

M.A. Examination, 2019

Semester-II

Economics

Course: C6

(Micro Economics-2)

Time: 3 Hours

Full marks: 40

Questions are of value as indicated in the margin

Answer *any four* questions.

1. (a) When does an (expected) utility function on the space of lotteries have the von-Neumann-Morgenstern form?
(b) Show that an Utility function has the VNM form if and only if it is linear? 3+7
2. (a) Derive and explain the Arrow Pratt measure of risk aversion.
(b) If a competitive insurance company charges 'actuarially fair premium, show that the consumer will purchase full insurance. 3+7
3. Consider a market for a good with two groups of consumers (50 in each group) who have individual demand functions
 $D^1(p)=20-p$
 $D^2(p)=10-p$
(a) If a simple monopolist who has a unit cost of production $c = 2$ is permitted to charge a single price for the good, what price would he charge? What would be the profits?
(b) If the monopolist is permitted to charge an entry fee as well as a per unit price (i.e a two part tariff) what is be the entry fee and price? Is the profit higher in this case? 3+7
4. A Monopolist produces a durable good that lasts for only two periods. The cost of production is zero and the common discount factor is $\delta=1/(1+0.1)$. The demand for the good in each period is $D(p)=10-p$ show that
(a) if the monopolist rents out the good in each period then the optimal (profit maximizing) rental rate charged by the monopolist would be the same in both periods.
(b) Show that if the monopolist sells the good in each period and a resale market exists in which goods sold in the first period can change hands, then the first period price always exceeds the second period price. 3+7
5. (a) Using an example, describe the method of arriving at an equilibrium of a simultaneous move game through the iterated elimination of dominated strategies.
(b) Describe the Bertrand Duopoly game where firms compete in prices. Show how the equilibrium of this game is obtained by iterated removal of dominated strategies in the case where (i) unit cost of both firms are equal, (ii) unit cost of firm 1 is lower than firm 2 4+6
6. (a) Define a Sub-Game perfect Equilibrium.
(b) In the context of a Stackelberg duopoly with quantity competition explain the concept of first-mover advantage. 3+7

P.T.O.

(2)

7. (a) Show that it is usually difficult to sustain collusion in duopoly context when the firms operate and interact for a finite number of periods.
- (b) Can collusion be sustained if the firms operate / interact for a infinite number of periods? If so, under what conditions? 6+4
8. (a) Explain the concept of adverse selection in the context of a model of used cars.
- (b) Show that the problem of adverse selection occurs only if the proportion of bad cars ("lemons") is high enough.
- (c) How can the good car owner signal that her car is a good one? 4+3+3
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