

INTERMEDIATE CERTIFICATE EXAMINATION, 1964.

MATHEMATICS (Arithmetic).

WEDNESDAY, 3rd JUNE - Morning, 10 to 12.

All questions to be answered.

Mathematical Tables may be obtained from the Superintendent.

1. (a) Find the greatest common measure and the least common multiple of 36 and 90.
 (b) Find the cost of repairing a road 8 miles, 6 furlongs and 8 perches long at the rate of 7s. 6d. per yard. (25 marks.)
2. (a) Simplify:- $\left(3\frac{1}{3} \times \frac{1}{5} - \frac{1}{12}\right) \div 1\frac{3}{4}$.
 (b) The petrol consumption of a car is estimated at 12 kilometres per litre. What does this represent in miles per gallon, correct to the nearest mile? (1 litre = 1.76 pints; 1 metre = 39.37 inches.) (25 marks.)
3. (a) At what rate per cent per annum simple interest would £755 amount to £845 12s. Od. in 3 years?
 (b) Find the compound interest on £3,450 for 3 years at 5% per annum, correct to the nearest penny. (30 marks.)
4. (a) Without using logarithms, find the square-root of 5.0625.
 (b) Evaluate by means of logarithms $32.56 \times (1.064)^3 \div \sqrt{0.8417}$ correct to three significant figures. (30 marks.)
5. (a) If 25 tons of hay are bought for £200 and sold at 9s. Od. per cwt., find the percentage profit.
 (b) A person loses 4% by selling an article for £1 4s. Od; at what price should he have sold it to gain 10%?
 (c) A trader sells goods at a discount of 25% from the marked price and makes a profit of 5% on the cost; at what per cent above the cost price did he mark the goods? (30 marks.)
6. (a) Divide £252 between A, B and C so that A's share to B's share is in the ratio 2:5 and so that B's share to C's share is in the ratio 3:7.
 (b) A circular pond of circumference 88 ft. is surrounded by a path 7 ft. wide. Find the area of the path. (Take $\pi = 3\frac{1}{7}$). (30 marks.)
7. $2\frac{3}{4}$ tons of water fill a cylindrical tank to a depth of 4 ft. 8 ins. What is the internal diameter of the tank in inches, correct to the nearest inch?

If another cylindrical tank whose diameter is twice that of the first holds the same amount of water, find the depth of the water in inches.

(Take $\pi = 3\frac{1}{7}$; 1 cubic foot of water = $62\frac{1}{2}$ lbs.)

(30 marks.)