

Class 12th Science Assignments

Date-10.1.26

English

Key Points: "Keeping Quiet"

The poet asks everyone to pause and remain silent for a moment.

Silence helps people introspect and understand themselves better.

The poet condemns violence, wars, and exploitation caused by human greed.

Keeping quiet does not mean inactivity or death, but peaceful reflection.

A moment of silence can bring unity and universal brotherhood.

Nature teaches humans the importance of stillness and renewal.

The poet believes silence can help humans break the cycle of destruction.

Competency-Based Questions (Unsolved)

1. Why does the poet ask everyone to count up to twelve and remain quiet? What change does he expect from this act?

2. How does silence help human beings overcome violence and misunderstanding, according to the poem?

3. Explain the difference between "keeping quiet" and inactivity as highlighted by the poet.

4. What lesson does the poet draw from nature to explain the importance of stillness in human life?

5. How can the message of the poem be applied to reduce conflicts in today's world?

Chemistry

Instructions

1. Solve all the questions on sheets.

2. Write answers according to marks mention above the question .

Questions

1. Although Cr^{3+} and Co^{2+} ions have same number of unpaired electrons, but the magnetic moment of Cr^{3+} is 3.87 B.M. and that of Co^{2+} is 4.87 B.M. Why?(3)

2. Ionisation enthalpies of Ce, Pr and Nd are higher than Th, Pa and U. Why?(3)

3. Although Zr belongs to 4d and Hf belongs to 5d transition series but it is quite difficult to separate them. Why?(3)

4. Although +3 oxidation states is the characteristic oxidation state of lanthanides but cerium shows +4 oxidation state also. Why?(3)

Mathematics

General Instructions:

Do all questions neatly in the fair notebook.

Mention Date, and Day on each day's work.

All steps must be shown clearly.

Each question carrying 3 marks.

1. Find the Shortest distance between the lines:

and

2. Show that the lines:

and are coplanar. Also find the equation of the plane.

3. Solve the differential equation:

$$x \frac{dy}{dx} + (y - x^3) = 0$$

4. Show that $(x^2 + xy) \frac{dy}{dx} = (x^2 + y^2)$

Is homogenous and solve it.

5. Solve the following differential equation:

$$xy \log(y) + (y^2 - x^2) \log$$

Biology

Use the following link and revise the questions.

https://drive.google.com/file/d/1dRZndNdZB_hZt5JY0djqWbVfgijf54C9/view?usp=drivesdk

Physics

Interference of Light

Introduction: Interference of light is the phenomenon in which two or more coherent light waves superpose and redistribute intensity, producing bright and dark fringes.

It is a clear proof of the wave nature of light.

Conditions for Interference

Sources must be coherent (constant phase difference).

Light waves should have same frequency.

Amplitudes should be nearly equal.

Distance between sources should be small.

Types of Interference

Constructive Interference

Occurs when path difference:

Results in bright fringes (maximum intensity).

Destructive Interference

Occurs when path difference:

Results in dark fringes (minimum intensity).

Young's Double Slit Experiment (YDSE)

Explanation

Proposed by Thomas Young.

Monochromatic light passes through two closely spaced slits S_1 and S_2 , which act as coherent sources.

On the screen, alternate bright and dark fringes are observed due to interference.

Fringe Width (β)

Distance between two consecutive bright or dark fringes.

Where:

λ = wavelength of light

D = distance between screen and slits

d = distance between the two slits

Position of Fringes

Bright fringe:

Dark fringe:

Importance of YDSE

Confirms wave nature of light.

Used to determine:

Wavelength of light

Refractive index of a medium

Effect of introducing a thin transparent sheet

Key Points for Exams

Interference is due to superposition of waves

Bright fringes \rightarrow constructive interference

Dark fringes \rightarrow destructive interference

Fringe width depends on λ , D, and d

Central fringe is always bright

Instructions

Students you have to use the following link to start the quiz. After completion of quiz you will get the certificate of participation and grade marks .you have to save it for further assessment in future .

Link of quiz- <https://www.proprofs.com/quiz-school/ugc/story.php?title=ndu2mzk2mw40fb>