ADVANCED LEVEL EXAMINATION

TUESDAY 3 NOVEMBER 2020

(3½ HOURS)

STRATEGIC BUSINESS MANAGEMENT

This exam consists of **two** questions (100 marks).

Marks breakdown

Question 1 55 marks
Question 2 45 marks

1. Please read the instructions on this page carefully before you begin your exam. If you have any questions, raise your hand and speak with the invigilator before you begin.

2. Please alert the invigilator immediately if you encounter any issues during the delivery of the exam. The invigilator cannot advise you on how to use the software. If you believe that your performance has been affected by any issues which occurred, you must request and complete a candidate incident report form at the end of the exam; this form must be submitted as part of any subsequent special consideration application.

3. Click on the **Start Exam** button to begin the exam. The exam timer will begin to count down. A warning is given five minutes before the exam ends. When the exam timer reaches zero, the exam will end. To end the exam early, press the **Finish** button.

4. You may use a pen and paper for draft workings. Any information you write on paper will not be read or marked.

5. The examiner will take account of the way in which answers are structured. Respond directly to the exam question requirements. Do not include any content or opinion of a personal nature. A student survey is provided post-exam for feedback purposes.

6. Ensure that all of your responses are visible on screen and are not hidden within cells. Your answers will be presented to the examiner exactly as they appear on screen.

The questions in this paper have been prepared on the assumption that candidates do not have a detailed knowledge of the types of organisations to which they relate. No additional credit will be given to candidates displaying such knowledge.

@ICAEW

Question 1

Agroc Inc is a global company, listed on the New York Stock Exchange. It manufactures vehicles, equipment and small components for the agricultural industry. Agroc has two geographical divisions, Europe & Asia (EA) and America.

You are Thomas Walsh, an ICAEW Chartered Accountant. You recently joined Agroc, working in operations management. Your manager, Penny Finn, also an ICAEW Chartered Accountant, sent you the following email:

Email

To: Thomas Walsh
From: Penny Finn
Subject: Production and supply chain concerns

I have provided you with some background notes about Agroc (**Exhibit 1**).

In recent years, the company has performed poorly. Key concerns include the increasing supply chain costs and production scheduling inefficiencies.

A new board of directors was appointed in October 2020 to put in place a business recovery plan. The board has asked me to prepare a report and I would like your help with the following.

(1) The board is concerned about the overall company performance, but it also wants to understand better the relative performance of each product category and each division. I have provided some financial and operating data. (**Exhibit 2**).

(2) The board has identified concerns relating to the upstream supply chain and production scheduling and it has set out its proposals for fundamental changes. I have prepared notes (**Exhibit 3**).

(3) The board is also concerned about the downstream supply chain. I have prepared notes (**Exhibit 4**).

An ethical issue has arisen which the finance director has asked me to look at (**Exhibit 5**).

I have set out instructions for you, explaining in more detail what I would like you to do in respect of each of the above (**Exhibit 6**).

Requirement

Respond to the instructions from your manager, Penny Finn, (Exhibit 6).

Total: 55 marks

Exhibit 1: Company background – prepared by Penny Finn

Agroc has global operations in manufacturing and supplying the following product categories:

- Farm vehicles (e.g. tractors and combine harvesters)
- Farm equipment (e.g. irrigation and seeding machines)
- Small components for farm vehicles and equipment.

Agroc is currently organised into two geographical divisions: E&A (Europe and Asia) and America (North America and South America).

Each division has a significant degree of autonomy and is led by a divisional director who reports to the Agroc board.

Each division has different accounting, operating and information systems.

Both geographical divisions manufacture and sell all three product categories. Agroc has 60 factories located in 16 countries. The products made in each factory can differ slightly. Thus, for example, tractors made in France are similar, but not identical, to those made in China or Brazil.

The products made by each division are sold within that division's geographical area. There are currently no interdivisional sales.

Sales are made in 25 countries, including all 16 countries where manufacturing takes place. Approximately 45% of products are sold in the country in which they were manufactured.

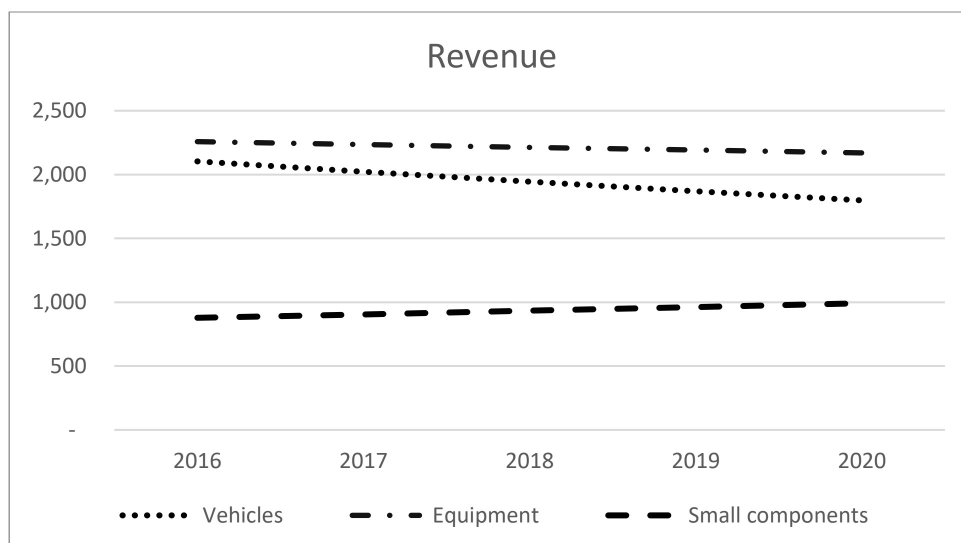
Agroc has no subsidiaries. It prepares its financial statements according to IFRS. Agroc's accounting year end is 30 September. The functional currency is US$ ($).

Exhibit 2: Financial and operating data

Revenue for the year ended 30 September 2020:

	E&A $m	America $m	Total $m
Farm vehicles	1,116.0	682.0	1,798.0
Farm equipment	669.6	1,500.4	2,170.0
Small components	446.4	545.6	992.0
Total revenue	**2,232.0**	**2,728.0**	**4,960.0**

Revenue by product category for the five years ended 30 September 2020 ($m) is shown in the following visualisation:



Gross profit for the year ended 30 September 2020:

	E&A $m	America $m	Total $m
Farm vehicles	558.0	341.0	899.0
Farm equipment	133.9	300.1	434.0
Small components	111.6	136.4	248.0
Total gross profit	**803.5**	**777.5**	**1,581.0**

Gross profit by product category for the five years ended 30 September 2020 ($m) is shown in the following visualisation:

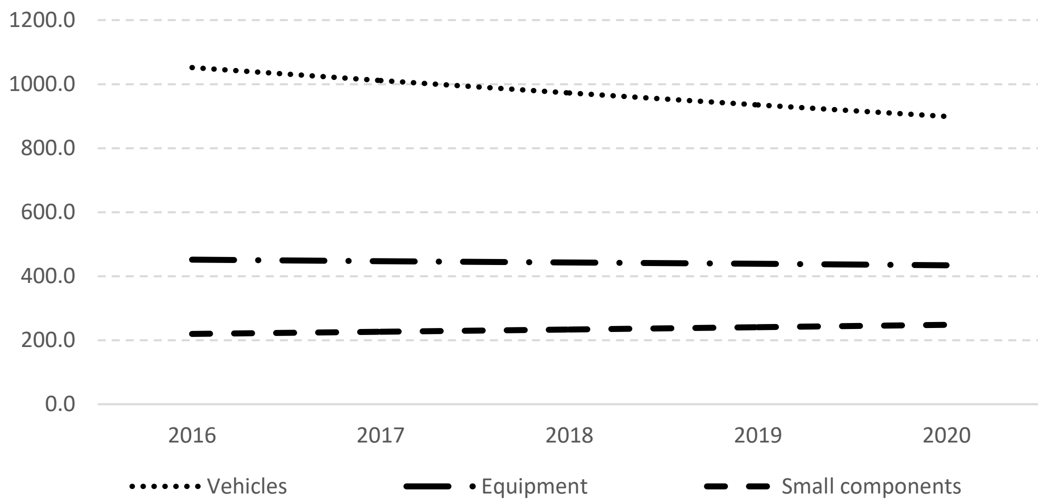

Gross profit
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
2016
2017
2018
2019
2020
Vehicles
Equipment
Small components

Exhibit 3: Upstream supply chain and production scheduling – prepared by Penny Finn

The Agroc board is concerned about the upstream supply chain and production scheduling. The upstream supply chain comprises procurement, inbound logistics and inventory management. The board is also concerned about the information systems and supplier relationships that should facilitate these activities.

Initial review

An initial review of the company's supply chain activities found that the current decentralised structure, with many separate systems and teams, creates inconsistencies and inefficiencies in the supply chain and production scheduling.

Procurement and inbound logistics are managed by a different team in each factory. Each supply chain activity has a different information system which does not normally integrate, either internally between activities, or externally with suppliers' information systems.

Agroc uses a range of global and local suppliers. An increasing number of deliveries from suppliers have been late. There have also been concerns about poor-quality items from some suppliers.

Objectives

The board has three key objectives for upstream supply chain activities and production scheduling:

- Improve efficiency
- Reduce costs
- Manage risks

The board has put forward the following three proposals to achieve these objectives. The proposals are not mutually exclusive so any, or all of them, can all be adopted. The chief executive believes that all three proposals should be adopted.

Proposal 1 – Centralised management

As part of the business recovery plan, the board is considering restructuring Agroc. Under this proposal, it will centralise the management of the company. This will affect all aspects of the business and will include the appointment of a new global production director and a new global supply chain director. These directors will exercise responsibility for their respective functions globally throughout the company.

Proposal 2 – Upstream supply chain information system

The board is proposing the introduction of a single information system enabling globally integrated upstream supply chain management. This will replace the multiple systems currently in use.

There will be a new digital technology platform, which is designed to automate and coordinate all upstream supply chain activities and integrate with suppliers' information systems. Agroc will migrate the data from its current systems onto this platform as soon as possible.

The functionality of the new platform will include inbound logistics, automatic ordering, inventory management, integrated digital contracts with suppliers, invoicing and payments.

The technology will include RFID (radio-frequency identification) tracking capabilities for example, to track an item's journey from a supplier to an Agroc factory.

Suppliers' information systems will be integrated with the new platform as a condition of doing business with Agroc. Suppliers will be able to access directly Agroc's data relating to inventory and production scheduling. Suppliers will therefore be able to anticipate Agroc's supply requirements up to a month in advance.

The board intends to reduce the number of suppliers, thereby increasing the volumes purchased from each supplier.

Proposal 3 – Global production of farm vehicles

The board intends to consolidate global production of farm vehicles by having fewer, but larger, factories. There are no current plans to consolidate the production of farm equipment and small components, but this may be considered at a later stage.

Under this proposal, each type of farm vehicle will be produced at a single factory. These vehicles will be standardised globally. This will replace the current system of many farm vehicles, of a similar nature, being made at different locations. For example, a single type of mid-size tractor will in future be made in one new large factory, whose output will be distributed and sold globally.

If this proposal is implemented, approximately 30% of all Agroc's products will be sold in the same country in which they are manufactured.

The chief executive has suggested going further and concentrating the global production of tractor engines in one factory. For example, the global supply of all tractor engines could be manufactured in Canada and then transferred to other countries, where the global production of various-sized tractors would take place.

Exhibit 4: Downstream supply chain – prepared by Penny Finn

The Agroc board is concerned about the company's downstream supply chain system with customers. This comprises: customer order management; inventory management; outbound logistics; and customer service. The board is also concerned about the information systems and relationships that should facilitate these activities.

Agroc's customers are independent dealers of farm vehicles, farm equipment and small components. The dealers sell these products to farming businesses.

Sales by dealers occur mostly between March and July each year. This seasonal demand creates difficulties for Agroc's production scheduling, outbound logistics and inventory management.

Operations planning is a problem, as production is at near capacity for five months of the year, with significant spare capacity for the other seven months.

New proposal – level production and sales

The board has proposed that Agroc should spread the production of its products evenly over each year (ie, level production) based on estimated demand over the following 12 months.

Agroc will aim to sell and distribute its products to dealers equally over each year (ie, level sales). Delivery aims to be shortly after manufacturing.

The finance director has proposed making loans to dealers to provide an incentive for them to make purchases outside the normal season of March to July.

Agroc will make interest-free loans to dealers, of up to 12 months, to finance their purchases from Agroc. Each loan will be in the local currency of the country in which the dealer operates.

Agroc will borrow from its US bank in $ to finance the loans it makes to dealers.

The finance director has provided the following example:

> <u>Example – loan financing incentive for dealers</u>
>
> On 31 December 2021, a tractor is to be sold by Agroc to a new US dealer, Geller Inc, for $55,000. Geller has no right to return the asset to Agroc.
>
> The cost to Agroc of producing the tractor is $40,000.
>
> On 31 December 2021, Agroc will make an interest-free loan to Geller of $55,000 which Geller will use immediately to pay Agroc for the tractor. The loan is repayable in full on the earlier of:
>
> (a) the date that Geller sells the tractor to the end consumer; and
> (b) 31 December 2022.

The finance director believes that this type of interest-free loan will be sufficient incentive for dealers to purchase from Agroc evenly throughout the year, including out of season.

Without such an arrangement, dealers would typically have to pay interest of 10% per annum for a commercial loan to finance their purchase.

The marketing director has proposed that, as well as Agroc offering the interest-free loan, dealers should also have the right to return the product to Agroc up to 90 days after purchase. In this case, the loan would be treated as settled on return of the product.

Exhibit 5: Ethical issue – prepared by Penny Finn

In August 2020, Agroc recalled a farm equipment product which was found to have a faulty component. The fault had caused the equipment to malfunction in several cases.

After detailed investigation of this fault, it was traced to a batch of components from one supplier, Hemple Ltd, which is based in the UK. This batch of components was discovered to have been received by Agroc in April 2020 and used in June 2020 production.

Hemple's components have been used for some years in producing a number of Agroc products. However, there is difficulty in tracing components to final products as a result of Agroc's poor information systems.

Hemple has continued to supply similar components to Agroc since April 2020, but there are problems tracing these components back to specific batches of Hemple production, as Hemple is now insolvent.

The finance director of Agroc is an ICAEW Chartered Accountant and he is concerned about ethics and appropriate professional conduct. He believes that Agroc should recall all products where there is any possible chance of a Hemple component being faulty.

The chief executive has challenged this view. He stated that:

> "I agree that we should be transparent about what we have actually discovered. Agroc should recall products where we know there is a faulty component and refund the sales price to dealers, who can then compensate their customers. However, I do not think we should spend any more time on this matter. Unless we know that a faulty component has actually been used, I think there is no obligation for us to disclose anything or do anything further. We cannot disclose what we do not know and cannot find out. It is only a remote risk to all concerned."

Exhibit 6: Instructions from Penny Finn

1.1 Using the data in Exhibit 2 and other information available:

- Explain and evaluate the relative performance of each product category and each division in the year ended 30 September 2020.
- Briefly explain the trends in performance of each product category for the five years ended 30 September 2020 and set out the implications for performance after this date. Ignore the changes proposed in the recovery plan.

1.2 In respect of the upstream supply chain and production scheduling (Exhibit 3) set out and explain the benefits and risks of each of the following proposals:

Proposal 1 - Centralised management.
Proposal 2 - Upstream supply chain information system.
Proposal 3 - Global production of farm vehicles. (Include an evaluation of the suggestion of the chief executive).

1.3 In respect of the downstream supply chain (Exhibit 4):

- Explain the operational efficiencies that could be gained by Agroc if the policy of equal monthly production and sales could be successfully implemented.
- Using the example provided, set out and explain the financial reporting treatment of the loan financing incentive for Geller in the year ended 30 September 2022 using:
    - the finance director's proposal
    - the marketing director's proposal.

  Show supporting calculations.

1.4 Set out any ethical issues for Agroc and the finance director which arise from the product recall (Exhibit 5). Recommend actions that Agroc and the finance director should take.

Question 2

Zatter plc is listed on the London Stock Exchange and has international operations. It develops and manufactures chemical products for industrial use.

You are an assistant manager working for Felan, Fitch & French LLP (FFF), a firm of ICAEW Chartered Accountants. FFF provides business advice and assurance services to Zatter, but Zatter is not an audit client.

The FFF engagement partner, Xi Liu, attended a meeting last week with the Zatter board. After the meeting, Xi gave you the following briefing:

“I would like you to work on the Zatter engagement with me.

“The Zatter board is keen to expand and has asked FFF to provide advice on a number of issues relating to a potential acquisition. I have provided you with background information about Zatter (**Exhibit 1**) and its potential acquisition of Minix Ltd (**Exhibit 2**).

“The Zatter finance director has provided summary financial information and working assumptions (**Exhibit 3**) that he would like FFF to use to value Minix.

“Zatter’s own staff have undertaken preliminary due diligence on Minix and identified some concerns that need to be addressed before an offer for Minix can be finalised (**Exhibit 4**). The Zatter board would like FFF to carry out more detailed due diligence.

“I would like you to draft a report for the Zatter board. I have set out instructions in a separate document (**Exhibit 5**) explaining what I would like you to do.”

Requirement

Respond to the instructions from the engagement partner, Xi Liu (Exhibit 5).

Total: 45 marks

Exhibit 1: Background information about Zatter – prepared by engagement partner, Xi Liu

Zatter is an international company which has its headquarters and its research and development (R&D) operations in the UK. It has an accounting year end of 30 September.

Zatter develops and manufactures industrial chemical products for customers in a range of industries including: life sciences, pharmaceuticals and materials science.

Innovation, research and development are key factors in maintaining competitive advantage in the industry. However, in recent years, Zatter's in-house R&D department has struggled to bring significant new products to market.

In order to expand and develop more new products, the Zatter board has been seeking to acquire, or invest in, a small, but innovative, chemicals company.

Zatter has recently identified an appropriate potential acquisition, Minix (Exhibit 2).

Exhibit 2: Potential acquisition of Minix Ltd – prepared by engagement partner, Xi Liu

Minix – company background

Minix is an innovative private company which develops and produces chemical products.

The Minix board comprises five directors, who each own 20% of the company's ordinary share capital. The directors have drawn salaries from Minix at market rates for their positions. Dividends have been low.

The five directors were researchers working in a university chemistry department. Following good progress in their academic research, they left the university and founded and incorporated Minix in 2017.

Minix has developed and patented a number of chemical processes and products. However, Minix is having problems scaling up its operations for commercial production. Therefore only a few projects have resulted in product sales to industrial companies.

The Minix directors now believe that help is needed from a larger organisation to enable their research results to be used in making their products suitable for large-scale commercial production.

The potential acquisition

The Zatter board is considering the acquisition of Minix. The Zatter finance director has been leading negotiations with the Minix board. The Minix directors now require a firm offer from Zatter.

In a confidential Zatter board meeting to discuss an offer for Minix, the directors identified some key considerations. They also identified three alternative proposals to acquire varying amounts of Minix's ordinary share capital. The Zatter board would like FFF to provide advice before there is any further communication with the Minix board.

The key considerations identified by the Zatter board are:

- A value needs to be established for the ordinary share capital of Minix before an offer to acquire the company can be made. The finance director would like the free cash flow (FCF) approach to be used to determine an acquisition value.
- Incentivising the five directors (the founders) to carry on working for Minix for at least the next three years after acquisition is essential for Zatter to gain value from Minix.
- During early negotiations, the Minix board indicated that they would accept a cash offer of about £35 million for the entire ordinary share capital of Minix.

The proposals discussed by the Zatter board are:

Proposal 1 – 100% shareholding

Under this proposal, an offer will be made for Zatter to acquire 100% of Minix's ordinary share capital for cash. The five founders will be required to work for Minix as employees for three years from the date of acquisition, at their current salary levels. They will no longer be directors.

With this proposal, the Zatter board, based on preliminary due diligence, expects growth in revenue and EBITDA of 12% per annum over the three years from the date of acquisition.

Proposal 2 – 80% shareholding

Under this proposal, an initial offer will be made for Zatter to acquire 80% of Minix's ordinary share capital for cash. The remaining 20% will continue to be held equally by the five founders to incentivise them.

The five founders will be required to work for Minix as employees, for three years from the date of acquisition, at their current salary levels. They will no longer be directors. They will not be permitted to sell their 20% shareholding for three years from the date of acquisition.

A further incentive is also to be provided to the founders under this proposal. If the profit before tax of Minix grows by an average of at least 20% per annum over the three years following acquisition, Zatter will transfer 10% of Minix's ordinary share capital to the five founders, giving them a 30% shareholding and leaving Zatter with a 70% shareholding. The share transfer would be on 30 September 2024.

With the incentives in this proposal, the Zatter board, based on preliminary due diligence, expects growth in revenue and EBITDA of 20% per annum over the three years from the date of acquisition.

Proposal 3 – 15% shareholding

The chair of Zatter's board, Holly Hargreaves, believes that an acquisition of Minix under either Proposal 1 or Proposal 2 is too risky. However, Holly can see the benefits of a relationship with Minix.

Holly considers that Zatter should make a cash offer for a strategic investment in Minix. She suggests this should be for 15% of the ordinary share capital of Minix, leaving each of the five Minix founders with a shareholding of 17%. The five founders will continue to be directors.

Holly believes that Zatter is unlikely to be able to demand the right to appoint a director on the Minix board. As a result, there would need to be a three-year contractual agreement from the date of the share purchase. This would need to include the following terms:

- The five Minix directors cannot sell their shares to any third party within the three-year period.
- The five directors will continue working for Minix for at least three years, at their current salaries, together with a profit-related bonus of up to 100% of salary.
- The five directors will collaborate with Zatter scientists on specific projects for at least the three-year period. The detailed rights and obligations are to be determined.

Holly admits that she does not know what the impact on Minix's revenue growth or on other cash flows will be if the 15% investment in Minix is made.

Exhibit 3: Summary financial information for Minix and working assumptions – prepared by Zatter finance director

Minix – summary statement of profit or loss for year ended 30 September 2020

	£'000
Revenue	14,000
Cost of sales	(4,500)
Depreciation and amortisation	(500)
Other operating costs	(4,000)
Operating profit	5,000
Finance costs	(1,200)
Profit before tax	3,800
Taxation 20%	(760)
Profit after tax	3,040

Summary statement of financial position at 30 September 2020

	£'000
Property, plant and equipment	19,100
Development costs and patents	11,300
Current assets	
Cash	100
Other current assets	1,400
Total assets	31,900
Equity	
Issued capital - £1 shares	500
Retained earnings	6,650
Total equity	7,150
Non-current liabilities	
Loan	24,000
Current liabilities	750
Total equity and liabilities	31,900

Working assumptions

For the purposes of a potential acquisition (Proposal 1 and Proposal 2), the following working assumptions are to be used to determine a valuation of Minix at 1 October 2021.

Both proposals

- The acquisition will take place on 1 October 2021.
- The present value of free cash flows on 1 October 2021 is to be used as the valuation method.
- Depreciation and amortisation will increase by £250,000 per annum in each of the three years ending 30 September 2021, 2022 and 2023. Depreciation and amortisation will then remain constant at the 2023 amount indefinitely.
- Capital expenditure will be £1 million in the year ending 30 September 2021. It will increase by £250,000 per annum for two years. It will then remain constant indefinitely.

- Depreciation and amortisation are deductible for tax purposes.
- Cash flows from revenue, cost of sales and other operating costs are equal to the amounts in the statement of profit or loss.
- Free cash flows arise at year ends.
- Expected growth rates include synergy gains.
- Zatter has a weighted average cost of capital of 10% per annum.
- The tax rate for future years will be 20%.
- No significant changes in working capital are necessary.

In addition, the following individual assumptions apply:

<u>Proposal 1 – 100% shareholding</u>

EBITDA (revenue less cost of sales and other operating costs) will grow at 12% per annum for three years after acquisition and then remain indefinitely at that level.

<u>Proposal 2 – 80% shareholding</u>

EBITDA (revenue less cost of sales and other operating costs) will grow at 20% per annum for three years after acquisition and then remain indefinitely at that level.

Exhibit 4: Concerns arising from Zatter's preliminary due diligence

Preliminary due diligence procedures on Minix performed by Zatter staff in October 2020 identified three concerns which need further investigation.

(1) Technical due diligence on Minix's R&D projects revealed evidence that some key research projects may fail or be overtaken by competitors within the three years, in which case Minix's shares may become worthless. This outcome was estimated by the Zatter board to have a 3% probability, based on preliminary due diligence.

(2) Board minutes revealed that one director of Minix is in poor health and wishes to retire as soon as possible.

(3) Financial due diligence revealed that the auditor's opinion on Minix's financial statements for the year ended 30 September 2020 was modified. This was an 'except for' modification on the basis of disagreement in respect of £1.1 million of development costs capitalised in the year. The auditor's opinion stated that these costs should have been charged to profit or loss in the year.

Exhibit 5: Instructions from engagement partner, Xi Liu

(1) Using the working assumptions (Exhibit 3), determine an amount that Zatter should offer for:
Proposal 1 – 100% shareholding in Minix
Proposal 2 – 80% shareholding in Minix.

(2) Without further calculations, evaluate the three proposals (Exhibit 2) explaining the benefits and risks of each. Provide a reasoned recommendation regarding which proposal the Zatter board should adopt.

(3) Explain the financial reporting treatment of the 15% shareholding in Minix in Zatter's financial statements, assuming that Proposal 3 is selected. Explain any factors that Zatter should consider in making accounting policy choices or elections regarding the financial reporting treatment of the 15% shareholding in Minix.

(4) For each of the three concerns identified by Zatter staff during preliminary due diligence (Exhibit 4), set out the risks and describe the additional due diligence procedures that FFF should perform.