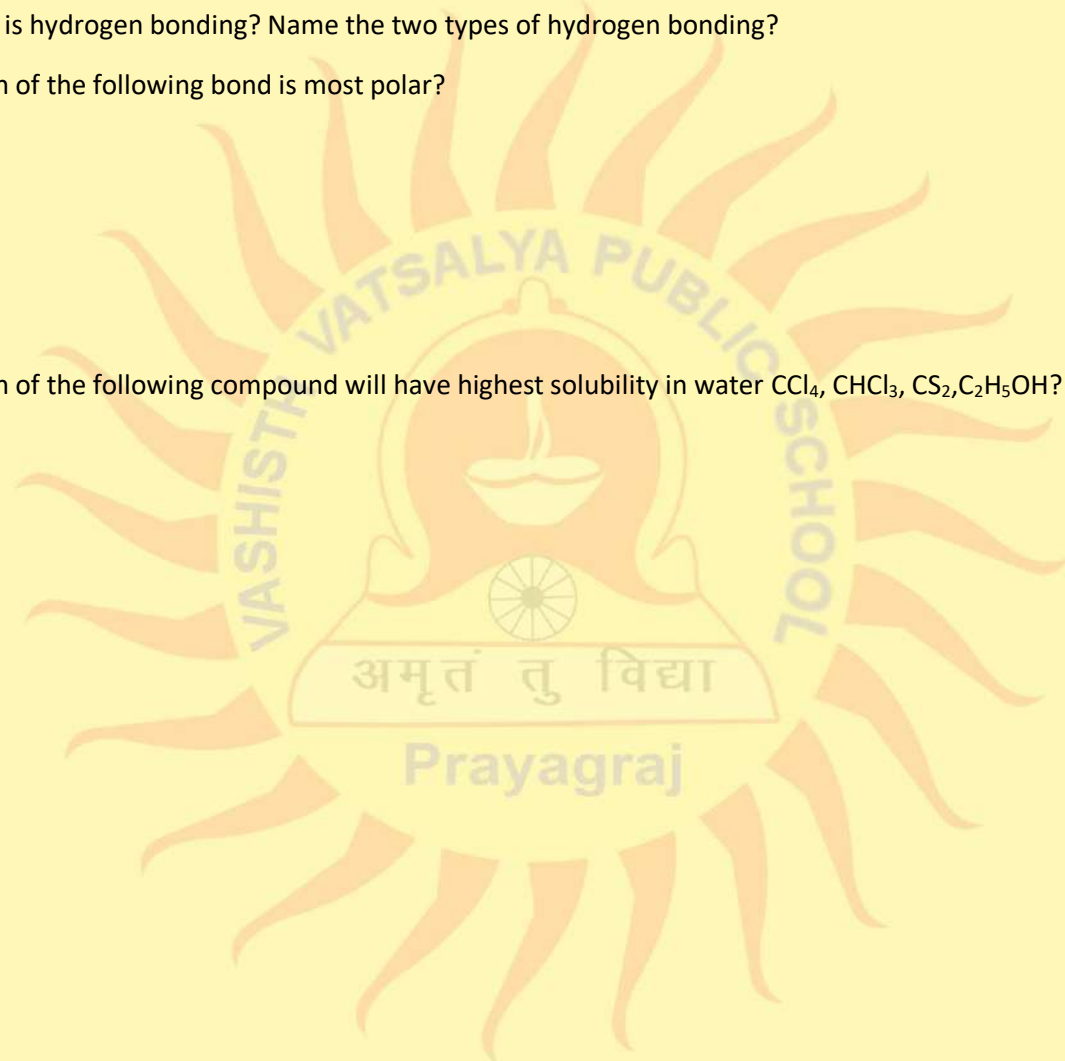
(i) Cl-F

(ii) Br-F

(iii) I-F

(iv) F-F

20- Which of the following compound will have highest solubility in water CCl_4 , CHCl_3 , CS_2 , $\text{C}_2\text{H}_5\text{OH}$?





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UNIT TEST IV CLASS: 11TH ENGLISH

1. Short answer questions

- How did Sue try to enliven the gloomy atmosphere?
- King Tut's body has been subjected to repeated scrutiny. Give reasons.
- What steps has the Indian government taken to ensure the protection of the environment? What is the impact?
- What plan of action had Professor Gaitonde arrived at?
- Why did the author take the shortcut in spite of high mountain passes?

2. Long answer questions

- What are the four systems that sustain life on earth? What threats are they facing?
- "Fertility falls as income rises, education spreads, and health improves". Justify.
- Narrate the story 'The Tale of Melon City' in your own words?
- The poet has discussed two stages of life – childhood and adulthood. How do we differentiate one from another?
- What did the poet realize when he crossed the age of eleven years?
- How is the cyclic movement of rain brought in the poem? Compare it with what you have learnt in science.

3. Explain the following stanza

When did my childhood go?
Was it when I found my mind was really mine,
To use whichever way I choose,
Producing thoughts that were not those of other people
But my own, and mine alone
Was that the day!

4. Fill in the blanks with suitable Conjunctions:

- Slow steady wins the race.
- Make hay the sun shines.
- We won the match We played well.
- Sit quietly leave the room.
- The climate of Bangalore is too hot too cold.
- Television programs mustbe interesting informative.
- Something fell I heard a thud.
- He wrote his will he died.
- The students rushed in the school gate was opened.
- I have to go to Delhi I don't get reservation.

5. Change the sentences as per the direction given in the bracket:

- The old man is too weak to walk. (Use: so..... that)
- The night is very dark. (Begin --- How dark....)
- I can never forget those happy days. (Change into interrogative)
- The Indians follow many traditions. Begin. Indians are
- Alas! We have lost the match. (Change into assertive sentence)
- The wind blew. The rain fell. (Compound sentence)



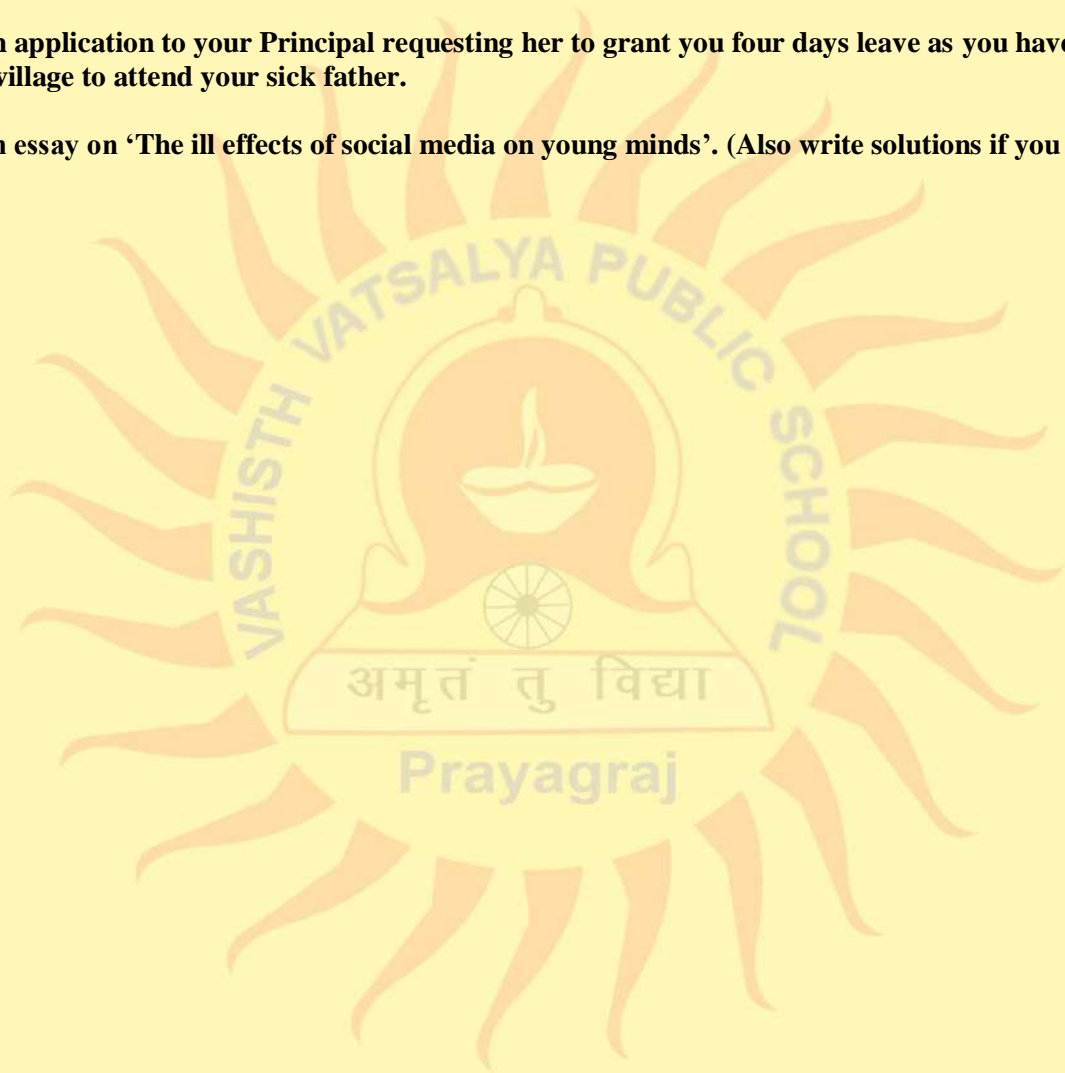
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- vii) I cannot see. It is dark. (Compound sentence)
- viii) He is not a knave. He is not a fool. (Compound sentence)
- ix) This is my friend. His name is Hari. (Simple sentence)
- x) The hermit sat there. He did not move. He did not speak. (Simple sentence)

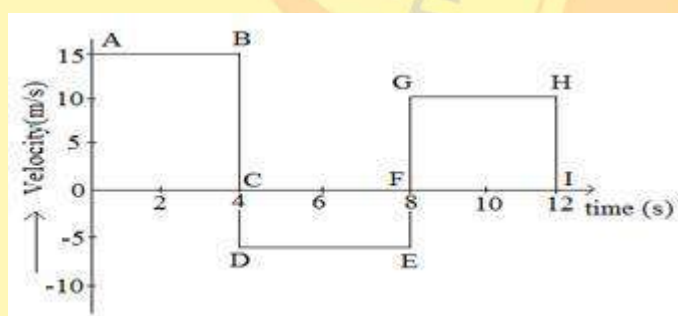
- 6. Write an application to your Principal requesting her to grant you four days leave as you have to go to your village to attend your sick father.
- 7. Write an essay on 'The ill effects of social media on young minds'. (Also write solutions if you have any)





UNIT TEST IV 2023-24 HOME ASSIGNMENT CLASS: 11TH PHYSICS

1. Derive the equation of state for adiabatic change?
2. Derive an expression for the work done during isothermal expansion?
3. A body cools from 80 °C to 50 °C in 5 minutes. Calculate the time it takes to cool from 60 °C to 30 °C. The temperature of the surroundings is 20 °C.
4. Velocity time graph of a moving particle is shown. Find the displacement (1) 0 – 4 s (2) 0 – 8 (3) 0 12 s from the graph. Also write the differences between distance and displacement.



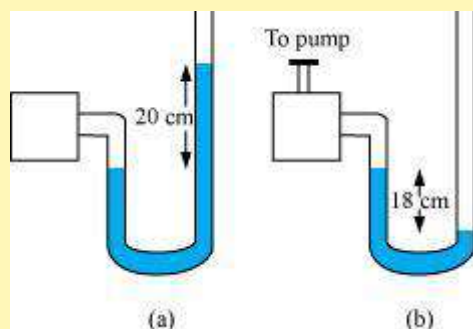
5. State the principle on which Hydraulic lift work and explain its working?
6. In a test experiment on a model aeroplane in a wind tunnel, the flow speeds on the upper and lower surfaces of the wing are 70 m s⁻¹ and 63 m s⁻¹ respectively. What is the lift on the wing if its area is 2.5 m²? Take the density of air to be 1.3 kg m⁻³.
7. A manometer reads the pressure of a gas in an enclosure as shown in Fig. 10.25 (a) When a pump removes some of the gas, the manometer reads as in Fig. 10.25 (b) The liquid used in the manometers is mercury and the atmospheric pressure is 76 cm of mercury.
(a) Give the absolute and gauge pressure of the gas in the enclosure for cases (a) and (b), in units of cm of mercury.



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(b) How would the levels change in case (b) if 13.6 cm of water (immiscible with mercury) are poured into the right limb of the manometer? (Ignore the small change in the volume of the gas).



8. A plane is in level flight at constant speed and each of its two wings has an area of 25 m^2 . If the speed of the air is 180 km/h over the lower wing and 234 km/h over the upper wing surface, determine the plane's mass. (Take air density to be 1 kg m^{-3})
9. Two narrow bores of diameters 3.0 mm and 6.0 mm are joined together to form a U-tube open at both ends. If the U-tube contains water, what is the difference in its levels in the two limbs of the tube? Surface tension of water at the temperature of the experiment is $7.3 \times 10^{-2} \text{ N m}^{-1}$. Take the angle of contact to be zero and density of water to be $1.0 \times 10^3 \text{ kg m}^{-3}$ ($g = 9.8 \text{ m s}^{-2}$).
10. A brass wire 1.8 m long at 27°C is held taut with little tension between two rigid supports. If the wire is cooled to a temperature of -39°C , what is the tension developed in the wire, if its diameter is 2.0 mm? Co-efficient of linear expansion of brass = $2.0 \times 10^{-5} \text{ K}^{-1}$; Young's modulus of brass = $0.91 \times 10^{11} \text{ Pa}$.