

EGT2  
ENGINEERING TRIPOS PART IIA

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Thursday 4 May 2023      9.30 to 11.10

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**Module 3E1**

**BUSINESS ECONOMICS**

*Answer not more than **two** questions.*

*All questions carry the same number of marks.*

*The **approximate** percentage of marks allocated to each part of a question is indicated in the right margin.*

*Write your candidate number **not** your name on the cover sheet.*

**STATIONERY REQUIREMENTS**

Single-sided script paper

**SPECIAL REQUIREMENTS TO BE SUPPLIED FOR THIS EXAM**

CUED approved calculator allowed

**10 minutes reading time is allowed for this paper at the start of the exam.**

**You may not start to read the questions printed on the subsequent pages of this question paper until instructed to do so.**

**You may not remove any stationery from the Examination Room.**

1 The following is based on excerpts from “*Is Ticketmaster a monopoly?*”, The Economist, Nov 9, 2022. November 18th should have been a momentous day for Taylor Swift’s fans. Tickets for the American leg of the pop star’s tour next year—her first since 2018—were due to be released to the public on Ticketmaster, an online ticket vendor. But on November 17th the company abruptly cancelled the sale, saying it had too few tickets left and problems with its ticketing system after a botched early release on November 15th. Ticketmaster had invited fans to register for the pre-release and verified those who could take part. This was an attempt to crack down on bots and ticket touts and to manage high demand. But the sale was plagued with glitches and delays. The firm said over 2m tickets were sold—but many soon appeared on resale sites for eye-watering sums.

The bad blood extends beyond the ranks of infuriated Swifties (as Ms Swift’s vociferous fans are known). The pop star herself expressed frustration with Ticketmaster on social media. Jonathan Skrmetti, the Republican attorney-general of Tennessee, a state with a huge music industry, said he would look into the pre-release fiasco. Amy Klobuchar, the Democratic chair of the Senate antitrust subcommittee, said Congress would hold a hearing on Ticketmaster before the end of the year. The New York Times reported that in recent months America’s Department of Justice (DOJ) has been investigating whether Live Nation Entertainment, Ticketmaster’s parent company, is a monopoly.

(a) What factors should the antitrust authority consider in deciding whether Live Nation Entertainment is a monopoly? What could the government do to mitigate the consequences to society if Live Nation Entertainment is found to be a monopoly? [40%]

(b) Suppose that there are two groups of fans. The demand for the first group of fans is given by  $P = 200 - Q$  and the demand for the second group is given by  $P = 200 - 2Q$ . Marginal cost is equal to £40. Find the profit maximising price, quantities and profits when the firm is not allowed to price discriminate and when it is allowed to do so. Explain how price discrimination affects total surplus. [60%]

2 (a) Gift cards are a popular but some would say impersonalised means of giving gifts to a person. Illustrate the effect of a gift card on consumer choice. In your answer, assume the store does not permit gift cards to be redeemed for cash, i.e., the gift card can only be used in the same store it was purchased. Discuss the benefits for managers in offering gift cards for sale. [30%]

(b) An urban rapid-transit line runs full trains (200 passengers per car) at rush hours, but nearly empty trains (10 passengers per car) at off-peak hours. The cost of running a car for one trip on this line is a fixed cost of £50 regardless of the number of passengers. The company has been instructed to maximise profits but is required to run cars all day. A consultant concludes that the average cost per passenger is about £0.25 at rush hour but rises to £5 in off-peak hours and therefore recommends charging much higher prices during the off-peak period as the cost per passenger is much higher at that time. State whether you agree or disagree with the consultant's recommendation and explain your reasoning. [30%]

(c) Discuss why the health insurance market may fail to achieve efficiency and ways to mitigate the problem. [40%]

- 3 (a) An industry initially consists of four firms that operate on a market with demand given by  $P = 25 - Q$ . There are no fixed costs. Marginal cost is equal to £5 for every firm. Assume that initially the firms engage in Cournot competition. Suppose that if two firms merge, they become a Stackelberg leader, and the other two firms are followers. Show the effects of this merger on prices and profits. Do the two firms have a profit incentive to merge? [50%]
- (b) Using the concepts learned along the course, discuss the following quote: “*There are only two possible ways to win in a market – through cost or differentiation.*” [50%]

**END OF PAPER**