S3 Citizenship, Economics and Society Practice Paper

S3 | Citizenship, Economics and Society | Time: 75 minutes | Total: 100 marks | 24 questions

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Part 1: Consumption and Opportunity Cost

Show the formula, the substitution and the unit, then explain in words.

1. A S3 student has $18,000 a month from allowance and a part-time job. Fixed spending is $6,500 on rent, $800 on transport, $3,200 on food and $600 on utilities. Find total fixed spending, the disposable balance and the saving rate in per cent.

2. A course costs $4,800 and takes 40 hours; in the same time the student could work part time at $65 an hour. Find the opportunity cost of taking the course and explain why the fee is only part of it.

3. A household budget is $15,000: housing $6,000, food $3,750, transport $1,200, education $2,400, the rest other. Find the other amount and the housing and food shares of the budget; if food actually costs $4,200, find the overspend in per cent.

4. A household income rises 2% while prices rise 3.2%. Find the percentage change in real purchasing power, and the cost of the same basket after one year if it now costs $24,000.

Part 2: Saving and Compound Interest

Rates are annual and compounded yearly unless stated otherwise.

5. $20,000 is deposited at 4% a year for 5 years. Find the compound amount, the compound interest and the difference from simple interest.

6. $1,500 is deposited at the end of each month at 3% a year compounded monthly for 12 months. Find the final balance and the interest earned.

7. At 4% a year, find the number of years needed for the principal to double and compare it with the rule of 72.

8. $500,000 is held in cash with expected inflation of 2.5% for 10 years. Find its real purchasing power after 10 years and the percentage of purchasing power lost.

Part 3: Demand, Supply and Equilibrium Price

Prices are in dollars and quantities in units.

9. Demand is Qd = 120 - 2P and supply is Qs = 3P - 30. Find the equilibrium price and quantity and explain what equilibrium means.

10. The government sets a price ceiling of $20. Find the quantity demanded, the quantity supplied and the shortage, and state two consequences.

11. Demand becomes Qd = 150 - 2P with supply unchanged. Find the new equilibrium price and quantity and the percentage rise in price.

12. Price rises from $25 to $28 and quantity demanded falls from 70 to 64 units. Find the arc price elasticity of demand and say whether demand is elastic or inelastic.

Part 4: Firm Costs and Profit

Amounts are in dollars and quantities in units; show the formulas.

13. A firm has fixed costs of $120,000, variable cost of $45 per unit and a price of $75. Find the contribution margin per unit, the break-even quantity and the profit at 8,000 units.

14. Total cost is $345,000 at 5,000 units and $390,000 at 6,000 units. Find the marginal cost and the average cost at both output levels.

15. At a price of $75 the firm sells 8,000 units. It cuts the price by 10% and sales rise to 10,000 units. Find total revenue before and after and the percentage change.

16. A company has sales of $480,000, cost of goods sold $312,000 and net profit $72,000. Find gross profit, gross margin and net margin.

Part 5: Taxation and Public Finance

Progressive bands: first $50,000 at 2%, next $50,000 at 6%, next $50,000 at 10%, remainder at 17%.

17. A taxpayer has taxable income of $240,000. Calculate the tax payable under the progressive bands and the average tax rate.

18. For the same taxable income of $240,000, what is the tax at a standard rate of 15%? Comparing with progressive tax, the lower amount applies; what is the difference?

19. Government revenue is $600 hundred million, of which profits tax is $150, salaries tax $90 and stamp duty $60. Find each share and explain the risk of a concentrated revenue base.

20. Government spending is $700 hundred million against revenue of $600, with GDP of $2800. Find the surplus or deficit and its share of GDP.

Part 6: Sustainability and Quality of Life

Show the working and explain with sustainability concepts.

21. A household uses 420 kWh a month and electricity emits 0.7 kg CO2 per kWh. Find annual consumption, annual emissions in tonnes and the cut if use falls 15%.

22. A district produces 12,000 tonnes of solid waste a year and recycles 3,600 tonnes. Find the recycling rate and the extra tonnage needed to reach a 55% target.

23. An economy has a GDP of 3.0 trillion dollars and a population of 7.5 million. Find GDP per capita and the new figure if real growth is 3% with an unchanged population.

24. A city uses 130 litres per person per day with a population of 7.5 million. Find daily and annual water use in million cubic metres, then the percentage and volume saved if use falls to 120 litres.
