

# Everything You Need to Know About the AST Ministry Exam

The ministerial examination, commonly known as the *ministry exam*, is a compulsory written exam that students take at the end of Secondary IV. It counts for 50% of the theory component mark. The exam is divided into 3 parts, and students have 3 hours and 15 minutes to complete it.

## An Exam Divided in 3 Parts

Part	Question Type	Number of Questions	Number of Questions in Each Major Area		
			Earth and Space	Material World	Technological World
A	Multiple-choice	15	1	9	5
B	Constructed-response	4	1	2	1
C	Technological analysis	6	0	0	6

## Documents Provided

- Student Booklet (parts A, B, and C)
- Scannable answer sheet (Part A)
- Reference document
  - List of formulas and quantities
  - Diagrams of the technical object

## Authorized Materials

- Pencils
- Ruler
- Calculator



**Forbidden**



Any data or programs stored on a calculator must be deleted before the exam.



# AST Concepts Subject to Assessment

## Material World

### Chemical Changes

- Oxydation
- Combustion

### Electricity and Magnetism

- Electrical charge
- Static electricity
- Ohm's law
- Electrical circuits
- Relationship between power and electrical energy
- Forces of attraction and repulsion
- Magnetic field of a live wire
- Magnetic field of a solenoid
- Electromagnetic induction

### Energy Transformations

- Law of conservation of energy
- Energy efficiency

### Fluids

- Archimedes' principle
- Pascal's principle
- Bernoulli's principle

### Force and motion

- Types of forces
- Equilibrium of two forces
- Relationship between constant speed, distance and time
- Mass and weight

## Technological World




Graphic Language	Materials
<ul style="list-style-type: none"> <li><input type="checkbox"/> Multiview orthogonal projection (general drawing)</li> <li><input type="checkbox"/> Functional dimensioning</li> <li><input type="checkbox"/> Developments (prism, cylinder, etc.)</li> <li><input type="checkbox"/> Diagrams and symbols</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Materials constraints</li> <li><input type="checkbox"/> Properties of materials</li> <li><input type="checkbox"/> Plastics</li> <li><input type="checkbox"/> Ceramics</li> <li><input type="checkbox"/> Material degradation and protection</li> </ul>
Mechanical engineering	Electrical engineering
<ul style="list-style-type: none"> <li><input type="checkbox"/> Adhesion and friction of parts</li> <li><input type="checkbox"/> Linking</li> <li><input type="checkbox"/> Degree of freedom</li> <li><input type="checkbox"/> Guiding controls</li> <li><input type="checkbox"/> Motion transmission systems</li> <li><input type="checkbox"/> Speed Changes</li> <li><input type="checkbox"/> Motion transformation systems</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Power supply</li> <li><input type="checkbox"/> Conduction</li> <li><input type="checkbox"/> Protection</li> <li><input type="checkbox"/> Insulation</li> <li><input type="checkbox"/> Control</li> <li><input type="checkbox"/> Types of switches</li> <li><input type="checkbox"/> Energy transformation</li> <li><input type="checkbox"/> Resistors and their colour code</li> <li><input type="checkbox"/> Condenser</li> <li><input type="checkbox"/> Diode</li> <li><input type="checkbox"/> Relay</li> </ul>
Manufacturing	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Drilling</li> <li><input type="checkbox"/> Tapping</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Bending</li> <li><input type="checkbox"/> Threading</li> </ul>

## Earth and Space



- Watershed (catchment area)
- Cyclones and anticyclones
- Earth-Moon system (gravitational effect)
- Energy resources

## Study tools




### Summary by Major Area

		
Material World	Earth and Space	Technological World

## Practice Tools

	Part A
	Part B

### Technological Analysis

	Carousel
	Food dispenser
	Conveyor toaster