

6. Analyse the characters of Gratiano and the vicar of Wakefield, and describe the casket scenes in the play and the prison scenes in the novel.

7. What stage of thought and belief had Shakespeare reached when he wrote *The Merchant of Venice*? Does he show tolerance or intolerance towards the Jews? Give his ideas on self-sacrifice, revenge, friendship, justice, young men, and music as they appear in this play.

8. (a) Comment on the following from *The Merchant of Venice* with reference to their context: (a) My wealthy Andrew . . . vailing her high-top; (b) Which makes her seat of Belmont Colchus' strand; (c) Prove it so, let fortune go to hell for it, not I; (d) Hard food for Midas; (e) A Daniel come to judgment! (f) Still quiring to the young-eyed cherubins.

(β) Parse the italicised words in the following: (a) Even now worth *this*; (b) I tell thee *what*, Antonio; (c) As *who* should say, I am Sir Oracle; (d) He lends out money *gratis*; (e) *Content*, i' faith; (f) But alas the *while*!

9. Explain why *The Vicar of Wakefield* has always been so popular a book, and point out and illustrate the chief characteristics of its style.

*Arithmetic.—For Class D. Time allowed: 3 hours.*

1. An army suffered a defeat in which one-quarter of its men were either killed or wounded; it also lost 1,500 prisoners. In the retreat which ensued, one-fifth of the remainder perished, and then there were 18,000 men left. Find the number in the army at first.

2. Simplify  $\frac{3\frac{3}{4}-1\frac{1}{2}}{2.36-1.46} + \frac{5\frac{3}{4}+4\frac{1}{2}-6.3142857}{.538461}$ .

3. Find the value, correct to five places of decimals, of

$$\frac{1}{3 \times 5 \times 7} + \frac{2}{5 \times 7 \times 9} + \frac{3}{7 \times 9 \times 11} + \frac{4}{9 \times 11 \times 13} + \&c.$$

4. If there are 25.2 francs in a pound, and a dollar is equivalent to 4s. 2d., express a franc as the decimal of a dollar.

5. A mètre is equal to 39.37 inches, and a hectare is the area of a square whose side is 100 mètres: show that a hectare is nearly equal to  $2\frac{1}{2}$  acres, and find the difference.

6. If the simple interest on £2,265 12s. 6d. for 4 years and 146 days be £548 5s.  $7\frac{1}{2}$ d., find the rate per cent.

7. If by selling 100 eggs for 5s. 9d. a gain of 15 per cent. be made, what gain per cent. will be made if they are sold at the rate of 9d. a dozen?

8. A bankrupt's debts amount to £6,478 10s.; his assets are £1,253 8s. cash and a bill for £429 due to him in six months. If interest be reckoned at 8 per cent., how much in the pound can he pay?

9. Find the compound interest on £10,000 for two years at 8 per cent., the interest being reckoned and compounded half-yearly.

10. A man has £5,675 stock in 3-per-cent. Consols; when they are 102½ he sells out and invests in New Zealand 4-per-cents. If by doing this he increases his annual income by £34 15s., find the price of the New Zealand stock.

11. A barometer tube has one square inch for the area of its section, and contains mercury, which is 13.6 times as heavy as water. Find the weight of the mercury in the tube when the height of the barometer is 29.52 inches, assuming that a cubic foot of water weighs 1,000oz.

12. A circular pond whose radius is 20ft. has a path 6ft. wide running all round it. Find the area of the path, and the cost of asphaltting it at 2s. 3d. a square yard, having given that the area of a circle is found by multiplying the square of the radius by 3.1416.

13. If A can run a mile in 4min. 40sec., B in 4min. 45sec., and C in 4min. 50sec., how many yards' start should A give B and C in a mile race that their chances may be equal?

14. Kepler ascertained that the squares of the times of revolution of the planets round the sun are to one another as the cubes of their distances from the sun. Find the time of revolution of the planet Venus, assuming that her distance from the sun is to that of the earth as 11 to 17.

*Arithmetic.—For Class E, and for Junior Civil Service. Time allowed: 3 hours.*

(The working to be shown for each Question.)

1. How many years are there in 34560000 seconds?

2. What is a factor? Resolve 362880 into elementary factors. Find the L.C.M. of 1, 2, 3, 4, 5, 6, 7, 8, 9.

3. What different kinds of vulgar fractions are there? Define each clearly, giving illustrations.

Simplify  $\frac{3\frac{1}{2} \text{ of } 1\frac{1}{2}}{1\frac{1}{2} \text{ of } 1\frac{1}{2}} + \frac{3\frac{1}{2} \text{ of } 2\frac{1}{2}}{3\frac{1}{2} \text{ of } 8\frac{1}{2}} - \frac{2\frac{1}{2} + 1\frac{1}{2}}{3\frac{1}{2} - 2\frac{1}{2}}$ .

4. Divide 24.109932 by 301.28, and find the value of 0.90625 of a cubic yard.

Express as decimals  $\frac{2}{3}$ ,  $\frac{6}{5}$ ,  $\frac{3}{5}$ , and find their sum.

5. Find the square root of 18870336, and find to four places the square root of .009.

6. Eleven men were engaged to dig a trench  $3\frac{1}{2}$ ft. wide,  $5\frac{1}{2}$ ft. deep, and 150yds. long in a certain time, but before they began it was found that the trench had to be  $4\frac{1}{2}$ ft. wide, 5ft. deep, and 210yds. long. How many men must be employed that it may be finished in time?

7. Find the value of 75cwt. 3qr. 21lb. of hops, at £2 17s. 9d. per cwt.

8. If the wages of 6 persons for 21 weeks be £120, what will the wages of 14 persons for 46 weeks be?

9. At what rate will £760 amount to £859 4s. in 4 years?