

SUMMER VACATION HOME ASSIGNMENT

CLASS XII

ENGLISH

Flamingo- Poetry section

My mother at sixty six - by- Kamala Das

Summary

The poem reminds us that old age is inevitable and cannot be avoided. The poetess sees her mother looking frail, weak and listless (lifeless) and is concerned that a mother might be moving slowly but surely towards her death.

The poetess is travelling from her parents' home towards Cochin's airport with her elderly mother sitting in the car beside her. She observes how her mother is pale and lifeless like a corpse. She remembers how even as a child she was always afraid of being separated from her mother and of losing her. She notices that her mother has now dozed off with her mouth open. To divert her thoughts she looks outside the car window. As the car is moving very quickly the young trees whizz past as if they are moving. The poetess watches the children rushing out of their homes to play and observes how they are full of life and energy. She contrasts between the lifeless, still form of her mother to the freshness and vitality of the trees and the children.

In the last stanza the poetess has completed the security check at the Cochin airport and turns around to bid her mother farewell. She also wants to reassure herself of her mother's presence. She is sad about her mother's health but hides her distress and concern by saying 'See you soon Amma 'and a smile. She smiles for long as she wants her mother to feel reassured that they will meet again so that she does not give up hope. She was trying to reassure herself that she would be able to see her mother again even though she knew it might not be the case.

Questions from the text:

- Q1- What is the kind of pain and ache that the poetess feels?**
- Q2- Why are the young trees described as 'sprinting'?**
- Q3- Why has the mother been compared to the 'late winter's moon'?**
- Q4- What do the parting words of the poetess and her smile signify?**

Poem KEEPING QUIET PABLO NERUDA

Summary

The poet is appealing to his readers to keep quiet and be still for a count of twelve. The number twelve is significant of the time and the months of the year. He reminds us that time passes by without anyone realizing and we do not take out the time to reflect on our own thoughts and actions. He tells us 'not to speak in any language' this refers to everyone in every part of the world, keeping quiet together at the same time and thus, all men would be using the same language that of silence. He has used a pun on the word 'arms' when he says 'not move our arms so much' i.e. to stop all wars and destruction by putting down his weapons.

The poet further talks of the fisherman who hunts whales and of a man who injured his hands by collecting salt. The fishermen won't hit whales with harpoons and the worker gathering salt will get time to look at his hurt hands. As he mentions earlier, man is in such a hurry to progress that he turns a blind eye to the pain and suffering that he himself undertakes.

In the next stanza, Neruda says that in this moment of silence, all warfare would be stopped and the world will stop producing deadly gases, bullets and bombs. He stressed that war with fire, wars wherein poisonous gases are used and green wars devastating the environment and nature must be stopped as there is widespread destruction and loss of innocent lives. However, the poet does not want his readers to confuse keeping quiet and still with 'total inactivity'. He doesn't advocate total inactivity. He simply advises deep introspection and asks us not to indulge in activities that are mindless and that might lead to the destruction of the ecosystem. Man is so focused on advancements and his own progress as time moves forward that he has forgotten about the consequences of his actions. Often, man does not understand himself and this result in a profound depression which tempts him to take his own life.

The poet wants man to stop for a moment and listen to his inner voice. The Earth teaches a valuable lesson through the apparent stillness of the winter season when the surface is bare and still, but in the soil underneath, the roots of a new plant are spreading. The Earth nurtures and protects this new life waiting for the right time- spring- when the new plant will blossom and bloom.

Questions from the text:

Q1- What will count up to twelve and keeping still helps us achieve?

Q2- What is the 'sadness' that the poet refers to in the poem?

Q3- What symbol from nature does the poet invoke to say that there can be life under apparent stillness?

Q4- Do you think the poet advocates total inactivity and death?

1. You are Sahil / Sushma, recently you have purchased a new TV from Reliance digital. Write a letter of complaint to the sales manager asking him to replace the TV (LED) set as the picture is not appearing clear.
2. Write an article on medical team visiting your area for sanitising and testing people for COVID-19.

MATHS

Learn all the Trigonometric Formulae. (Refer RD Sharma Maths Class XI)

Topic: Matrices and Determinants

- 1) Find x, y, z, w when
- 2) Let $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ and $O = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$, then verify that $A+O=O+A=A$
- 3) Let $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, $B = \begin{bmatrix} e & f \\ g & h \end{bmatrix}$ and $C = \begin{bmatrix} i & j \\ k & l \end{bmatrix}$, Verify that $(A+B)+C=A+(B+C)$
- 4) If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, show that
- 5) If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, find k so that
- 6) Find the value of x , if
- 7) If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, then prove that, for all values of $n \in \mathbb{N}$.
- 8) Solve for x and y , when
- 9) Express the matrix $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ as the sum of a symmetric and skew symmetric matrix.
- 10) If A is symmetric, show that A^2 is symmetric.
- 11) Express the matrix $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ as the sum of a symmetric and skew symmetric matrix.
- 12) If matrix $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, write
- 13) If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ and $B = \begin{bmatrix} e & f \\ g & h \end{bmatrix}$, find the matrix C such that $A+B+C$ is a zero matrix.
- 14) Find the values of x and y for which

- 15) If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 3 \\ 2 & 1 \end{bmatrix}$, find a matrix X such that $A + 2B + X = O$
- 16) Prove the theorem Uniqueness of Inverse. Every invertible square matrix has a unique inverse.
(Refer NCERT)
- 17) Prove that every square matrix is expressible as the sum of a symmetric and a skew symmetric matrix.
(Refer NCERT)
- 18) For any matrix,
- 19) If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 3 \\ 2 & 1 \end{bmatrix}$, find AB . Does BA exist?
- 20) Find the additive inverse of the matrix $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$

PHYSICS

Topic- Electrostatics

- 1) What are the properties of an electric charge? (NCERT BOOK pg-2&3)
- 2) What are conductors and insulators? Give example of each. (pg-5&6)
- 3) Explain charging by induction? (pg-6&7)
- 4) Define Coulomb's law? Write its vector form also. (pg 10 & 12)
- 5) Define principle of superposition? (pg 15)
- 6) Consider three charges q_1, q_2, q_3 each equal to q at the vertices of an equilateral triangle of side L .
What is the force on a charge Q (with same sign as q) placed at the centroid of the triangle? (pg 16)
- 7) Give the formula of electric field due to a single isolated charge? Write its vector form also. (pg 18 & 20)
- 8) Two point charges q_1 and q_2 , of magnitude $+10^{-8} \text{ C}$ and -10^{-8} C , respectively, are placed 0.1 m apart.
Calculate the electric fields at points A, B and C in a fig given on pg 22 (fig 1.14).
- 9) What are the properties of electric field lines? (pg 25)
- 10) Force between two points electric charges kept at a distance d apart in air is F . If these charges are kept at the same distance in water, how does the force between them change?
- 11) Two point charges $10 \mu\text{C}$ and $20 \mu\text{C}$ are separated by a distance r in air. If an additional charge of $-8 \mu\text{C}$ is given to each, by what factor does the force between the charges change?
- 12) Two extremely small charged copper spheres have their centers separated by a distance of 50 cm in vacuum. (a) What is the mutual force of electrostatic repulsion if the charge on each is $6.5 \times 10^{-7} \text{ C}$? (b) What will the force of repulsion if (i) the charge on each sphere is doubled and their separation is halved (ii) Two spheres are placed in water (dielectric constant of water is 80)?
- 13) Calculate the Coulomb force between a proton and an electron separated by a distance of $0.8 \times 10^{-15} \text{ m}$.
- 14) Explain the principle of superposition.
- 15) Define electric field at a point. Give its unit and obtain an expression for the electric field at a point due to a point charge.
- 16) Distinguish between electric potential and potential difference.
- 17) Prove that the energy stored in a parallel plate capacitor is
- 18) Why is it safer to be inside a car than standing under a tree during lightning?
- 19) What is an equipotential surface?

20) Explain the distribution of charges on a conductor and prove that $\vec{\epsilon} \cdot \vec{r} = \text{constant}$

CHEMISTRY

Topic Chemistry in Everyday life

- 1) Define the term Chemotherapy?
- 2) While antacid and anti allergic drugs interfere with function of histamine. Why do they not interfere with each other's function?
- 3) Name a substance which can be used as an antiseptic as well as disinfectant?
- 4) Name the sweetening agent used for a diabetic patient?
- 5) How are synthetic detergents better than soaps?
- 6) Why soaps do not work in the hard water?
- 7) Aspirin is pain relieving antipyretic drug but can be used to prevent heart attack. Explain?
- 8) Why it is safer to use soap from the environmental point view?
- 9) What are antagonistic drugs?
- 10) Pickles have a long shelf life and do not spoil for months why?

TWO MARKS QUESTIONS:-

- 11) What is the function performed by histamine in the body?
- 12) Why are certain drugs called enzyme inhibitors?
- 13) Write the difference between bathing soap and washing soap?
- 14) Write the chemical equation for preparing sodium soap from glycerol oleate and glycerol palmitate.
- 15) What is biodegradable and non-biodegradable polymer? Give example of each?
- 16) Explain the term, target molecules, or drugs target as used in medicinal chemistry?
- 17) With the help of example explain how do tranquilizers control the feeling of depression.
- 18) Give the important use of the following-
 - a. Equanil
 - b. Morphine
- 19) What are fillers and what role do these fillers play in soap?
- 20) Differentiate between disinfectants and antiseptics.

BIOLOGY

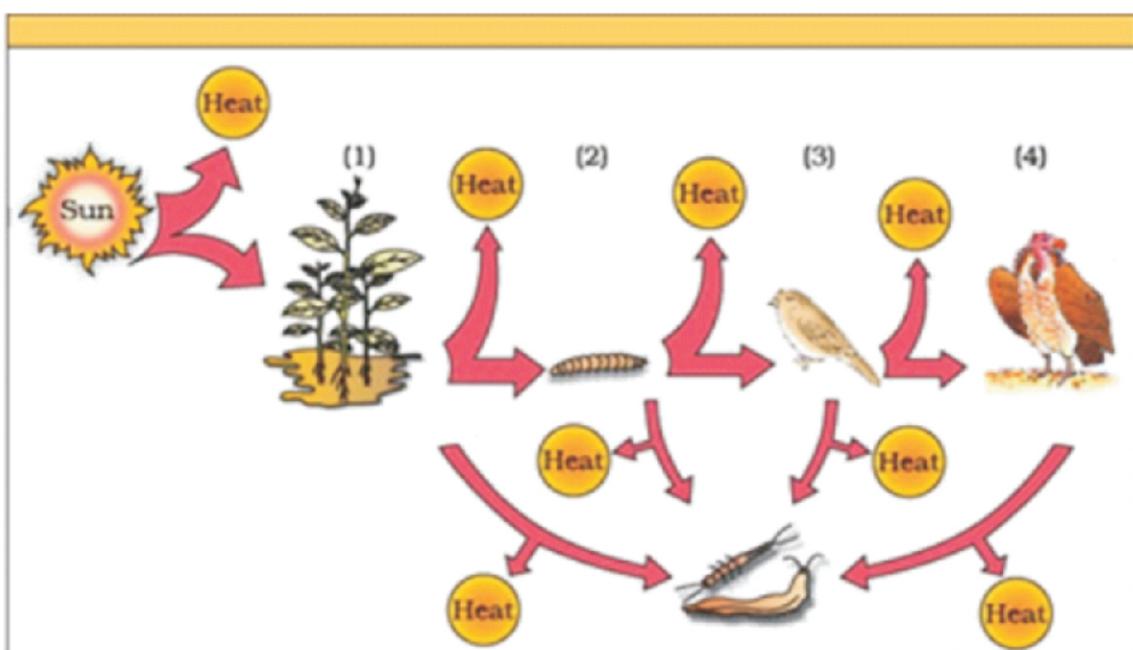
Topic Ecology and Environment

- Q.1. Give an example of a secondary carnivore found in an aquatic ecosystem.
- Q.2. The base tier of the ecological pyramid indicates?
- Q.3. Pick an omnivore that appears in both the decomposer and grazing food chain.
- Q.4. Why is pitcher plant called a producer?
- Q.5. List two entities which are found in more than one trophic level in an ecosystem.
- Q.6. Justify why the climax phase is attained at a faster pace in secondary succession in comparison to the primary succession.

- Q.7. In a xeric succession, which among these following species is a pioneer?
Fern , Lichens, Bryophytes.
- Q.8. In an ecosystem, which is the ultimate source of energy?
- Q.9. Is the edible mushroom a heterotrophs or autotrophs?
- Q.10. What makes oceans the least productive?

Answer the following questions -

- Q.1. Availability of energy is less for entities at higher trophic levels. Why?
- Q.2. Why is the number of trophic levels in an ecosystem limited?
- Q.3. Can we address an aquarium as a complete ecosystem?
- Q.4. Why decomposition occurs at a faster rate in the tropics?
- Q.5. State any two activities where humans intervene with the carbon cycle.
- Q.6. Explain why the flow of energy at different levels in an ecosystem is unidirectional and non-cyclic.
- Q.7. Plants → Autotrophs, Animals → Heterotrophs, Microbes →? State how microbes accomplish their energy requirements.
- Q.8. How would the issue of 'poaching of tigers' affect the functioning of the ecosystem?
- Q.9. In the context of the transfer of energy in an ecosystem, what does '10kg of deer's meat is equivalent to 1 kg of lion's flesh' mean?
- Q.10. Why does primary productivity vary in different ecosystems?
- Q.11. Describe the incomplete ecosystem with an example.
- Q.12. In the study of the ecosystem, what are the limitations of ecological pyramids?
- Q.13. Differentiate between humification and mineralization.
- Q.14. Fill up for the trophic levels, labelled 1,2,3,4 in the given figure.



- Q.15. Why is the rate of decomposition affected by abiotic factors such as pH of the soil, availability of oxygen, temperature etc?

Q.16. What is the importance of the ecosystem?

Q.17. Define the Pyramid of Biomass?

Q.19. What are the three types of ecological pyramids?

Q.20. What are the aquatic ecosystem and the terrestrial ecosystem? Give examples.

PHYSICAL EDUCATION

What is yoga?

Project 1- Make a project on all the asanas of Yoga.

Project2 - Make a project on the procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease (Obesity, diabetes, Hypertension, back pain, Asthma.)

Project 3: Prepare a project on any one game of your choice out of the list given-Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, and Cricket.

Give a labeled diagram of field & equipment including Rules, Terminologies & Skills.