Introduction to Economics

Candidate should answer all **EIGHT** questions in Section A and **BOTH** questions in Section B.

Please find questions on the following page.

Section A

Please indicate if the statement is true/false/uncertain and provide an explanation.

1. Isocost curves are usually downward sloping and convex to the origin.
2. Kai and Alexei got into a fight over the best book that was ever written. They must decide whether to insist on their own book and escalate the situation or attempt to de-escalate it by talking about movies. Given their payoffs in the game tree below Kai has a dominant strategy.

Kai/Alexei	Insist on book	Change topic
Insist on book	2,2	0,3
Change topic	0,0	1,3

3. If a government sets a tax to provide a public good, the amount provided will be the efficient one.
4. In an Edgeworth box, there are two endowment points.
5. Consider a small closed economy. We have $C = a + cY, G = G_0$ and $I = I_0 - br + jY$ where G_0 is autonomous government expenditure, I_0 is the autonomous part of investment, a, b, and j are positive parameters, and $0 < c < 1$. In this case the multiplier is $1/(1 - c)$.
6. The Purchasing Power Parity theory proposes that, in the long run, the value of the exchange rate between two currencies depends on their relative purchasing power.
7. If the monetary authority reduces the interest rate then investment will fall as return from financial assets falls.
8. If oil prices temporarily rise, the monetary authority is unlikely to intervene as this will not affect the long run equilibrium output.

Section B

Q9

Atorvastatin is commonly used to lower cholesterol levels and reduce the risk of cardiovascular events.

a) Pfizer produced this drug under the brand-name Lipitor. Assuming that Pfizer is a monopoly, calculate the profit maximising quantity, price and profits that Pfizer would set if the demand was $P = 150 - 2Q$ and the total cost function was $C(Q) = 6Q$. [7 marks]

b) The patent for Lipitor expired in 2011. Following its expiry, a competitor, GenericPharma, entered the market. Determine the Bertrand-Nash equilibrium in this market assuming the same demand as in part a), where $Q = q_P + q_{GP}$ where q_P is the production of Pfizer and q_{GP} the one from GenericPharma and each firm has $C(q) = 6q$. Explain whether consumers and firms gained from the expiry of the patent. [8 marks]

c) Discuss how the market outcome would change if additional generic manufacturers could enter the market freely. Consider the changes this would imply for consumer and producer surplus. [5 marks]

d) Suppose the government introduces a subsidy per unit for producers of Atorvastatin. Using a diagram, illustrate the impact of this subsidy on the market outcome. Discuss the implied changes in prices, quantities, and the overall welfare. [10 marks]

Q10

a) Consider the Solow growth model where $Y = F(K, L)$. Y is output, K is capital stock and L is the work force. Derive the steady state equilibrium condition of this model if δ is the depreciation rate, s is the savings rate, and n is the labour force growth rate, and draw the diagram showing the equilibrium. [10 marks]

b) Recently there have been many storms that have caused much damage to the capital stock in the US. Assess the impact of this on output per worker and, capital per worker and growth of output in the short and the long run. [10 marks]

c) Assume $F(K) = K^{1/2}L^{1/2}$, s is 20%, δ is 4% and n is 4%. Specify the production function and find how much capital per worker will change over time starting from $k = 4$. What is the steady state value of k? [10 marks]

End of paper