Class 12 Assignment

Date - 06.01.26

English

Parents may consider giving their teenagers mobile phones for security purposes but it results in "possible mis use and side effects." You are Amrit /Amrita. Write an article for your school magazine on 'Possible Misuse and Side Effects of Mobile Phones'.

chemistry

Instructions

1. Solve all the questions on sheets.
2. Write answers according to marks mention above the question.

Questions1.Can Gattermann-Koch reaction be considered similar to Friedel Craft's acylation? Discuss.(2)2.An alkene 'A' (Mol. formula C_5H_{10}) on ozonolysis gives a mixture of two compounds, 'B' and 'C'. Compound B' gives positive Fehling's test and forms iodoform on treatment with I_2 and NaOH. Compound C' does not give Fehling's test but forms iodoform. Identify the compounds A, B, and C. Write the reaction for ozonolysis and formation of iodoformfrom B and C.(5)

3.When liquid 'A' is treated with a freshly prepared ammonical silver nitrate solution, it gives a bright silver mirror. The liquid forms a white crystalline solid on treatment with sodium hydrogen sulphite. Liquid 'B' also forms a white crystalline solid with sodium hydrogen sulphite, but it does not give a test with ammoniacal silver nitrate. Which of the two liquids is aldehyde? Write the chemical equations of these reactions also.(3)

Physics

ELECTROMAGNETIC INDUCTION & A.C. CURRENT

PART A: ELECTROMAGNETIC INDUCTION

1. Introduction

Electromagnetic induction is the phenomenon of production of induced emf (or current) in a conductor when the magnetic flux linked with it changes.

2. Magnetic Flux (Φ)

Where

= magnetic field,

= area,

= angle between and area vector

3. Faraday's Laws of Electromagnetic Induction

First Law: Change in magnetic flux induces an emf.

Second Law: Magnitude of induced emf is proportional to rate of change of flux.

(– sign represents Lenz's Law)

4. Lenz's Law

The direction of induced current is such that it opposes the cause producing it.

5. Induced emf in a Moving Conductor

Where

= length of conductor,

= velocity

6. Self Induction

Change in current in a coil induces emf in the same coil.

= coefficient of self-inductance

Energy stored in inductor:

7. Mutual Induction
Change of current in one coil induces emf in nearby coil.
= mutual inductance
8. Eddy Currents
Circulating currents induced in bulk conductors.
Applications: magnetic braking, induction furnace, speedometers.
PART B: ALTERNATING CURRENT (A.C.)
9. Alternating Current
Current that changes magnitude and direction periodically.
Where= peak current,
10. RMS Value of A.C.
11. A.C. Through Different Components
(a) Resistor

Current and voltage in phase
(b) Inductor
Inductive reactance:
Current lags voltage by
(c) Capacitor
Capacitive reactance:
Current leads voltage by
12. Series LCR Circuit
Impedance:
Current:
Phase angle:
13. Resonance in LCR Circuit
Occurs when:

Resonant frequency:
14. Power in A.C. Circuit
= power factor
15. Transformer
Works on principle of mutual induction.
Efficiency:
Key Exam Points
Faraday's law gives magnitude; Lenz's law gives direction
RMS value represents effective A.C.
Resonance gives maximum current
Transformer works only on A.C.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=ndu1ota0ngcgl9