BRETTONOMICS · STUDY GUIDE · UNIT 1 TOPIC 1

The Basic Economic Problem

Scarcity, choice, opportunity cost, the production possibility curve and economic systems

How to use this guide

Information in this guide is colour-coded and labelled. Each coloured box carries a word label as well as a colour, so you can use it whether or not you distinguish the colours easily.

KEY DEFINITION	The precise meaning of a syllabus term. Learn the wording.
AUSTRALIAN CONTEXT	Real Australian evidence or data you can quote as examples.
WORKED EXAMPLE	A model, diagram or calculation worked through step by step.
COMMON MISTAKE	An error that commonly costs marks — check yourself against it.
EXAM TIP	How to turn the knowledge into marks in an exam response.
BRETTONOMICS INTERACTIVE	A matching interactive tool on brettonomics.com.

SECTION 1 Key concepts and terminology

These are the syllabus terms for this topic. Learn the wording — definition marks are the easiest marks in the course to secure and the easiest to lose.

1.1 The core terms

Term	What it means
Scarcity	The fundamental condition that resources are limited while human wants are unlimited. Scarcity is relative: it describes the relationship between finite resources and infinite wants, not an absolute shortage of any one thing.
Choice	The decision that must be made because resources are scarce. Every want satisfied means another want left unsatisfied.
Opportunity cost	The value of the next best alternative forgone when a choice is made. Not the sum of everything given up — only the single best alternative not taken.

Term	What it means
Economic resources	The inputs used to produce goods and services, also called the factors of production: land, labour, capital and entrepreneurial ability.
Factors of production	The four categories of economic resource — land, labour, capital and entrepreneurial ability — each earning a distinct form of income.
Efficiency	Obtaining the maximum output from a given set of resources, so that nothing is wasted. An efficient economy operates on its production possibility curve.
Productivity	Output per unit of input per period of time, most commonly measured as output per hour worked. Productivity is a rate, not a total.
Economic growth	An increase in the productive capacity of an economy over time, shown as an outward shift of the production possibility curve.
Production possibility curve (frontier)	A model showing the maximum combinations of two goods an economy can produce when all resources are fully and efficiently employed, with technology held constant.
Ceteris paribus	Latin for "all other things being equal". The assumption that every variable other than the one under examination is held constant, so a single relationship can be isolated.

COMMON MISTAKE

Scarcity is not shortage. A shortage is temporary and specific — a market where quantity demanded exceeds quantity supplied at the current price. Scarcity is permanent and universal, and it exists even when every market is in equilibrium. Using the two words interchangeably will cost you marks.

Productivity is not production. Production is how much is made. Productivity is how much is made per unit of input. An economy can raise production by hiring more workers without raising productivity at all.

IN ONE SENTENCE Scarcity forces choice; choice carries an opportunity cost. Every idea in this topic follows from those two sentences.

SECTION 2 The basic economic problem

2.1 Relative scarcity

- Human wants are unlimited and recurring, while the resources available to satisfy them are finite. This mismatch is the basic economic problem.
- The problem is one of relative scarcity. Resources are scarce relative to wants. Even a very wealthy economy faces it, because its wants expand alongside its capacity.
- Because not every want can be met, every society must decide which wants to satisfy and which to leave unsatisfied. Economics is the study of how those decisions are made.

2.2 Needs and wants

KEY DEFINITION

Two kinds of demand on scarce resources

Needs. Goods and services required for survival — food, water, shelter, basic clothing and health care.

Wants. Goods and services that are desired but not essential for survival. Wants are unlimited, change over time, and are shaped by income, technology, advertising and culture.

Why the distinction matters less than you think. Economics treats both as demands on the same finite pool of resources. The problem is not that wants are frivolous; it is that they exceed what the resources can deliver.

2.3 Who faces the problem

The basic economic problem applies at every level of decision-making. The syllabus expects you to describe it at each of these levels.

Decision-maker	The scarce resource	A typical choice
Individuals	Income, time	Work an extra shift or study for an exam
Businesses	Capital, labour, finance	Invest in new equipment or hire more staff
Local government	Rate revenue	Upgrade a library or resurface roads
State government	Tax revenue, borrowing capacity	Build a hospital or a rail line
National government	Tax revenue, borrowing capacity	Fund defence or expand aged care
International bodies	Member contributions, aid budgets	Direct aid to famine relief or to vaccination

BRETTONOMICS INTERACTIVE

The Basic Economic Problem — choose a decision-maker, rank your wants and watch which ones go unmet as resources run out
brettonomics.com/economic-problem

IN ONE SENTENCE Scarcity is relative and universal — it binds individuals, firms and governments at every level.

SECTION 3 Opportunity cost and decision-making

3.1 Defining opportunity cost

- Opportunity cost is the value of the next best alternative forgone — the single most valuable option not chosen.
- It is not the total of all rejected alternatives. If you could have gone to work, to the beach or to the gym, and work was the best of those, the opportunity cost of studying is work alone.
- Opportunity cost includes more than money. Time, enjoyment and forgone experience all count, which is why the cost is measured subjectively by the decision-maker.

3.2 Why benefits are measured subjectively

KEY DEFINITION

Benefit is in the eye of the decision-maker

The comparison. A rational decision-maker chooses an option when the benefit they expect from it exceeds the benefit of the next best alternative.

Why it is subjective. Benefit is valued by the person making the decision, not by an outside observer. Two students facing the same choice may reach opposite decisions without either being irrational.

What this explains. It explains why different individuals, firms and governments allocate the same resources to different uses — their valuations differ.

3.3 Worked example

WORKED EXAMPLE

Calculating an opportunity cost, step by step

The situation. A school leaver can take a full-time job paying $52,000, study a three-year degree, or take a gap year travelling.

The choice. They enrol in the degree.

Identify the next best alternative. They rate the job above the gap year, so the job is the next best alternative.

State the opportunity cost. The opportunity cost is the job — roughly $156,000 in forgone earnings over three years, plus the work experience they would have gained.

Do not add the gap year. The gap year was ranked third. It is forgone, but it is not the opportunity cost.

Note what is missing. Tuition fees are a direct monetary cost, not an opportunity cost. Keep the two separate in your answer.

EXAM TIP

Name the alternative explicitly. Answers that say "the opportunity cost is the money" score poorly. Answers that name the forgone alternative, state its value and explain why it was the next best option score well.

IN ONE SENTENCE Opportunity cost is the next best alternative forgone — one alternative, valued subjectively, not the whole list.

SECTION 4 Factors of production and factor incomes

4.1 The four factors and what each earns

Factor	What it covers	Income earned
Land	All natural resources — soil, minerals, water, forests, fisheries, the physical site itself	Rent
Labour	Human physical and mental effort applied to production, including skill and education (human capital)	Wages
Capital	Produced means of production — machinery, tools, buildings, infrastructure, software	Interest
Entrepreneurial ability	Organising the other three factors, bearing risk and innovating	Profit

COMMON MISTAKE

Money is not capital. In economics, capital means produced goods used to make other goods. Money is a financial asset that can buy capital; it is not itself a factor of production. Writing "capital means the money a business has" is a common and costly error.

Land is more than dirt. Land covers every natural resource, including mineral deposits, fish stocks and the electromagnetic spectrum.

4.2 Why the link to income matters

- Each factor earns a return, and those returns are how income is distributed across the economy.
- This link is the foundation of the circular flow of income model you meet in Topic 2: households supply factors to businesses and receive factor incomes in return.
- It also connects to equity. Who owns the factors determines who receives the income, which is a question about distribution rather than efficiency.

AUSTRALIAN CONTEXT

Australia's factor endowment. Australia is land-abundant and labour-scarce relative to its major trading partners. Extensive mineral and agricultural resources support a large resources sector, while a population of about 28 million (27.9 million at March 2026) spread across a continent raises the cost of infrastructure.

Why it shapes the economy. This endowment explains Australia's export composition, its historical reliance on imported capital and skilled migration, and the policy attention given to productivity growth.

BRETTONOMICS INTERACTIVE

Factors of Production — sort resources into the four factors, then match each factor to the income it earns

brettonomics.com/factors-of-production

IN ONE SENTENCE Land earns rent, labour earns wages, capital earns interest and enterprise earns profit — the basis of income distribution.

SECTION 5 Models and assumptions in economics

5.1 What an economic model is

- A model is a deliberate simplification of reality that isolates the relationships an economist wants to examine.
- Models strip away detail on purpose. A model that captured every influence on an economy would be as complicated as the economy itself and would explain nothing.
- A model is judged by whether it is useful — whether it predicts and explains — not by whether its assumptions are literally true.

5.2 The role of ceteris paribus

KEY DEFINITION

Holding everything else still

The assumption. Ceteris paribus means "all other things being equal" — every variable other than the one being examined is held constant.

Why it is needed. In the real world many variables change at once. Without holding the others still, the effect of any single variable could not be isolated.

The limitation. Other things are rarely equal. A prediction drawn under ceteris paribus tells you the direction of one influence, not the final outcome once everything else moves too.

EXAM TIP

Use the assumption, then relax it. Strong answers state the ceteris paribus prediction first, then identify which other variable is likely to move in the scenario and how that changes the result. This shows the examiner you understand the assumption rather than reciting it.

5.3 Evaluating a model

- **Step 1:** identify the assumptions the model makes.
- **Step 2:** explain what the model shows clearly and usefully.
- **Step 3:** identify which assumptions are unrealistic and what the model therefore leaves out.
- **Step 4:** judge whether the omissions matter for the question being asked.

IN ONE SENTENCE Models simplify deliberately; ceteris paribus isolates one relationship at a time.

SECTION 6 The production possibility curve

6.1 What the model assumes

- The economy produces only two goods, or two categories of goods.
- The quantity and quality of resources are fixed.
- The state of technology is fixed.
- All resources are fully employed and used efficiently.
- The analysis covers a fixed period of time.

6.2 The nine concepts the curve illustrates

Concept	Where it appears on the diagram
Scarcity	Points beyond the curve are unattainable with current resources and technology
Choice	Society must select one point on the curve from the many available
Opportunity cost	Moving along the curve, more of one good requires less of the other
Trade-offs	The slope of the curve — the rate at which one good exchanges for the other
Underutilisation	Any point inside the curve, where resources are idle or misallocated
Unemployment	A point inside the curve caused specifically by idle labour
Efficiency	Any point on the curve — productive efficiency, with no resources wasted

Concept	Where it appears on the diagram
Productivity	A rise in output per unit of input pushes the curve outward
Economic growth	An outward shift of the whole curve, raising productive capacity

6.3 Why the curve is usually bowed outward

KEY DEFINITION

Increasing opportunity cost and the shape of the curve

The shape. A concave, bowed-out curve shows increasing opportunity cost — each additional unit of one good costs progressively more of the other.

The reason. Resources are not equally suited to both uses. The resources best suited to producing good A are transferred first; as production expands, increasingly unsuitable resources must be switched across.

The straight-line case. A straight-line curve shows constant opportunity cost, which assumes resources are perfectly substitutable between the two uses. This is the simpler case and it is rarely realistic.

COMMON MISTAKE

Inside the curve is not "on the way to" the curve. A point inside represents genuine waste — unemployed labour, idle capital or resources used in the wrong place. It is not a staging post. Identify the cause when you describe it.

Growth shifts the curve; it is not a move along it. Moving from one point on the curve to another is a reallocation, not growth. Only an outward shift of the curve itself is economic growth.

BRETTONOMICS INTERACTIVE

Production Possibilities Curve — slide along the frontier to watch opportunity cost rise, drag the curve to model growth, and place output inside or beyond it
brettonomics.com/production-possibilities-curve

IN ONE SENTENCE Every point on the curve is efficient; inside is waste; beyond is unattainable; shifting outward is growth.

SECTION 7 Using the curve to analyse economic events

The syllabus requires you to analyse and evaluate the effect of real events on the production possibility curve. Work out whether the event changes the quantity or quality of resources, and whether it affects both goods or only one.

7.1 Events that shift the whole curve outward

- **Improvements in health:** a healthier workforce supplies more hours and loses less time to illness, raising the quantity and quality of labour.
- **Improvements in education:** education raises human capital, so each hour worked produces more output.
- **Rising labour productivity:** better methods or equipment raise output per hour across the economy.
- **Population growth or capital investment:** more workers, or more machines, expand capacity even if productivity is unchanged.

7.2 Events that shift the curve inward

- **War:** destroys capital and reduces the labour force, contracting productive capacity.
- **Famine:** reduces the health and size of the workforce and can degrade agricultural land.
- **Natural disaster:** floods, bushfires and cyclones destroy capital and land.

7.3 Asymmetric technology advances

WORKED EXAMPLE

Drawing an asymmetric technology advance

The situation. A new technology raises productivity in agriculture but has no effect on manufacturing. Agriculture is on the vertical axis and manufacturing on the horizontal axis.

Draw the original curve. Mark both intercepts — the maximum of each good if all resources went to it.

Shift only the affected intercept. The agriculture intercept moves outward; the manufacturing intercept stays where it is.

Pivot the curve. The curve rotates about the unchanged intercept rather than shifting outward as a whole.

State the consequence. Productive capacity rises, but only for one good. The opportunity cost of manufacturing, measured in agriculture forgone, has increased.

Note the choice that remains. The economy can now have more agriculture, or the same agriculture with more manufacturing, depending on where it chooses to produce.

7.4 The capital goods trade-off

KEY DEFINITION

Why investment today shifts the curve tomorrow

The choice. With consumer goods on one axis and capital goods on the other, an economy chooses how much of its current output to devote to each.

The trade-off. Producing more capital goods today means fewer consumer goods today — a real sacrifice in present living standards.

The payoff. Capital goods add to the productive capacity available next period, so the curve shifts further outward in future. Present consumption is traded for future growth.

EXAM TIP

Always say which axis moves. When analysing an event, state explicitly whether both intercepts move, only one moves, or the economy moves to a different point on the same curve. That single sentence separates a strong answer from a vague one.

IN ONE SENTENCE Events that change resources or technology shift the curve; events affecting one good only pivot it.

SECTION 8 The three economic questions, efficiency and equity

8.1 The three basic economic questions

Question	What it asks	What the answer determines
What and how much to produce?	Which goods and services, and in what quantities	The allocation of resources between competing uses
How to produce?	Which combination of factors and which production methods	The efficiency of production and the demand for each factor
For whom to produce?	Who receives the output that is produced	The distribution of income and wealth

Every economic system, whatever its political arrangement, must answer all three. Systems differ in the mechanism they use, not in whether the questions arise.

8.2 Efficiency and equity

KEY DEFINITION

Two separate standards

Efficiency. Concerns the use of resources — whether output is maximised from the resources available, with none wasted.

Equity. Concerns the ownership and distribution of resources and the income they generate — whether the outcome is fair.

Why they are different questions. Efficiency is a technical judgement that economics can largely settle. Equity is a normative judgement about fairness, on which reasonable people disagree.

COMMON MISTAKE

Efficient does not mean fair. An economy can be perfectly efficient and deeply unequal at the same time. If every resource is fully employed and nothing is wasted, the economy is on its production possibility curve regardless of how the output is shared out.

8.3 The trade-off between them

- Policies that redistribute income — progressive taxation, welfare payments, minimum wages — improve equity but can blunt the incentives that drive efficiency.
- Policies that sharpen incentives — lower marginal tax rates, deregulation — may raise efficiency while widening the distribution of income.
- The trade-off is not absolute. Spending on education and health can raise both, by improving productivity and widening opportunity at the same time.

IN ONE SENTENCE Every system answers the same three questions; efficiency is about use of resources, equity about their distribution.

SECTION 9 Economic systems in the real world

9.1 The three systems

Term	What it means
Market economy	Resources are privately owned and the price mechanism answers the three questions. Prices signal scarcity, profit directs resources, and consumer spending determines what is produced.
Command (planned) economy	The state owns the resources and a central authority answers the three questions by plan rather than by price.
Mixed economy	Private ownership and the price mechanism operate alongside substantial government ownership, regulation and redistribution. Every real economy is mixed; systems differ by degree.

9.2 Comparing real economies

Economy	Position	How it answers the three questions
United States	Strongly market-oriented mixed	Private ownership and prices dominate; government provides defence, regulation and targeted welfare
United Kingdom	Market-oriented mixed	Private markets with universal public health care funded from taxation
Singapore	Market-oriented with a large state role	Open, competitive markets alongside state-owned land, sovereign investment vehicles and public housing
Norway	Mixed with extensive redistribution	Competitive markets, high taxation, broad welfare, and state ownership of petroleum assets
Saudi Arabia	State-dominated resource economy	State control of petroleum revenue directs resources; diversification pursued through state-led investment
China	Socialist market economy	Markets allocate much output, while state-owned enterprises dominate strategic sectors under central planning targets
Cuba	Predominantly command, partially reformed	State ownership and planning dominate, with a limited and growing private small-business sector
North Korea	Command	Central planning and state ownership, with markets tolerated informally rather than legally

AUSTRALIAN CONTEXT

Norway's petroleum fund. Revenue from state-owned petroleum assets is invested through the Government Pension Fund Global, worth about 21 trillion Norwegian kroner — roughly two trillion US dollars — at the end of 2025. It illustrates a mixed economy using public ownership of a natural resource to fund broad social provision.

Singapore's public housing. About three-quarters of Singaporeans live in flats built by the Housing and Development Board, the overwhelming majority of which are owner-occupied. A market economy can deliver housing through a large state programme without abandoning the price mechanism elsewhere.

What the comparison shows. No real economy sits at either extreme. The useful question is not "market or command?" but "which decisions are left to prices, and which are made collectively?"

EXAM TIP

Evaluate against criteria, not labels. When asked to evaluate how well a system resolves the three questions, judge it against stated economic criteria — efficiency, growth, living standards and equity — and support the judgement with evidence. Avoid arguing that one system is simply better.

BRETTONOMICS INTERACTIVE

Economic Systems — move the ownership, allocation and redistribution dials to see where real economies sit on the map

brettonomics.com/economic-systems

IN ONE SENTENCE Every economy is mixed; systems differ in how much is decided by prices and how much collectively.

ASSESSMENT Multiple choice questions

20 questions covering the basic economic problem, opportunity cost, the production possibility curve and economic systems. Answers and explanations follow the question set.

Question 1

The basic economic problem is best described as:

A. A temporary shortage of goods caused by production failures
B. Unlimited wants confronting limited resources, which forces choices to be made
C. The unequal distribution of income between rich and poor households
D. The tendency of prices to rise faster than wages over time

Question 2

A student chooses to study rather than work a shift, go to the gym or meet friends. They rank working second. The opportunity cost of studying is:

A. The gym session and meeting friends combined
B. All three forgone alternatives added together
C. The money spent on textbooks for the course
D. The shift at work

Question 3

Which of the following is classified as capital in economics?

A. A delivery van owned by a bakery
B. $50,000 held in the bakery's bank account
C. The mineral deposits beneath the bakery's land
D. The baker's skill in managing staff

Question 4

The income earned by the factor of production "land" is:

A. Interest
B. Profit
C. Rent
D. Wages

Question 5

A point located inside an economy's production possibility curve indicates that:

A. The economy is producing beyond its productive capacity
B. The economy has achieved productive efficiency
C. Technology has improved across both industries
D. Some resources are unemployed or being used inefficiently

Question 6

A production possibility curve that is bowed outward from the origin indicates:

A. Increasing opportunity cost, because resources are not equally suited to both uses

B. Constant opportunity cost, because resources are perfectly substitutable

C. Decreasing opportunity cost, because of economies of scale

D. That the economy is operating inefficiently

Question 7

An economy moves from one point on its production possibility curve to another point on the same curve. This represents:

A. Economic growth, because output of one good has increased

B. A fall in productive capacity caused by unemployment

C. A reallocation of resources between the two goods, not economic growth

D. An improvement in technology affecting both industries

Question 8

A new technology raises productivity in manufacturing but has no effect on agriculture. On a production possibility curve with agriculture on the vertical axis and manufacturing on the horizontal axis, the curve will:

A. Shift outward in parallel, with both intercepts moving equally

B. Pivot outward along the horizontal axis, with the agriculture intercept unchanged

C. Shift inward, because resources must be retrained

D. Remain unchanged, because only one industry is affected

Question 9

The ceteris paribus assumption is used in economics to:

A. Guarantee that economic predictions will prove correct

B. Ensure that all resources are fully employed in the model

C. Demonstrate that economic models reflect reality precisely

D. Hold all other variables constant so the effect of a single variable can be isolated

Question 10

Which statement correctly distinguishes productivity from production?

A. Production is total output, while productivity is output per unit of input

B. Production applies to goods and productivity applies to services

C. Production is measured in dollars and productivity in units

D. They are alternative terms for the same measurement

Question 11

The three basic economic questions are:

A. What to consume, when to save, and how much to invest

B. What and how much to produce, how to produce, and for whom to produce

C. How to raise taxes, how to spend them, and how much to borrow

D. What to export, what to import, and how to set the exchange rate

Question 12

The distinction between efficiency and equity is that:

A. Efficiency applies to businesses and equity applies to governments

B. Efficiency is measurable while equity cannot be assessed at all

C. Efficiency concerns how resources are used, while equity concerns how resources and income are distributed

D. Efficiency concerns the short run and equity the long run

Question 13

An economy is operating on its production possibility curve with a highly unequal distribution of income. This economy is:

A. Productively efficient, because no resources are being wasted

B. Productively inefficient, because the distribution is unfair

C. Operating beyond its productive capacity

D. Necessarily experiencing high unemployment

Question 14

In a pure market economy, the three economic questions are answered primarily by:

A. A central planning authority setting production targets

B. International institutions negotiating trade agreements

C. Elected representatives voting on an annual production plan

D. The price mechanism, through the decisions of private consumers and producers

Question 15

Which best explains why every real-world economy is described as mixed?

A. All economies have identical levels of government spending

B. All economies are transitioning from command to market systems

C. All economies combine private ownership and the price mechanism with some government ownership, regulation and redistribution

D. All economies produce both goods and services

Question 16

An improvement in the general health and education of a country's workforce will:

A. Move the economy along its existing curve toward more services

B. Shift the production possibility curve outward, because the quality of labour has risen

C. Shift the curve inward, because education diverts resources from production

D. Leave the curve unchanged, because the number of workers is the same

Question 17

A government chooses to devote a larger share of current output to capital goods rather than consumer goods. The most likely consequence is:

A. Higher consumption now and faster growth in future periods

B. No change in future capacity, because total output is unchanged

C. An immediate inward shift of the production possibility curve

D. Lower consumption now, but a larger outward shift of the curve in future periods

Question 18

Which of the following best illustrates the difference between scarcity and a shortage?

A. Scarcity is the permanent condition of limited resources; a shortage is a temporary excess of quantity demanded over quantity supplied at the current price

B. Scarcity applies to goods and a shortage applies to services

C. Scarcity occurs in command economies and shortages in market economies

D. Scarcity is caused by high prices and a shortage by low production

Question 19

An economic model is best evaluated by asking whether it:

A. Includes every variable that influences the real economy

B. Rests on assumptions that are all literally true

C. Usefully explains and predicts the relationships it was built to examine

D. Produces the same conclusion as every other model

Question 20

Norway funds extensive public services partly through state ownership of petroleum assets, while the United States relies more heavily on private ownership. This comparison best demonstrates that:

A. Command economies always deliver better living standards than market economies

B. Economies differ in how far they rely on markets rather than collective decisions, rather than falling into pure categories

C. Resource-rich economies cannot operate a price mechanism

D. Public ownership of resources always produces greater efficiency

ASSESSMENT Marking guide

Answer key

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
B	D	A	C	D	A	C	B	D	A
Q11	**Q12**	**Q13**	**Q14**	**Q15**	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**
B	C	A	D	C	B	D	A	C	B

Explanations

Q1 **B** The basic economic problem is relative scarcity — finite resources set against unlimited wants — and it is this that compels choice.

Q2 **D** Opportunity cost is the single next best alternative forgone. Working was ranked second, so it alone is the opportunity cost.

Q3 **A** Capital means produced goods used to make other goods. Money is a financial asset, mineral deposits are land, and managerial skill is entrepreneurial ability.

Q4 **C** Land earns rent, labour earns wages, capital earns interest and entrepreneurial ability earns profit.

Q5 **D** Points inside the curve represent waste — idle or misallocated resources. Points on the curve are efficient, and points beyond it are unattainable.

Q6 **A** The concave shape arises because the resources best suited to a good are transferred first; expanding output requires switching progressively less suitable resources.

Q7 **C** Economic growth requires an outward shift of the curve itself. Moving along the curve simply trades one good for the other.

Q8 **B** An asymmetric advance moves only the intercept of the affected good, so the curve rotates about the unchanged intercept.

Q9 **D** Ceteris paribus isolates one relationship at a time. It does not make a model realistic or its predictions certain.

Q10 **A** Productivity is a rate — output per unit of input per period. An economy can raise production by adding inputs without raising productivity.

Q11 **B** Every economic system must resolve these three questions; systems differ only in the mechanism they use to answer them.

Q12 **C** Efficiency is about maximising output from available resources; equity is a normative judgement about the fairness of the distribution.

Q13 **A** Efficiency and equity are separate judgements. Being on the curve establishes efficiency and says nothing about distribution.

Q14 **D** In a market economy, prices signal scarcity and profit directs resources, so decentralised private decisions answer the three questions.

Q15 **C** Real economies differ by degree rather than kind. Even strongly market-oriented economies have substantial public sectors, and command economies tolerate some market activity.

Q16 **B** Health and education raise human capital, so each hour worked produces more. Productive capacity rises and the whole curve shifts outward.

Q17 **D** Capital goods add to future productive capacity. The cost is forgone present consumption — a trade-off of current living standards for future growth.

Q18 **A** Scarcity is universal and permanent and persists even when all markets clear. A shortage is a specific, temporary market condition.

Q19 **C** Models simplify deliberately. A model is judged on explanatory and predictive usefulness, not on the literal realism of its assumptions.

Q20 **B** Both are mixed economies positioned differently on the spectrum. The useful question is which decisions are left to prices and which are made collectively.