Version OC/6.1

EGT3
ENGINEERING TRIPOS PART IIB

Thu 8 May 2025 9:30am–11:10am

Module 4E6

ACCOUNTING AND FINANCE

Answer not more than two questions.

Answer not more than one question from each section.

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
Engineering Data Book
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.

SECTION A

*Answer not more than **one** question from this section*

1 Financial Statements and Accrual Accounting. The following transactions occurred for a newly formed consulting firm during its first year of operations:

(i) The owner invested £50,000 in cash to start the business.

(ii) The firm purchased office furniture for £10,000, paying £4,000 in cash and financing the rest with a loan.

(iii) The firm provided consulting services worth £20,000. Clients paid £12,000 immediately, while the rest remains unpaid.

(iv) The firm incurred salaries and other expenses totaling £7,000, of which £5,500 was paid immediately.

(v) The firm declared and paid a £3,000 dividend to the owner.

Using this information, answer the following items:

(a) Prepare **journal entries** for each transaction by filling up Table 1. Assume no depreciation, no sales returns & allowances, no interest, and no taxes. [15%]

(b) Prepare **T-accounts** consolidating each account present in the journal entries, except for Owner's Equity. Tag each entry with its corresponding item number, e.g., **i:** £50,000 for recording the receipt of cash from the owner. [15%]

(c) Prepare an **Income Statement** for the first year and the Owner's Equity T-account. [15%]

(d) Prepare a **Balance Sheet** at the end of the first year. [15%]

(e) Prepare a **Statement of Cash Flows** for the first year. [15%]

(cont.

(f) Explain the difference between **cash accounting** and **accrual accounting**. Which one better represents firm performance? Explain why. [25%]

Table 1

Item	**Account**	**Debit (£)**	**Credit (£)**
i			
ii			
iii			
iv			
v			

2 Revenue Recognition and Fraud Detection. A software company, *CUEDSolutions Ltd*, sells a bundled product consisting of a software license, ongoing technical support, and software updates. Customers pay £1,200 upfront for a one-year package. The company records the full £1,200 as revenue in the month of purchase. Recently, auditors raised concerns about *CUEDSolutions Ltd*'s financial statements, suspecting aggressive revenue recognition.

(a) Explain the **principles of revenue recognition** and assess whether *CUEDSolutions Ltd* is correctly applying them. [20%]

(b) How should *CUEDSolutions Ltd* allocate the revenue from the bundled product over time? Provide an example of a **proper revenue recognition allocation**. Explain your assumptions for the proposed allocation. [40%]

(c) Discuss how improper revenue recognition can be used to **manipulate financial statements** and list at least three warning signs that auditors or investors should look for. [40%]

SECTION B

*Answer not more than **one** question from this section*

3 (a) At the end of June 2001, the yield to maturity on U.S. government bonds maturing in 2006 was about 4.8 percent.

(i) Value a bond with a 6 percent coupon maturing in June 2006. The bond's face value is $10,000. Assume annual coupon payments and annual compounding. [20%]

(ii) How does your answer change if the bond has semi-annual coupons and a semi-annual discount rate of 2.4 percent? [20%]

(iii) For both cases, calculate and discuss how the bond's value would change if interest rates fell to 3.5 percent per year? [20%]

(b) A two-year bond pays a coupon rate of 10 percent and has a face value of $1,000. If the bond is initially sold for $960, what is its approximate yield to maturity? Explain. Hint: This may require some trial-and-error calculations. [40%]

4 A widget manufacturer currently produces 200,000 units a year. It buys widget lids from an outside supplier at a price of \$2 a lid. The plant manager believes that it would be cheaper to make these lids rather than buy them. Direct production costs are estimated to be \$1.50 a lid. The necessary machinery would cost \$150,000. This investment could be written off for tax purposes using the eight-year tax depreciation schedule given below. The plant manager estimates that the operation would require additional working capital of \$30,000 but argues that this sum can be ignored since it is recoverable at the end of the 10 years. The company pays tax at a rate of 35 percent and the opportunity cost of capital is 15 percent.

(a) Calculate the NPV if the company continues to buy the lids from an outside supplier. [20%]

(b) Calculate the NPV if the company decides to make the lids in-house rather than buy them. [60%]

(c) Discuss which option would be advisable for the company to pursue. [20%]

Use the Tax Depreciation Schedule in Table 2. State clearly any additional assumptions that you need to make.

Table 2

1	2	3	4	5	6	7	8
14.29%	24.49%	17.49%	12.49%	8.93%	8.93%	8.93%	4.45%

END OF PAPER