Q1) In class we described a simplified model of trade between Egypt and Mesopotamia in ancient times. Each produced only food and textiles; Egypt exported food to Mesopotamia in exchange for textiles. (50 points total)

A. Draw a diagram to illustrate the production possibility frontiers of each of those ancient civilizations, which shows the terms of trade between them, their choice of production and their choice of consumption. (10 points)

To get full credit, please make sure you label all three components (terms of trade, production point, and consumption bundle) in your diagram clearly.

Legend: Blue line represents Mesopotamia’s PPC
Green line represents Egypt’s PPC
Orange line represents the terms of trade

Point A represents the production point, where Egypt would produce \((F_{\text{Egypt}}^{1}, T_{\text{Egypt}}^{1})\), while Mesopotamia would produce \((F_{\text{Meso}}^{1}, T_{\text{Meso}}^{1})\).

Through trade, point B becomes attainable. It represents each country’s consumption bundle, where Egypt would consume \((F_{\text{Egypt}}^{2}, T_{\text{Egypt}}^{2})\), while Mesopotamia would consume \((F_{\text{Meso}}^{2}, T_{\text{Meso}}^{2})\). Note that that curved dash line at point B represents Mesopotamia’s indifference curve.
B. Sometime between -3000 and -2000 trade began between the Indus Valley Civilization (in what is today Pakistan and western India) and Mesopotamia. Assume that
a) this civilization also produces only food and textiles and that before they began trading with Mesopotamia,
b) the Indus Valley had a lower price of food (in terms of textiles) than did Mesopotamia in the absence of trade with anyone, and
c) Egypt and Mesopotamia were already trading when the Indus Valley joined.

B.1. Does the Indus Valley gain from the entry of the Indus Valley into trade with Mesopotamia and Egypt? [Yes / No ]
Explain briefly: (10 points)
Yes because there are mutual benefits of trading between the Indus Valley and Mesopotamia. Since the Indus Valley had a lower opportunity cost of producing food, while Mesopotamia had a comparative advantage in producing textiles, by trading, each country would be able to attain a higher indifference curve, which allowed them to reach a consumption bundle that would had been unavailable without trade.

B.2. Does Egypt gain from the entry of the Indus Valley into trade with Mesopotamia and Egypt [Yes / No ]
Explain briefly: (10 points)
No because with the Indus Valley also producing food, the price for food in the world market would become lower than before. For Egypt, the terms of trade would decrease. In other words, a higher quantity of food would be needed to exchange for one unit of textile produced by Mesopotamia. (Note: Partial credit was given for those who assumed the case that Egypt would only trade with the Indus Valley, should their opportunity cost of producing either good to be lower compared to trading with Mesopotamia.)

B.3. Does Mesopotamia gain from the entry of the Indus Valley into trade with Mesopotamia and Egypt [Yes / No ]
Explain briefly: (10 points)
Yes because Mesopotamia would now have an additional trading partner, who also incurred a lower cost of producing food, thus increased Mesopotamia’s terms of trade. Using the logic given in part B.2., trading with the Indus Valley would allow Mesopotamia to reach a higher indifference curve, which enabled the country to attain a consumption bundle that would be unattainable compared to when no trade took place.

B.4. Now assume that Mesopotamians specialize in either producing food or producing textiles. Your family produces food. Will your family gain from the entry of the Indus Valley into trade with Mesopotamia and Egypt? [Yes / No ]
Explain briefly: (10 points)
No. Both the Indus Valley and Egypt would specialize in producing food. As a family that lived in Mesopotamia, the entrance of the Indus Valley would further reduce the price of food traded in the market, which would reduce the terms of trade of that food-producing family.
Q2) A. What is a corporation? (5 points)

A corporation is an enterprise distinct from owners which can make its internal rules, own property, create contracts, file legal claims, and will continue to exist even if its founders die. Owners need not be responsible for corporate debts as individuals.

B. What are the three characteristics of full property rights? (15 points)

Excludability: feasible and practical to exclude use to others
Transferability: feasible and practical to transfer ownership
Rivalry: when the property is used by one person, its value to others is reduced

C. What does the Coase theorem state about optimal investment and economic efficiency? (10 points)

The distribution of property has no real effect on the efficiency of its use if full property rights are clearly defined and strong enough to prevent any impediment to contracting. Optimal investment can be achieved by the minimization of transaction costs.

D. Use the concept of property rights to explain the increase why the absence of the legal concept of a corporation could have hindered economic development in the Ottoman Empire. (10 points)

During the Ottoman Empire only partnerships and sole proprietorships were allowed. Unlike the case for a corporation, these types of legal entities would cease once the owner died. This prevented the consolidation of financial capital required to reach efficient scale in business, especially in those involving risk. In principle, financial capital could have been consolidated through loans, but large enterprises were restricted by the legal ban on interest (small enterprises were less restricted). The Ottoman government would frequently violate excludability through high taxation or even confiscate individual properties, arguing that “all property belongs to God.” These deterrents to investment prevented merchants from emerging as a strong economic or political force, as they did in Europe.

E. What evidence about the economic activities of Non-Muslim religious minorities in the Ottoman Empire could be brought to support your claim in (D)? (10 points)

Due to the existence of Islamic legal pluralism, Christians and Jewish minorities chose to do business under their own or Western laws. They frequently built business networks with foreigners, learned Western business methods, and brought business disputes to Western courts for settlement. They dominated the foreign trade, brokerage, and banking businesses. Greek and Armenian agents were frequently hired in the insurance industry. The fact that minorities prospered in economic sectors where Muslim law lagged behind, despite the special tax paid by nonbelievers, is evidence that the absence of legal corporations hindered economic development for Muslims.
Q3) A. What is a monopsony? (5 points)

*Monopsony is a market condition in which there are many sellers producing a homogeneous good but there is only one buyer of the good in the market. This is an example of market failure, since, as the only demander of the good, the buyer could exercise market power by manipulating the quantity demanded, thus affecting the price that buyers can charge.*

B. Explain using a diagram or calculus how a monopsony price is set. (15 points)

*To get full credit, you have to label and define everything on the graph clearly. For simplicity, we can assume a perfectly elastic demand curve.*

![Diagram showing the comparison between competitive and monopsony market conditions.](attachment:image.png)

*From the diagram, under a competitive market, $Q^*$ units of goods, charged at $P^*$, should be produced. However, since there is only one buyer in a monopsony, which enables the buyer to exercise a perfectly elastic demand, the buyer would demand only $Q^{Monop}$ units of goods. By demanding at a level $Q^{Monop} < Q^*$, the buyer pays at a price represented as $P^{Monop}$, instead of $P^*$.*

C. What is a buyer’s cartel? (5 points)

*A buyer’s cartel occurs when a group of buyers exercise bargaining power to influence the price charged in the market by colluding to reduce the quantity demanded (as a monopsonist would). An example of a buyer’s cartel would be the “Seven Sisters.”*

D. Describe the episode in Middle Eastern history that the concept of a buyer’s cartel helps explain. Include a description of how that episode ended. (Feel free to continue on the back of the page). (25 points)

*Upon to the 1950s, Western oil companies (the Seven Sisters), controlled the price of crude oil through the formation of a buyer’s cartel. However, their influence on crude prices was lowered as competition between buyers increased between 1950 and 1960. Due to an increase in worldwide oil demand, the reduced political influence of importing countries, and increased cooperation among Middle Eastern producers during the Yom Kippur War, OPEC gained market power starting in 1960, thus ending the episode of a buyer’s cartel. As a result, a seller’s cartel was created.*