

AN ROINN O DEACHAIS.

LEAVING CERTIFICATE EXAMINATION, 1962.

MATHEMATICS—ARITHMETIC.

WEDNESDAY, 6th JUNE.—Morning, 10 to 12.

All questions to be answered.

Mathematical Tables may be obtained from the Superintendent.

1. (i) A company pays taxes at the rate of 7s. 8d. on each £1 of its profits. How much does it pay in taxes on profits of £6,735 ?
- (ii) A certain journey would cost 10 dollars at the rate of one gallon of petrol for every 30 miles. How many dollars would it cost at the rate of one gallon for every 24 miles ?
- (iii) If 1 metre = 39.36 inches and 1 Acre equals 100 square metres, express 1 Acre in square yards, correct to the nearest square yard.

(28 marks.)

2. Find, correct to three significant figures, the value of:—

$$\frac{(2.319)^2 \times \sqrt{0.4521}}{17.86}$$

(28 marks.)

3. Silver was bought in New York at $91\frac{5}{8}$ cents per ounce and sold here at $86\frac{1}{2}$ pence per ounce. Find, correct to the nearest unit, the percentage profit.

(£1 = 2.80 dollars = 280 cents.)

(28 marks.)

4. The diameter of a sphere is 7 inches. Find, correct to three significant figures, its surface area and its volume.

The sphere has the same volume as a right prism which has a triangular base of sides 4 inches, 6 inches, 6 inches. Find, correct to the nearest inch, the height of the prism in inches.

(28 marks.)

5. (i) A company paid £913 10s. as dividend on 25,200 of its shares. An investor thus got $6\frac{2}{3}\%$ on his investment. What price did he pay for each share ?

(ii) A man invested his money in 5% Stock at 90. His income would have been greater by £15 if he had invested his money in 6% Stock at 102. What sum of money did he invest ?

(28 marks.)

6. (i) Find the compound interest on £1,250 for 3 years at 5% per annum.

(ii) Find, correct to the nearest pound, the Present Worth of £400 due in three years, if compound interest is reckoned at 4% per annum.

(30 marks.)

7. A vessel is in the shape of a frustum of a right circular cone. The diameter of the base is 4 inches, the diameter of the top is 6 inches and the vertical height is 7 inches. (All the measurements are internal). Find, correct to one decimal place, the capacity of the vessel in pints.

If the vessel is half full of water, find, correct to one decimal place, the depth of the water in inches.

(30 marks.)