SET - A: ANSWERS

1. **Use the supply-demand diagram and explain the market outcomes in the following situations.**
   - Situation 1: As Asani Cyclone hits Andhra Pradesh, the price of mango pickle rises. (1)

     As a result of the natural calamity, the crops are destroyed and the price of mangoes goes up because of a leftward shift in the supply curve. The leftward shift in the supply of mangoes corresponds to a rise in the input price for mango pickle and the price of mango pickle rises. **(Ideally shown with a diagram)**
   - Situation 2: Due to the pandemic, the price of passenger cars increases in the country (1)

     Because of pandemic, people prefer to use personal means of transport and avoid crowded spaces and public transport. This causes an increase in the demand for passenger cars (as a rightward or upward shift) and leads to an increase in the prices. **(Ideally shown with a diagram)**
2. **Answer the following.**
   a) What will be the nature of price elasticity of demand if there is an increase in the demand for red roses around Valentine's Day? (1)

   There will be no price elasticity of demand as the increase in demand for red roses is not because of a change in its own price. It is because of an external reason that leads to a shift in the demand curve. Further, since there is no price information provided, it is not possible to calculate.

   b) During the summer season, the price of sunscreen increased from Rs.150 to Rs.190 and the quantity demanded decreased from 120 units to 108 units. Calculate the price elasticity of demand for sunscreen. (1)

   Using midpoint method, the price elasticity of demand to be calculated as follows.

   Ep = (Q2 – Q1)/(Q2+Q1/2) / (P2 – P1)/(P2+P1/2)

   = (108-120)/ ((108+120)/2) / ((190-150)/ ((190+150)/2

   = (-12/114) / (40/170)

   = -0.105 / 0.235

   = 0.44

   c) What will happen to the total revenue in the sunscreen market? Justify your answer, graphically, using the information from the previous question. (1)

   The price elasticity of demand is 0.44. It indicates an inelastic nature of the price elasticity of demand for sunscreen during summer. As a result, the proportionate increase in price more than offsets the less proportionate decline in quantity demanded and the overall revenue increases.

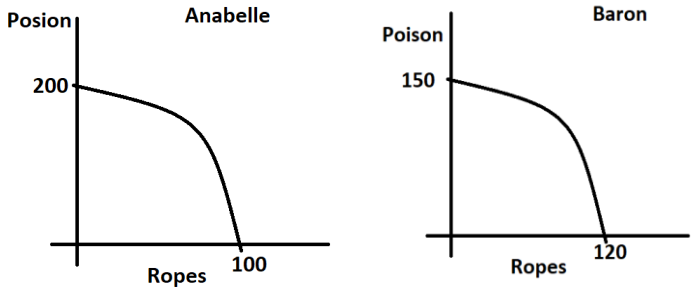
   Alternatively,

   Total revenue initially was = 150 * 120 = Rs.18000

   Total revenue now is = 190 * 108 = Rs. 20520
3. **Annabelle and Bloody Baron produce the following amounts of Ropes and Poison in a day**

	Ropes	Poison
Annabelle	100	200
Bloody Baron	120	150

   a) Draw the production possibility frontiers for the producers (1)



b) What is the opportunity cost for each producer in making these goods? (1)

	Rope	Poison
Angry Annabelle	2 poisons	0.5 rope
Bloody Baron	1.25 poisons	0.8 rope

c) Which producer has an absolute advantage in the production of each good? Which producer has a comparative advantage in the production of each good? (1)

Absolute advantage in Ropes: Bloody Baron

Absolute advantage in Poison: Angry Annabelle

Comparative advantage in Ropes: Bloody Baron

Comparative advantage in Poison: Angry Annabelle

4. The following four statements are either normative or positive. Three statements are of the same time. The odd one is (Do not just mention the choice, write the sentence) (1)

a) Government should spend 3% of GDP on education, if it wants 90% literacy

b) For each 1-year improvement in average life span, government must spend 3% of GDP on healthcare and nutrition

c) Government spends 3% of GDP for food security to BPL population

d) Government should take care of elderly by spending 3% of GDP on their insurance.

(c) Government spends 3% of GDP for food security to BPL population. This is stating a fact, and it can be empirically tested. This is a positive statement. All the others explain 'what ought to be', those are normative statements.

5. Suppose an economy has an outward bowed production-possibility frontier depicted as follows. Units of capital goods (in thousands) on X axis and consumer goods (in millions) on Y axis. The PPF intersects the X axis at 16 (point E) and Y axis at 18 (point A). The coordinates for point C are 8 and 11, respectively. What implication does the selection of point A or C have regarding the economy's current and future production of consumer goods and services? (1)

At point A, society has more consumer goods and services in the current period. Point C, however, provides the possibility of a larger quantity of consumer goods and services in the future because of additions to the economy's stock of capital resources. Here the economy's productive capabilities and thus production-possibilities frontier will expand (perhaps through the addition of a new factory) and thereby provide an increased output of consumer goods and services in a future period.

SET - B: ANSWERS

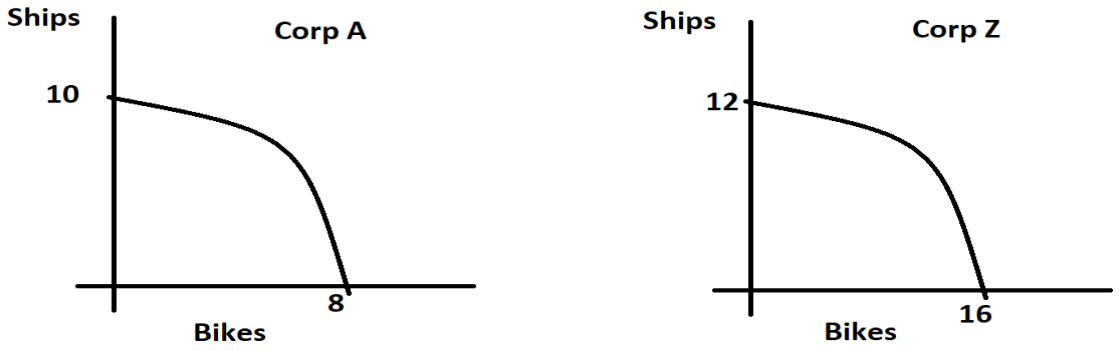
1. **Suppose an economy has the production-possibility frontier depicted as follows: Units of food (millions) on the X-axis, units of clothing (thousands) on the Y-axis. The PPF is bowed outward, and intersects the X-axis at 10 (millions) units (Point F), and intersects the Y-axis at 16 (thousand) units (Point A). Explain how the shape of the production-possibility frontier implies Increasing costs (0.25 marks) for the production of clothing (0.75) (1)**

   Increasing clothing and food costs are reflected in a concave (outward-sloping) production-possibility frontier. Moving down the frontier from point A to points B, C, D, E, and F shows that to produce 2 million incremental units of food (the 2-million-unit-length horizontal dashed lines), we must give up more and more units of clothing (the vertical dashed lines of increasing length).

2. **This chart shows the amount of outputs corporation A and Corporation Z can produce in 1 year.**

	Bikes	Ships
Corp A	8	10
Corp Z	16	12

   a) Draw the production possibility frontiers for the producers (1)



   b) What is the opportunity cost for each producer in making these goods? (1)

	Bikes	Ships
Corp A	1.25 Ships	0.8 Bikes
Corp Z	0.75 Ships	1.33 Bikes

   c) Which producer has an absolute advantage in the production of each good? Which producer has a comparative advantage in the production of each good? (1)

   Absolute advantage in Bikes: Corp Z
   Absolute advantage in Ships: Corp Z
   Comparative advantage in Bikes: Corp Z
   Comparative advantage in Ships: Corp A

3. **_____ questions have to do with explanation and prediction, _____ questions have to do with 'what ought to be' (1)**

Positive questions have to do with explanation and prediction, **Normative** questions have to do with 'what ought to be'.

4. Use the supply-demand diagram and explain the market outcomes in the following situations.

- Situation 1: Due to rising Covid-19 cases, the price of movie shows declines (1)

  As a result of the pandemic, people opt out from watching movies on theatres and prefer safer modes such as OTTs. This causes a leftward shift in the demand for movie shows leading to a decline in movie prices. **(Ideally shown with a diagram)**

- Situation 2: Flood in Brahmaputra causes a rise in the price of rice in Guwahati (1)

  As a result of the natural calamity, the paddy fields are destroyed causing a leftward shift in the supply of rice. The leftward shift in the supply of rice leads to an increase in the price of rice. **(Ideally shown with a diagram)**

5. Answer the following.

a) What will be the nature of price elasticity of demand if there is an increase in the demand for Indian flag on Independence Day? (1)

There will be no price elasticity of demand as the increase in demand for Indian flag is not because of a change in its own price. It is because of an external reason that leads to a shift in the demand curve. Further, since there is no price information provided, it is not possible to calculate.

d) During the winter season, the price of sweatshirts increased from Rs. 1200 to Rs. 1750 and the quantity demanded decreased from 173 units to 158 units. Calculate the price elasticity of demand for sweatshirts. (1)

Using midpoint method, the price elasticity of demand to be calculated as follows.

Ep = (Q2 – Q1)/(Q2+Q1/2) / (P2 – P1)/(P2+P1/2)
= (158-173)/ ((158+173)/2) / ((1750-1200)/ ((1750+1200)/2
= (-15/165.5) / (550/1475)
= -0.090 / 0.373
= 0.24

e) What will happen to the total revenue in the sunscreen market? Justify your answer, graphically, using the information from the previous question. (1)

The price elasticity of demand is 0.24. It indicates an inelastic nature of the price elasticity of demand for sunscreen during summer. As a result, the proportionate increase in price more than offsets the less proportionate decline in quantity demanded and the overall revenue increases.
Alternatively,
Total revenue initially was = 1200 * 173 = Rs. 207600
Total revenue now is = 1750 * 158 = Rs. 276500