

AN ROINN OIDEACHAIS
(Department of Education).

BRAINSE AN MHEÁN-OIDEACHAIS
(Secondary Education Branch).

LEAVING CERTIFICATE EXAMINATION, 1927.

HONOURS
PHYSICS.

THURSDAY, 23rd JUNE.—MORNING 10 A.M. TO 12 NOON.

Not more than SIX questions may be attempted.

1. What do you understand by "the Illuminating power of a source of light"? Explain clearly how it may be measured.
2. A diver 10 feet beneath the surface of the water on a calm clear day looks upwards. Describe what he sees and why.
3. In the study of light what do you understand by the image of an object? Are all images of the same type? Illustrate your answer clearly with sketches.
4. Explain why a bicycle moves forward when ridden. What power does a man exert when riding a bicycle up a 1 in 12 slope at 10 miles per hour? The total weight of man and bicycle is 200 lbs.
5. A bullet from a rifle is fired into a tree trunk. Discuss the transferences of energy which take place, and state how the energy is expended.
6. How would you measure—
 - (a) a force producing a strain.
 - (b) a force producing an acceleration.
 - (c) an impulsive force?
7. Make a sketch which will show the horizontal field of magnetic force about a magnet placed horizontally with its north seeking pole pointing west. Mark the regions where the magnet's field neutralises that of the earth.

8. How may current be measured with a tangent galvanometer? How is the sensitivity affected by decreasing the strength of the small magnet?

9. How and why does the terminal voltage of a Leclanché cell vary as the current taken from it is gradually increased? What is meant by the E. M. F. of the cell?

10. "Variation of the magnetic field produces an electric current in the coil."

Discuss this statement briefly and summarise the points you have discussed.