



# **National Testing Service Pakistan**

**Plot # 96, Street # 4, H-8/1 Islamabad**

## **APPLIED SCIENCES**

### **SAMPLE PAPER**

**TIME ALLOWED: 2:20 HOURS (Section B and C) 10 Minutes (Section A)**

**TOTAL MARKS: SECTION A = 10, B AND C = 40**

**ANSWER ALL QUESTIONS FROM SECTION A**

**ANSWER ANY THIRTEEN PARTS FROM SECTION B AND ANY TWO QUESTIONS FROM SECTION C**



**SECTION – B (Marks 26)**

**Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. ( 13 x 2= 26 )**

- (i) Why is water not used in place of mercury in thermometers?
- (ii) Differentiate between Electrolytes and Non-electrolytes with examples.
- (iii) Briefly mention the classification of lipids.
- (iv) Discuss the importance of ions in the proper functioning of human body.
- (v) Write two advantages and two disadvantages of friction.
- (vi) Define the terms **Radioactivity** and **Half-life**.
- (vii) Define and write the formula for Coulomb's law.
- (viii) What is meant by derived units? Give any two examples.
- (ix) How does pressure differ from force?
- (x) Define **Frequency** and **Wavelength** of a sound wave.
- (xi) What is Astigmatism? How is it detected and corrected?
- (xii) Describe the characteristics of sound.
- (xiii) Name the three classes of lever.
- (xiv) Write a short note on pH scale.
- (xv) What properties do acids have in common?
- (xvi) Define the terms **Mass** and **Weight**.
- (xvii) What does a chemical formula represent?

**SECTION – C (Marks 14)**

**Note: Attempt any TWO questions. All questions carry equal marks. (2 x 7 = 14)**

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| <b>Q. 3</b> | <b>a.</b> What are isotopes? Explain with examples.  | <b>04</b> |
|             | <b>b.</b> Illustrate a convex lens, indicating principal axis, principal focus and focal length. | <b>03</b> |
| <b>Q. 4</b> | <b>a.</b> Discuss three methods of heat transfer.  | <b>04</b> |
|             | <b>b.</b> Convert 98.6 F (Fahrenheit scale) into $^{\circ}\text{C}$ (Celsius scale).             | <b>03</b> |
| <b>Q. 5</b> | <b>a.</b> Explain the structure of an atom.  | <b>03</b> |
|             | <b>b.</b> Describe the four types of chemical reactions with examples.                           | <b>04</b> |