Indian Institute of Technology Patna

HS201: Introductory Microeconomics

Mid Semester Examination /2017

Marks:30 Time : 2 hours

Answer all the questions

1. For answering five questions below use the following table which illustrates the operation cost of a firm over a limited output range.

(1+1.5+1.5+1.5+1.5=7 marks)

Output	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Total cost in Rs.	100	125	140	160	220	310	450	600	1,500	2,500	5,000

a. What is the fixed cost for the firm?

b. What will be the average cost of production when 5 items are produced?

c. Calculate the marginal cost of the 6th unit.

d. The firm exhibits diminishing returns to the variable factor from which level of output.

e. Calculated Average Variable Cost (AVC) per unit when 6 units are produced.

2. Using appropriate diagram(s) demonstrate and briefly explain the relationship between the change in income and consumers' demand for normal goods and inferior goods. (8 Marks)

3. The demand function for a hotel is Qd=500−2P where quantity is no of days spent in hotel per quarter and P is in £ per day. How much would the consumer surplus change if rising cost of housekeeping staff led the hotel to raise price from £70 to £90. (5 Marks)

4. Write True/False for the following statements : (0.5x20=10 Marks)

A. A set of bundles that a consumer with a given income can afford, and among which she or he is indifferent is named as an indifference curve.

B. More is favored to less mean that if the total number of goods in a particular bundle A exceeds the total quantity in the bundle B, than A is preferred to B.
C. For constructing a utility function over a set of preferences assumptions of completeness, two-term consistency, transitivity and continuity are necessary.
D. The utility function $V(x_1, x_2) = 4[U(x_1, x_2)]/3+9$ represents the equal preference ordering as the utility function $U(x_1, x_2)$.
E. An individual requires increasing amounts of one good as he/she gives up more and more of the other good to remain at the same utility level is named as a diminishing marginal rate of substitution (DMRS).
F. More is preferred to less implies that two bundles with different amounts of either good 1 or good 2 and the same amount of the other good cannot be on the same indifference curve.
G. Interpersonal comparisons cannot be made because utility is ordinal and not cardinal.
H. The Marginal rate of substitution (MRS) for indifference curve $x_1 + x_2 = c$ is diminishing.
I. The indifference curve between garbage and potato chips would be positively sloped.
J. If Sachin's indifference curve between income and leisure is positively sloped and convex, then the additional income required to induce Sachin to work additional hours is constant and equal to his current wage.
K. Consumer surplus is named as an exact measure of the individual's willingness to pay for the opportunity to purchase a car at some price.
L. In a situation of zero substitution effect, a consumer will be indifferent between a subsidy on each unit consumed of some good and a lump-sum cash subsidy that costs the government an equal amount of money.
M. If the government can subsidize a low-income family with a subsidy on clothing or with a lump-sum cash transfer and both programs are equally costly to the government, then the family will be better off with the subsidy on clothing.
N. If the government wants to increase its revenue through a tax on some good, then it can collect more revenue through a lump sum tax than through a per-unit tax that would leave the individual at the same utility level.
O. The higher the price of a good, the larger the Consumer Surplus associated with that good will be.
P. Assume that a down sloping demand curve intersects a vertical supply curve. A leftward shift in the supply curve will result in a surplus of a product.
Q. All inferior goods are Giffen goods.
R. All Giffen goods are inferior goods.
S. If the income elasticity of a good is negative, the demand curve of that curve must be negatively sloped.
T. A movement along the demand curve is called change in the demand.