

This Question Paper contains 4 Printed Pages.

**19E(A)**

**GENERAL SCIENCE, Paper - I**

*(English version)*

**Parts A and B**

**Time : 2½ Hours]**

**[Maximum Marks : 50**

**Instructions :**

1. Answer the questions under **Part-A** on a separate answer book.
2. Write the answers to the questions under **Part-B** on the Question Paper itself and attach it to the answer book of **Part-A**.

**Part - A**

**Time : 2 Hours**

**Marks : 35**

**SECTION - I**

**5×2=10**

**NOTE :**

1. Answer **ANY FIVE** questions, choosing atleast **TWO** from each Group.
2. Each question carries **TWO** marks.

**GROUP - A**

1. In what cases, does a light ray not deviate at the interface of two media ?
2. What happens to the water when wet clothes dry ?
3. Explain briefly the reason for the blue colour of the sky.
4. Give any two applications of Faraday's law of Induction in daily life.

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**GROUP - B**

5. Why pure acetic acid does not conduct electricity ?
6. What is  $nl^x$  method ? How it is useful ?
7. How does metallic character change when we move  
(i) across a period from left to right, (ii) down a group ?
8. Draw the simple figure of a soap molecule.

**SECTION - II****4×1=4**

**NOTE :** 1. Answer **ANY FOUR** questions from the following.

2. Each question carries **ONE** mark.

9. Define Latent heat of Fusion.
10. What is the relationship between focal length ( $f$ ) and radius of curvature ( $R$ ) ?
11. What is electric shock ?
12. Why do we apply paint on iron articles ?
13. Which group elements are called Carbon family ?
14. Define Isomerism.

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**SECTION - III**

4×4=16

**NOTE :**

1. Answer **ANY FOUR** questions, choosing atleast **TWO** from each Group.
2. Each question carries **FOUR** marks.

**GROUP - A****15.** Answer these :

- (a) How much energy is transferred when 1 gm of boiling water at 100°C condenses to water at 100°C ?
- (b) How much energy is transferred when 1 gm of boiling water at 100°C cools to water at 0°C ?
- (c) How much energy is released or absorbed when 1 gm of water at 0°C freezes to ice at 0°C ?
- (d) How much energy is released ~~or absorbed~~ when 1 gm of steam at 100°C turns to ice at 0°C ?

**16.** Draw and explain the process of formation of image with a Pinhole camera.**17.** Explain the refraction of light through a glass-slab with neat ray diagram.**18.** How do you verify that resistance of a conductor is proportional to the length of the conductor for constant cross-section area and temperature?**GROUP - B****19.** How chemical displacement reactions differ from chemical decomposition reaction? Explain with an example for each.**20.** Explain Hund's rule with an example.**21.** Explain the formation of the  $\text{BF}_3$  molecule using hybridisation.**22.** Suggest a test to find the hardness of water and explain its procedure.

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**SECTION - IV**

1×5=5

**NOTE :**

1. Answer **ANY ONE** of the following questions.
  2. This question carries **FIVE** marks.
  23. Draw a neat diagram of Electric motor and name the parts.
  24. Draw the diagram showing froth floatation method and label its parts.
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