

IMMANUEL SCHOOL

Assessment and Evaluation Department

Nagavara, Bangalore – 560045

FORMATIVE ASSESSMENT – 2 (FA2)

SCIENCE – MOCK QUESTION PAPER 1

Class: X (SSLC)

Time: 1 Hour 30 Minutes

Marks: 25

Instructions:

1. Answer all questions.
2. Draw neat diagrams wherever necessary.
3. Read the questions carefully.
4. LBA (Learning Based Assessment) questions carry special weightage.

I. Choose the Correct Answer (1 × 5 = 5)

1. The direction of magnetic field around a current-carrying conductor is determined by: a) Fleming's Left-Hand Rule b) Right-Hand Thumb Rule c) Ohm's Law d) Lenz's Law
 2. Which of the following has pH equal to 7? a) Lemon juice b) Soap solution c) Pure water d) Hydrochloric acid
 3. The hormone that regulates blood glucose level is: a) Thyroxine b) Insulin c) Adrenaline d) Testosterone
 4. An electric motor converts: a) Mechanical energy into electrical energy b) Electrical energy into mechanical energy c) Sound energy into electrical energy d) Chemical energy into electrical energy
 5. The gland known as the "Master Gland" is: a) Thyroid b) Adrenal c) Pituitary d) Pancreas
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II. Fill in the Blanks ($1 \times 3 = 3$)

6. The magnetic field inside a _____ is nearly uniform.
 7. Baking soda is chemically known as _____.
 8. Reflex action is mainly controlled by the _____.
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III. Answer the Following ($2 \times 4 = 8$)

9. State any two properties of magnetic field lines.
 10. What is neutralization? Give one daily-life example.
 11. Differentiate between hormones and nerves (any two points).
 12. Why is baking soda used in antacids?
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IV. Answer the Following ($3 \times 2 = 6$)

13. Explain Fleming's Left-Hand Rule with a neat sketch.

OR

Explain the construction of a solenoid.

14. Explain the importance of pH in avoiding tooth decay.

OR

Write the functions of Auxin and Gibberellin.

V. LBA / Competency-Based Question ($3 \times 1 = 3$)

15. Rahul accidentally touched a hot vessel and immediately withdrew his hand.
 - a) What is this response called?
 - b) Which part of the nervous system controls it?
 - c) Draw the conclusion about the importance of this action.
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SCIENCE – MOCK QUESTION PAPER 2

Class: X (SSLC)

Time: 1 Hour 30 Minutes

Marks: 25

I. Choose the Correct Answer ($1 \times 5 = 5$)

1. A coil of many circular turns of insulated copper wire is called: a) Galvanometer
b) Solenoid c) Resistor d) Capacitor
2. Turmeric indicator turns red in: a) Acid b) Neutral solution c) Base d) Salt
3. Which part of the brain controls body balance? a) Cerebrum b) Cerebellum c) Medulla d) Hypothalamus
4. Washing soda is: a) NaHCO_3 b) NaCl c) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ d) HCl
5. The magnetic effect of electric current was first observed by: a) Newton b) Oersted c) Rutherford d) Dalton

II. Match the Following ($1 \times 3 = 3$)

A	B
Adrenaline	Emergency hormone
Solenoid	Electromagnet
pH Scale	Measure of acidity/basicity

III. Answer the Following ($2 \times 4 = 8$)

6. What is an electromagnet? Mention two uses.
 7. Write any two uses of washing soda.
 8. What is reflex action? Give one example.
 9. Write any two differences between acids and bases.
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IV. Answer the Following ($3 \times 2 = 6$)

10. Explain the working principle of an electric motor.

OR

Explain the magnetic field around a straight current-carrying conductor.

11. Explain the role of insulin in the human body.

OR

Describe the importance of endocrine glands.

V. LBA / Competency-Based Question ($3 \times 1 = 3$)

12. A farmer notices poor crop growth due to highly acidic soil.

- a) What is the nature of the soil?
 - b) Which substance should be added to correct the soil?
 - c) Why should the pH of soil be maintained?
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IMPORTANT QUESTIONS FOR FA2 REVISION

Chapter 1: Magnetic Effects of Electric Current

Very Important 1-Mark Questions

1. State Right-Hand Thumb Rule.
2. Define magnetic field.
3. What is a solenoid?
4. What is an electromagnet?
5. Name the device that converts electrical energy into mechanical energy.
6. State Oersted's observation.

Important 2-Mark Questions

1. Mention two properties of magnetic field lines.
2. Differentiate permanent magnet and electromagnet.
3. List two uses of electromagnets.
4. What is the function of split rings in an electric motor?

Important 3-Mark Questions

1. Explain Fleming's Left-Hand Rule.
2. Explain construction and working of an electric motor.
3. Explain magnetic field around a straight conductor.
4. Describe a solenoid and its magnetic field pattern.

LBA Questions

1. Why are electromagnets used in scrapyard cranes?
2. Why does a compass needle get deflected near a current-carrying wire?
3. Why are electric motors used in mixers and fans?

Chapter 2: Acids, Bases and Salts

Very Important 1-Mark Questions

1. Define pH.
2. What is neutralization?
3. Write the formula of baking soda.
4. Write the formula of washing soda.
5. Name the acid present in curd.
6. Name the indicator present in turmeric.

Important 2-Mark Questions

1. Differentiate acids and bases.
2. Give two uses of baking soda.
3. Why is pH important in digestion?
4. Mention two uses of washing soda.

Important 3-Mark Questions

1. Explain preparation and uses of baking soda.
2. Explain preparation and uses of washing soda.
3. What is pH scale? Explain with examples.
4. Explain importance of pH in everyday life.

LBA Questions

1. Why are antacids prescribed during acidity?
 2. Why does tooth decay occur when mouth pH falls below 5.5?
 3. How can acidic soil be treated for better crop yield?
 4. Why should acids and bases be handled carefully in laboratories?
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Chapter 3: Control and Coordination

Very Important 1-Mark Questions

1. Define reflex action.
2. Name the master gland.
3. Which hormone controls blood sugar?
4. Which part of the brain maintains balance?
5. Name the growth hormone.

Important 2-Mark Questions

1. Differentiate reflex action and voluntary action.
2. Mention two functions of the cerebrum.
3. Write two functions of hormones.
4. Name any two plant hormones and their functions.

Important 3-Mark Questions

1. Explain reflex arc with a neat diagram.
2. Differentiate nervous system and endocrine system.
3. Explain the role of hormones in the human body.
4. Explain the functions of Auxin and Gibberellin.

LBA Questions

1. Why do we immediately pull our hand away from a hot object?
 2. Why do diabetic patients require insulin injections?
 3. How do plants bend towards sunlight?
 4. Why are hormones called chemical messengers?
 5. Why does adrenaline increase heartbeat during emergencies?
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HIGHLY EXPECTED FA2 QUESTIONS (Based on SSLC Trends & LBA)

- ✓ Fleming's Left-Hand Rule
- ✓ Electric Motor – Diagram and Working
- ✓ Solenoid and Electromagnet
- ✓ Properties of Magnetic Field Lines
- ✓ pH Scale and Importance in Daily Life
- ✓ Baking Soda – Preparation and Uses
- ✓ Washing Soda – Preparation and Uses
- ✓ Neutralization Reaction
- ✓ Reflex Arc Diagram
- ✓ Endocrine Glands and Hormones
- ✓ Insulin and Diabetes
- ✓ Plant Hormones (Auxin, Gibberellin, ABA)
- ✓ Control and Coordination in Humans

Immanuel School FA2 Focus Areas

LBA Priority Topics:

- Reflex action in real-life situations
- Acidity and use of antacids
- Soil pH and agriculture
- Electromagnets in daily applications
- Insulin and diabetes
- Electric motor applications
- Plant growth and plant hormones

Students are strongly advised to practice diagrams of:

1. Electric Motor
2. Magnetic Field Around Conductor
3. Solenoid
4. Reflex Arc

5. Human Brain (labelled parts)

