

EGT2
ENGINEERING TRIPOS PART IIA

Thursday 5 May 2022 9.30 to 11.10

Module 3E11

ENVIRONMENTAL SUSTAINABILITY AND BUSINESS

*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 A UK based online grocery retailer that delivers to customers has seen massive growth as a result of more people ordering groceries online during the pandemic. Following COP 26, the retailer is considering setting a Net Zero commitment, to achieve net zero CO₂ equivalent emissions.

The manager in charge of advising senior management on the decision to commit to Net Zero has heard that it's a good idea to prepare a materiality matrix before making major strategic commitments on sustainability.

(a) Outline the purpose and key elements of a materiality matrix and explain what the company would need to do to undertake the preparation of a materiality matrix. [25%]

(b) In this case, should the company prepare a materiality matrix before setting a Net Zero commitment or not? What considerations support each option? What would you advise they do? [50%]

(c) Assume the company does set a Net Zero commitment. What time frame (e.g., by 2030, 2050, etc.) should they use, and should they include only their own operations (scope 1) in their commitment, or their supply/value chain (scopes 2 and 3)? Explain your reasoning as part of your answer. [25%]

2 Pressures and opportunities for companies to address sustainability practices have historically come from many different groups or sources.

(a) Name, explain and illustrate three groups or sources currently exercising pressure on companies to alter their sustainability practices. What could happen if companies fail to respond to each of these groups/sources? [30%]

(b) 'The only way that companies will act at sufficient scale and with sufficient speed on climate change is through the imposition of strict regulation.' Discuss. [70%]

3 A company manager notices employees are really keen to better understand sustainability issues and learn more about them so they can integrate them into their daily work. For example, employees in the manufacturing division might come up with more efficient ways to clean the machines or reduce the need for packaging, whereas employees in the sales division might find ways to market the company's products as greener to a new generation of consumers.

(a) The manager is aware that it's important to think in terms of systems when considering sustainability. Hence, they think it would be a good idea to have all the employees learn about and conduct a personal carbon footprint, in order to learn about their own lifestyles, understand some of the basics of lifecycle assessment (LCA), and get motivated to generate new ideas for the company. Do you think this is a good approach for employee education and engagement? Why or why not? [50%]

(b) 'Only when company managers and employees act on sustainability from a systems perspective will they make true progress on any given sustainability issue (e.g., plastics, material consumption, etc.).' Discuss. [50%]

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