

M.A. Examination, 2015
Semester-II
Economics
Course – V
(Microeconomics - II)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer *any four* questions

1. (a) Define the von-Neumann – Morgenstern form of the (expected) utility function.
(b) Clearly state the axioms of the von-Neumann-Morgenstern expected utility theorem.
(c) Which of these axioms is violated by the Allais Paradox? Explain this paradox using a numerical example. 1+3+6
2. (a) Show that a competitive insurance company always charges “actuarially fair” premium rate.
(b) Show that a risk-averse consumer will buy full insurance if the premium rate is “actuarially fair”.
(c) Explain the ‘adverse selection’ problem in the context of the insurance market. 3+4+3
3. (a) Define a Dominant Strategy Equilibrium (DSE) and Nash Equilibrium (NE) and provide an example of each type of equilibrium.
(b) Show that a DSE is always a NE but the converse is not necessarily true. 4+6
4. (a) Explain the method of arriving at an equilibrium by iterated elimination of dominated strategies using a numerical example.
(b) What is a Rationalisable strategy?
(c) Show that in a Second Price Sealed Bid Auction players will always bid their true values in equilibrium. 2+1+7
5. Consider a monopolist producing a durable good at zero marginal cost of production, where $\delta = \frac{1}{1+r}$ is the common discount rate for producers and consumers : There are two periods
(a) Show that if the monopolist chooses to rent the product the entire production is carried out in the first period and the price charged is the same in both periods.
(b) Does the price remain the same if the monopolist chooses to sell the product?
(c) Under which system, renting or selling, does the monopolist make higher profits? 2+4+4

P.T.O.

6. A buyer is ready to pay at most Rs 200/- for a k.g of fish while the minimum at which the seller will sell is Rs 100/-. They have a common discount rate of $\delta = 0.8$. They engage in alternate offers bargaining
- (a) Assuming that there are 3 periods and the seller makes the first offer what is the price of fish?
 - (b) At what price would the fish be sold if the seller and buyer can bargaining for an infinite number of periods? 4+6
7. (a) Explain the concept of Moral Hazard using an example.
- Consider a Principal-Agent problem where a Principal (landlord, owner) delegates a task to an Agent (worker, manager) and the output depends on the Agents effort and some random variable (rainfall, demand uncertainty). Show that
- (i) if the Principal is risk-neutral and there is no Moral Hazard, he will give the Agent a fixed-wage contract.
 - (ii) show that in case of Moral Hazard the contract will change to a sharing contract (sharecropping, commission). 2+6+2
8. Consider a monopolist who does not know the demand level of her customer – but only that he has low demand with probability p and high demand with probability $(1-p)$. Show that the best option of the monopolist is to offer a pair of quantity – price pairs such that:
- (a) The low demand customer gets no consumers surplus but the high demand customer does so.
 - (b) The high demand customer buys the efficient amount (i.e. the amount he would buy if his demand were known) but the low demand customer buys an inefficient (less than efficient) amount. 5+5
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