CLASS: IMSc.   SEMESTER : III
BRANCH: QEDS   SESSION : MO/2022

SUBJECT: ED203 INTERMEDIATE MICROECONOMICS

TIME: 3:00 Hours   FULL MARKS: 50

INSTRUCTIONS:
1. **The question paper contains 5 questions each of 10 marks and total 50 marks.**
2. **Attempt all questions.**
3. **The missing data, if any, may be assumed suitably.**
4. **Before attempting the question paper, be sure that you have got the correct question paper.**
5. **Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.**

Q.1(a)   Explain Oligopoly and its difference from monopoly. [CO1]   [2]
Q.1(b)   Compare Stackelberg and Bertrand strategy. [CO1]   [3]
Q.1(c)   Suppose there are two firms in a price leadership model, ITC is follower and Pepsi is leader. The   [5]
         inverse market demand curve is D(p) = a–bp, where p is the price. The follower, ITC, has a cost
         function $c(y_2) = y_2^2/2$ and the leader, Pepsi, has a cost function $c(y_1) = cy_1$. What is the quantity
         supplied by leader and follower? [CO1]

Q.2(a)   Consider an increase in number of skilled labour. Describe how this will shift the labour supply curve.   [2]
         [CO2]
Q.2(b)   Outline the four factors of production that produces goods and services. [CO2]   [3]
Q.2(c)   Explain "value of marginal product" and its usage for deriving demand curve. [CO2]   [5]

Q.3(a)   Why is production possibility frontier concave with respect to origin? (in a situation without   [2]
         production externalities) [CO3]
Q.3(b)   Explain the first and second fundamental theorem of welfare economics. [CO3]   [3]
Q.3(c)   Consider a pure-exchange economy with two individuals, Smriti and Kriti. Initial endowments are   [5]
         Smriti = (10;0) and Kriti = (0;10), that is, Smriti owns all units of pens (p) and Kriti owns all units of
         colour pencil (c). Assuming that utility functions for Smriti is $u_s = max(p_s, c_s)$ and Kriti is $u_k = max(p_k,$
         $c_k)$. What is the pareto efficient allocation in this case? [CO3]

Q.4(a)   When is an allocation considered fair? [CO4]   [2]
Q.4(b)   Explain the Rawlsian social welfare function. [CO4]   [3]
Q.4(c)   Describe the Arrow's Impossibility Theorem. Which option out of three will you give up and why?   [5]
         [CO4]

Q.5(a)   Explain the tragedy of commons by giving an example. [CO5]   [2]
Q.5(b)   Explain how property rights can remove inefficiency in case of negative externality. [CO5]   [3]
Q.5(c)   A steel plant and a fishery are next to each other. The Steel plant produces steel and pollution. The   [5]
         steel plant faces no external cost to producing pollution. The cost function of steel plant is c(s,x) =
         $s^2+(x-2)^2$, where s is steel produced and x is pollution. The price of steel is Rs. 15 per unit. The cost
         function of fishery is c(f) = f^2+xf, where f is number of fish. The price of fish is Rs. 5 per unit.
         Calculate the external cost of pollution inflicted on fishery by Steel plant. [CO5]

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