2019 MEMBERSHIP QUALIFICATION EXAMINATION

DATE: September 16, 2019

TIME: 4.0 Hours

CBV INSTITUTE

2019 MEMBERSHIP QUALIFICATION EXAMINATION (MQE)

Administered by:

York University School of Continuing Studies

NOTES TO CANDIDATES:

1. The MQE must be written using Word and Excel (or programs capable of opening, exporting, and saving Word and Excel files) to write their exam. The Word and Excel templates to be used are to be retrieved from the MQE page in Moodle.

2. The only equipment allowed is:
   - a calculator that is silent, with single-line or two-line display, incapable of alpha storage
   - laptop computer
   - power cord
   - one keyboard
   - one mouse

3. Absolutely **NO** reference materials (websites, texts, notes, etc.) are permitted.

4. The examination question booklets must remain at the examination center.

5. As markers may be marking paper copies of Candidates' responses, details of assumptions and calculations should be provided in the responses.

6. **Candidates must name/save their Word and Excel response files as the Candidate Number that was assigned by the CICBV office. No names, Student IDs, or any other identifying information should be included in the response files. The Word and Excel files must be uploaded to Moodle immediately after the exam writing is completed (i.e., at the exam center).**

7. The number of marks allocated to each question and the pro-rata time element are noted on the next page**.**

8. Details of assumptions and calculations should be provided in the responses.

9. Applicable tax rates are provided in each question.

10. Tables of present values and capital cost allowance rates are attached at the end of the examination paper.

11. **ANSWER ALL QUESTIONS.**

2019 MEMBERSHIP QUALIFICATION EXAMINATION

Allocation of Marks

Question No.	Marks	Suggested Time (in Minutes)
1	50	120
2	50	120
	100	**240**

Free Meat (50 marks)

Introduction

It is September 16, 2019 and your first day at XYZ Bank. You recently completed the CBV Institute Program of Studies and are looking forward to starting as an associate. Your new boss, Peter Adams, calls you into a meeting to discuss an engagement.

"Sorry to throw this at you on your first day but we have an engagement we need to get you started on quickly. Free Meat (the "Company") has engaged our bank to act as an advisor for their Initial Public Offering (the "IPO"). The Company is primarily engaged in producing cultured meat products (see Appendix 1) and has historically relied on private funding to finance its activities (see Appendix 2). The Company has chosen to issue 21 million common shares on a public listing to raise capital and provide the founders of the Company with the opportunity to exit and capitalize on their investment. The Company has provided us with a draft prospectus (see Appendix 1) which I suggest you read when you get back to your desk. In it, you will find information with respect to the Company's operations, industry overview, audited financials, and other useful information. Our team just completed interviews with individuals working in the food and beverage sector (i.e., analysts and fund managers). I will share the team's notes with you as well as notes from our meetings with management of Free Meat."

You head back to your desk and open an email from your boss.

Email from Peter Adams

> *Thank you for agreeing to start immediately on this engagement. There is a lot of material for you to get through so I have only included the most important documents to help you with the analysis (see the Appendix listing on the next page).*
>
> *XYZ Bank will advise on the issuing share price and be compensated with a fee of 6% of the total proceeds which arise from the IPO. Therefore, I need you to recommend the price (per-share) at which we will advise Free Meat to issue the 21 million common shares. Free Meat has also requested we provide the total net proceeds the Company will generate immediately following the issuance.*
>
> *Lastly, some of the seed round investors (see Appendix 2) would like to understand the tax and other implications of selling their shares following the issuance.*

Required:

Prepare a memo, with supporting quantitative and qualitative analysis, which addresses the following (*Note - calculations and supporting explanations are only required at this point. Candidate should assume that a formal report will be prepared at a later date*):

1. Recommendation as to the per-share listing price for the 21 million shares which Free Meat will offer to the public, assuming 1 million are from the founders and 20 million are issued from treasury.
2. An estimate of the net proceeds Free Meat will generate from the IPO.
3. A brief outline of a few key items that the seed round investors should consider prior to selling their shares.

Appendices

Appendix 1: Excerpts from the Draft Prospectus

Appendix 2: Free Meat Capitalization Table

Appendix 3: Free Meat Audited Financial Statements (non-consolidated)

Appendix 4: Free Milk Unaudited Income Statement

Appendix 5: Notes from Meeting between XYZ Bank and Free Meat Management

Appendix 6: Notes from Interviews with Individuals in the Food and Beverage Sector

Appendix 7: Precedent IPO Multiples (prepared by Team at XYZ Bank)

Appendix 8: Other Relevant Information

Appendix 1: Excerpts from the Draft Prospectus

Company Background

Dan Smith and Patrick Wells co-founded Free Meat in September 2012 with a total investment of $10,000. Dan and Patrick were looking for a way to produce meat with minimal impact to the environment. They found that by isolating muscle cells (taken from a biopsy) they could regrow the cells into a piece of meat, albeit at a high cost. After producing their first cell-based meatball, they patented their proprietary process and went in search for financing.

In fiscal 2016, Free Meat received a great deal of interest from investors, and Dan and Patrick raised $30 million through a seed round (see Appendix 2). With this funding, Dan and Patrick hired a team of scientists to work through issues surrounding the high cost to produce cultured meat. The first kilogram of meat produced at Free Meat cost close to $1 million, however, over time and with the advancement of technology, the team managed to bring the cost down to $3.00.

Part way through fiscal 2017, the founder of Free Milk (a dairy alternative company) approached Dan and Patrick regarding a potential investment in Free Milk. Dan and Patrick believed that the investment made strategic sense at the time, and acquired 49% of Free Milk for $20 million. Free Meat has an option to either acquire the remaining 51% of Free Milk, or to divest of its 49% share in Free Milk at any time based on a pre-determined formula (see Appendix 4). Free Milk's board is made up of seven board members, four of whom were appointed by Free Meat. Dan and Patrick would like to make a decision with respect to Free Milk which will optimize the value to Free Meat prior to the upcoming IPO.

After Free Meat could prove the economics of the product, the team invested in a plant and began production on a larger scale. The Company currently produces a line of products that include ground beef, pre-made hamburgers, and various cuts of steaks. Products are sold to small and large retailers and directly into restaurants (B2B). Initially, the Company sold products across Canada; however, demand for these products outside of Canada quickly grew and Free Meat began exporting to major retailers across the United States. In fiscal 2017, the Company raised $25 million through a Series A funding (see Appendix 2) and used the funds to expand its sales team and make additional investments in advertising and promotion.

The success of Free Meat caught the attention of a large private equity firm, DTM LLP, who led the next round of funding in fiscal 2018, during which time $80 million was raised (see Appendix 2). In fiscal 2019, Free Meat opened an office in the United States and undertook a $50 million expansion of its current plant to meet demand.

Dan and Patrick are very optimistic of Free Meat's future. They believe Free Meat has potential to become the largest meat company in the world!

Industry Overview

The move away from animal consumption is necessary as the world adapts to the growing demand for meat whilst traditional meat production continues to strain the environment. One quarter of the world's land, apart from Antarctica, is being used for pasture. Livestock is responsible for an estimated 14.5% of all human-caused greenhouse gas emissions and producing a single pound of beef can take around seven thousand liters of water. With the world population estimated to reach 10 billion by 2050 and demand for animal-based protein expected to grow 80%, solutions to traditional farming methods must be explored.

Despite the increase in meat consumption, companies have also seen consumer demand for plant-based alternatives for foods such as hamburgers, chicken nuggets, and sausages, increase drastically over recent years.

Plant-based meat alternatives differ from cultured meat in that the plant alternatives use strictly plant-based ingredients to mimic a traditional meat product. The production of cell-cultured meat involves retrieving a live adult animal's muscle stem cell and setting it in a nutrient-rich liquid made up of sugars, salt, and amino acids. This nutrient-rich liquid mimics the nutrients in an animal, causing the cells to believe they are still in the animal's body, and as a result, the cells grow and multiply. This process results in a meat product grown in a petri dish. By producing meat from the cell level up, companies can ensure the highest level of quality, resulting in a healthier, more nutritious, and safer product for the consumer.

In addition to producing a quality product, producing meat products through cellular agriculture shields the company from the negative press associated with traditional farming with respect to the environment and various ethical issues.

This space has attracted interest from notable investors, celebrities, and blue-chip companies.

Appendix 2: Free Meat Capitalization table

Round	Date	Investment	Other Notes
Initial Investment (Dan and Patrick)	September 2012	$10,000	20,000,000 common shares issued for 100% ownership
Seed round	August 2016 (fiscal 2016)	$30,000,000	Acquired common shares directly from the founders for 12.5% ownership
Series A	April 2017 (fiscal 2017)	$25,000,000	Acquired common shares directly from the founders for 9% ownership
Series B *(led by DTM LLP)*	May 2018 (fiscal 2018)	$80,000,000	Investors acquired 2% of Dan and Patrick's common shares for $30 per share. Free Meat issued an additional 10,000,000 shares from treasury which were issued to the investors
Convertible Debt	September 2016 (fiscal 2017)	$15,000,000	• Face value $10,000 • Annual interest of 7% payable upon maturity • Matures September 2021 • Conversion features: holder can convert at a rate of 1:200 common shares any time on or immediately following the fifth anniversary of issuance. If the holder chooses not to convert, the holder can demand repayment (including interest) any time on or immediately following the fifth anniversary of issuance. If at any time prior to the fifth anniversary there occurs a change of control or an initial public offering, the holders can demand repayment in full (including interest) or conversion to common shares immediately before the initial public offering or change in control. If the holders choose to convert to common shares, the conversion is subject to the following conditions: i) a valuation cap of $19.0 million, ii) a conversion discount of 5%, iii) a 2-year restriction period in which shares cannot be sold or transferred.

Appendix 3: Free Meat Audited Financial Statements (non-consolidated) – Historical Results and Management-Prepared Preliminary Forecasts

Income Statement									
In CAD 000's		*Historical*			*Projections*				
For the years ending August 31	*Notes*	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Revenues	*1*	$175,000	$215,000	$315,000	$472,500	$708,750	$921,375	$1,197,788	$1,557,124
Cost of goods sold		$95,000	$115,000	$160,000	$230,000	$325,000	$400,000	$490,000	$610,000
Gross profit		**$80,000**	**$100,000**	**$155,000**	**$242,500**	**$383,750**	**$521,375**	**$707,788**	**$947,124**
Research and development	*2*	$20,000	$22,000	$28,000	$40,000	$40,000	$40,000	$40,000	$40,000
Selling, general, and administration		$20,000	$30,000	$39,000	$39,000	$39,000	$39,000	$39,000	$39,000
Advertising and promotion		$18,000	$24,000	$32,000	$20,000	$20,000	$20,000	$20,000	$20,000
Interest expense		$5,000	$4,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Depreciation and amortization		$6,000	$6,000	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000
Earnings before taxes		**$11,000**	**$14,000**	**$41,000**	**$128,500**	**$269,750**	**$407,375**	**$593,788**	**$833,124**
Taxes	*3*	$2,255	$2,870	$8,405	$26,343	$55,299	$83,512	$121,726	$170,790
Net income (loss)		**$8,745**	**$11,130**	**$32,595**	**$102,158**	**$214,451**	**$323,863**	**$472,061**	**$662,333**
Capital investment	*4*			**$50,000**					

Notes:

1. In fiscal 2019, the Company undertook a $50 million investment to expand its plant, which is expected to drive meaningful revenue growth between fiscal 2019 and 2020.

2. Included in research and development expense is a portion of rent expense for office space, amounting to $1.0 million, $1.2 million, and $2.5 million in fiscal 2017, 2018, and 2019 respectively. The remaining rent expense is in selling, general, and administration. The opening of the US office drives the increase in fiscal 2019.

3. The Company pays tax at an effective corporate tax rate of 20.5%.

4. The Company has a non-capital loss carry forward of $15.0 million as at September 2019.

Balance Sheet				
In CAD 000's			*Historical*	
As at August 31	*Notes*	**2017**	**2018**	**2019**
Asset				
Cash		($7,445)	$55,085	$4,480
Accounts receivable	*1*	$30,000	$58,000	$80,000
Inventory	*2*	$15,000	$26,000	$35,000
Prepaid expenses	*3*	$3,000	$6,000	$7,000
Current assets		**$40,555**	**$145,085**	**$126,480**
Plant	*4*	$48,000	$48,000	$98,000
Land	*4*	$5,000	$5,000	$5,000
Furniture and fixtures	*4*	$5,500	$6,000	$9,000
Machinery/equipment	*4*	$14,000	$15,000	$25,000
Patent	*5*	$10,000	$10,000	$10,000
Investment	*6*	$20,000	$20,000	$20,000
Total assets		**$143,055**	**$249,085**	**$293,480**
Liabilities				
Line of credit	*7*	$15,000	$14,000	$13,000
Accounts payable	*8*	$15,000	$35,000	$50,000
Accrued liabilities		$1,000	$12,000	$15,000
Current liabilities		**$31,000**	**$61,000**	**$78,000**
Short-term debt	*9*	$3,300	$3,200	$3,000
Long-term debt	*9*	$50,000	$35,000	$30,000
Total liabilities		**$84,300**	**$99,200**	**$111,000**
Shareholders' Equity				
Common equity	*10*	$55,010	$135,010	$135,010
Preferred shares				
Retained earnings		$3,745	$14,875	$47,470
Shareholders' Equity		**$58,755**	**$149,885**	**$182,480**
Liabilities + Shareholders' Equity		**$143,055**	**$249,085**	**$293,480**

Notes:

1. Target accounts receivables days outstanding is 30.
2. Target inventory turnover is 25 days.
3. Prepaid expenses are considered a part of the Company's net working capital.

4. Capital assets are comprised of the following:

In CAD 000's

Capital Assets	NBV	UCC	FMV
Plant	$98,000	$95,000	$98,000
Land	$5,000	n.a.	$8,000
Furniture/fixtures	$9,000	$3,000	$5,500
Machinery/equipment	$25,000	$10,000	$14,000

5. Reflects the cost to patent the technology used to develop cellular meat products.

6. The investment reflects Free Meat's 49% ownership of a dairy-alternative company, Free Milk. Free Milk's financial statements are in Appendix 4.

7. Line of credit bears interest at a rate of 5% and secured against Free Meat's inventory and receivables.

8. Target accounts payable days outstanding is 45.

9. Short and long term debt is comprised of the following:

Short Term Debt	
Current portion of the senior secured financing from First Canadian Bank (7% interest rate)	$3,000,000
Long Term Debt	
Convertible Debt	$15,000,000
Senior secured financing from First Canadian Bank (7% interest rate)	$15,000,000

The optimal debt to equity ratio for companies in this industry is 30% debt, 70% equity.

10. Details pertaining to the common equity balance are provided in Appendix 1.

In CAD 000's

Common Equity Summary	
Date	**Investment**
September 2012	$10
August 2016 (fiscal 2016)	$30,000
April 2017 (fiscal 2017)	$25,000
April 2018 (fiscal 2018)	$80,000
Total	**$135,010**

Appendix 4: Free Milk Unaudited Income Statement

Income Statement				
In CAD 000's			*Historical*	
For the years ending August 31	*Notes*	**2017**	**2018**	**2019**
# of "milk" products sold		9,659	9,455	11,560
# of chocolate "milk" products sold		1,630	2,261	3,000
Revenues	*1/2*	**$41,000**	**$40,359**	**$51,000**
Cost of goods sold	*3*	$25,000	$24,000	$27,000
Gross profit		**$16,000**	**$16,359**	**$24,000**
Selling, general, and administration	*4/5*	$5,500	$7,000	$6,500
Advertising and promotion	*6*	$3,000	$3,200	$3,500
Management fee	*7*	$1,025	$1,009	$1,275
Interest expense	*8*	$700	$600	$500
Depreciation and amortization		$100	$100	$100
Earnings before taxes		**$5,675**	**$4,450**	**$12,125**
Taxes		$1,163	$912	$2,486
Net income (loss)		**$4,512**	**$3,538**	**$9,639**
Capital expenditures	*9*	**$300**	**$400**	**$500**

Notes:

1. Fiscal 2019 revenues include $2 million of revenue sold to a customer that went bankrupt. Free Meat management tried to collect the amount owed but were only successful at collecting 30% of it. The amount management wrote off is included in selling, general, and administration expense.

2. In early 2009, Free Milk received a $2 million investment from a wealthy individual. As part of the investment, the individual negotiated a royalty of $0.20 for the first 5 million products sold and $0.10 for every subsequent product sold up to a maximum of 10 million products. The royalty agreement ends in fiscal 2020. Revenues in the income statement provided are net of the royalty.

3. The company outsources manufacturing to a co-packer (i.e., a third party manufactures Free Milk's products for a fee). This fee is reflected in cost of goods sold. At the end of fiscal 2019, Free Milk signed a long-term contract with a new co-packer for a lesser fee. Free Milk will now pay $2.00 for every regular "milk" produced and $2.20 for every chocolate "milk" produced.

4. In fiscal 2018, Free Milk recalled products due to an outbreak at its co-packer's manufacturing facility. As a result, a $2 million charge related to the recall was recorded in selling, general, and administrative expense. In addition, Free Milk lost 0.2 percentage points in market share value (down to 3.0% of market share value) due to the inability to fulfill orders following the recall. Free Milk regained the lost market share in fiscal 2019. The market grew 5% annually in each year.

5. On March 8, 2018, one year following the investment by Free Meat, the founders of Free Milk increased their annual compensation from $50,000 to $130,000, which is reflective of the going market rate for similar positions.

6. The sister of one of Free Milk's founders provides all marketing and promotion services through her advertising firm. The firm provides services at a 'friends and family' discount of approximately 20%.

7. As part of the purchase agreement, Free Meat provides Free Milk with various services and resources in exchange for a management fee. Free Meat began charging the fee immediately following the investment. The fee is equal to 2.5% of Free Milk's annual sales and is reflected in the income statement provided. Free Meat provides a controller and a sales director who spend approximately 70% and 85% of their time at Free Milk, respectively. Market compensation for these roles is $100,000 and $85,000, annually. Free Meat also provides reporting, IT, and distribution services which would otherwise cost Free Milk $625,000 annually.

8. Interest bearing debt of $5 million bearing interest at 8%. Free Milk has a debt to equity ratio of 0.2:1.

9. Free Milk uses a co-packer to manufacture products, which resulted in low capital expenditure requirements. Historical capital expenditures were approximately $400,000 per year and mainly pertain to office equipment.

10. The company has a cash balance of $1 million, which is not redundant.

11. Free Milk's undepreciated capital cost balance is not material.

12. Free Meat has the option to either acquire the remaining 51% of Free Milk, or to sell their current share of 49% of Free Milk based on the formula below. No premiums or discounts are to be applied to any pro-rata value calculated using this formula.

$$\text{En-bloc value} = \left(\text{Average of most recent 2-year maintainable EBITDA, after tax} - \text{Most recent 2-year average historical capital expenditures}\right) * \left(\text{6.2 (capitalization rate)}\right)$$

Appendix 5: Notes from Meeting between XYZ Bank and Free Meat Management

Peter has provided the following notes from XYZ's meeting with Free Meat management

1. Free Meat is a very interesting company and it is evident that it has experienced solid financial performance over recent years, as demand for their products continue to rise. The plant-based meat alternative industry is projected to grow 20% year over year for the next five years. Free Meat management is projecting 50% annual growth in the first two years and 30% for the subsequent three years before tapering off to 5% into perpetuity, which appears to be overly optimistic. We at XYZ Bank expect Free Meat to experience growth of 40% annually for the first two years and 20% for the subsequent three years before tapering off to 3% into perpetuity.

2. Free Meat management expects gross margin expansion of almost 10 percentage points over the forecast period. We at XYZ Bank expect to see the 2020 gross margin decrease by 1% compared to fiscal 2019 due to additional factory overhead resulting from the plant expansion. Following that decline, we expect to see margin recovery of 1.5% annually (between fiscal 2021 through fiscal 2024) as the business begins to reap benefits from scale.

3. Research and development expenses as a percentage of revenue is expected to remain at 10% for the next two years and then decrease to 8%. The company is entitled to a SRED[1] tax credit equal to 5% of eligible research and development expenses. The company notes that 70% of their research and development expenses will be eligible for purposes of the SRED credit.

4. The fiscal 2019 selling, general, and administrative expenses more accurately reflect the normalized expense level as they include the additional costs associated with the opening of the US office as well as the additional volumes sold as a result of the plant expansion. We expect this expense to grow 7% annually. We also estimate that for every $220 million increase in revenues, the Company will incur an additional $10 million in selling expenses.

5. Free Meat management expects a significant decrease in advertising and promotion expense, as significant amounts were spent historically to build the brand. However, based on our experience working with branded businesses, we at XYZ Bank expect expenses pertaining primarily to the branded business (i.e., the products sold directly to customers via retail outlets as opposed to selling directly to restaurants (B2B)) to continue to be incurred. The proportion of revenue split between branded products vs. non-branded products is expected to remain at 60% and 40%, respectively. Advertising and promotion expense is typically 10% of branded revenues.

[1] Scientific Research and Experimental Development Credits (SRED) provide support in the form of tax credits and/or refunds, to corporations, partnerships or individuals who conduct scientific research or experimental development in Canada.

6. Annual net working capital requirements will approximate 8% of the change in revenues.

7. Free Meat plans to spend $3 million a year on maintenance capital expenditures, split evenly between office equipment and machinery. We at XYZ Bank expect that an additional $2 million will be required annually to maintain the machinery and equipment in the plant.

Appendix 6: Notes from Interviews with Individuals in the Food and Beverage Sector

A team at XYZ Bank engaged to work on this IPO advisory project recently completed a series of interviews with individuals who work in the food and beverage sector. Peter Adams provided you with notes from two of the interviews:

Interview #1 (Fund Manager, 20 years of experience, Food & Beverage sector)

The plant-based industry is hot right now! As a result, companies in this space are trading at higher multiples when compared to their traditional non-plant counterparts. Take McBurger for example, this company is trading at 9.0x NTM (Next Twelve Months') EBITDA. Chz-It is trading 2 times higher at 11.0x NTM EBITDA. However, Incredible Food, Beyond Beef, and Chiken Nugg are trading at 7 to 8 times higher at 16.0x to 17.0x NTM EBITDA. Then you have a company like Phish, which trades 3 times higher compared to its plant-based counterparts due to the use of advanced technology.

Interview #2 (Analyst, 15 years of experience, Food & Beverage sector)

The markets have been strong for quite some time but are gradually starting to slow their pace. As a result, many stocks are trading at high valuations that do not accurately reflect their value. This is especially true in the plant-based alternative space. As a result, I expect to see valuations across the plant-based industry come down 2 to 3 times. I would be interested in buying issuing shares of Free Meat so long as the valuation is reasonable.

Appendix 7: Precedent IPO Multiples (prepared by Team at XYZ Bank)

(Figures in $ Canadian Millions unless otherwise noted)

Much of Free Meat's value will be driven from future growth expectations of the company. As a result, we pulled NTM EBITDA of the set of companies below.

IPO Date	Company	NTM EBITDA at the time of IPO	Share price at the time of IPO ($)	1 wk share price change after IPO	EV at the time of IPO (M's)	Net Debt at the time of IPO	Company description
Apr-19	Phish	$75	$35	12%	$1,650	$250	Grow marine-animal cells through harnessing cellular biology to produce seafood products
Nov-18	Incredible Food	$45	$23	20%	$900	$100	100% plant-based products that simulate traditional meat products (e.g., hamburgers, sausages)
Sep-18	Beyond Beef	$70	$12	35%	$1,200	$200	100% plant-based products that simulate traditional meat products (e.g., hamburgers, sausages)
Jul-18	Chiken Nugg	$15	$9	2%	$300	$50	Chicken nugget simulation made of plant protein
Feb-17	Burger Boy	$85	$18	1%	$1,200	$250	Hamburger chain selling all-natural free-range, grass fed beef burgers without the use of hormones, antibotics
Oct-16	Chz-it	$50	$15	5%	$750	$100	Producer of dairy-alternative products
Mar-16	McBurger	$85	$18	-3%	$1,000	$120	Fast-food chain selling hamburgers and fries

Appendix 8: Other Relevant Information

- Combined federal and provincial corporate income tax rates:
  - Income eligible for small business deduction ($500,000): 12.5%
  - Income not eligible for small business deduction:
    - Manufacturing and processing: 25.0%
    - General: 26.5%
- Canada long-term inflation rate: 2.0%
- 5-year equity risk premium: 5.4%
- 10-year equity risk premium: 6.0%
- 20-year equity risk premium: 6.5%
- 1-year government bond yield: 2.1%
- 10-year government bond yield: 2.2%
- 20-year government bond yield: 2.8%
- Unlevered beta of comparable cellular meat companies: 1.1
- Free Meat's optimal debt / equity structure 30% / 70%
- Industry risk premium of comparable plant-based dairy alternative companies: 1.8%
- Free Meat's size premium: 4.0%

Question 2 - Graham's Honey Bee Farm (50 marks)

Background

It is September 16, 2019. You are a CBV at First East Consulting. Your best friend is Isabelle Graham, the owner of Graham's Honey Bee Farm (the "Company") located in Stratford, Ontario. Stratford is situated on the Avon River in southwest Ontario. It is an agricultural and tourist town famous for its Victorian buildings and picturesque scenery. Located one hour west of Toronto, Stratford's many parks and cultural events earned it one of the best places to retire in Canada in 2018.

The Company is a family owned and operated business for three generations, with 200 acres of land supporting 2,000 honey bee hives. The honey business is a highly unique commodity within the agriculture industry (see Appendix A). Isabelle acquired the shares of the Company from her father and sister in two separate transactions and is now the sole shareholder of the Company. Her adult son Matthew, who grew up on the farm on which the Company is based, is the Company's President.

Isabelle has spent her entire life on the farm as a beekeeper, and is now contemplating retirement so she can travel the world. Although Isabelle would like to sell the Company to Matthew to keep the Company in the family, she also wants to maximize the proceeds on the disposition of her shares of the Company as the business comprises the majority of her savings. Matthew would like to buy the shares of the Company valued as an operating entity because the bank has agreed to finance the transaction if the loan can be supported by the Company's cash flows. The Company's financial statements are summarized in Appendix B. He also has a small inheritance from his dad that can be used to fund the purchase. Your staff was able to find a limited number of farming transactions that are of relevance (see Appendix C).

Over the past several years, there has been an increase in new home builds in Ontario. As this trend continues, developers are looking to build outside of metropolitan areas as land in urban areas is scarce. The housing boom reached Stratford approximately 3 years ago with the construction of a new condominium complex on land which was previously used as a hog farm. Isabelle's neighbour, a potato and corn farmer, sold his 300 acres of land to Golden Years Retirement Limited ("Golden Years") in 2015 for $2 million. Golden Years owns and operates 10 income-producing properties in Ontario aimed at senior citizens. Golden Years plans to build a retirement home on this 300 acre area of land (the "Retirement Home Project").

Golden Years approached Isabelle last week with an offer to buy the 200 acres on which the Company is situated for $25,000 per acre. Isabelle has been advised that only the Company's 200 acres is being considered for purchase since the Company's land is adjacent to the 300 acres already purchased by Golden Years, and it backs onto the Avon River, a highly picturesque area of Stratford. Since waterfront property is highly desirable, Golden Years would be able to increase the sale price per unit of units which are built on the 200 acre property.

Isabelle's community is concerned about the development having an adverse impact to the neighbourhood as a result of increased traffic and cannibalization of agricultural lands. To obtain community support, Golden Years is offering four adjacent land owners an opportunity to become equity investors in the Retirement Home Project (see Appendix D). Isabelle is one of these land owners. This means that regardless of whether or not Isabelle sells the 200 acres to Golden Years, she has the opportunity to buy a 20% equity interest in the Retirement Home Project for $500,000.

Isabelle is overwhelmed with the amount of financial information presented to her and is confused about whether she should sell the land to Golden Years or sell the shares to Matthew. She has come to you for advice. Isabelle would like to know which of these options would maximize her after-tax proceeds. From a qualitative point of view, she would also like you to provide her with other factors she should consider based on your recommendation.

Isabelle has heard that the other three land owners who were offered the investment opportunity turned it down, citing that Golden Years was asking for too much money and that it would not be a good investment. Isabelle wants you to analyse the Golden Years proposal and let her know if she should invest in the Retirement Home Project. Isabelle would also like to hear your recommendations on tax strategies to execute the purchase of equity in the Retirement Home Project, as well as factors she should consider as a potential minority shareholder in a private company. Isabelle has not used any of her Lifetime Capital Gains Exemption ("LCGE").

Because you and Isabelle are close friends, Isabelle is hoping that you can simply provide some informal calculations and advice. As Isabelle has limited cash on hand, she is asking if she can pay you 10% of the after-tax proceeds of the most advantageous transaction, in lieu of your normal professional fees. You suspect that Isabelle's offer would be much more than the hourly rate you would otherwise charge.

Required:

In a memo* addressed to yourself:

1. Indicate the appropriate reporting option(s) and address any other relevant engagement considerations.

2. Determine whether Isabelle would maximize her after-tax proceeds by selling the Company's shares to Matthew or selling the land to Golden Years. Provide (briefly) any other qualitative factors Isabelle should consider in connection with these calculations.

3. Advise Isabelle as to whether she should invest in the Retirement Home Project.

** Note – while a formal report must eventually be prepared with respect to Requirements #2 and #3, Candidates should consider this work to form part of their working papers for this engagement. A formal report is not required at this time.*

Appendices

Appendix A: Background Information on the Honey Industry

Appendix B: Company's Historical Financial Statements

Appendix C: Recent Transactions in the Farming Industry

Appendix D: Retirement Home Project Investment Opportunity Proposal

Appendix E: Other Relevant Data

Appendix A – Background Information on the Honey Industry

Canadian Honey Industry

Honey is collected from wild or domesticated honey bee hives in a practice known as beekeeping. Honey bees are territorial and will fight each other when there is insufficient food. Therefore, farmers spread the beehives evenly throughout the property to maximize use of the land and minimize honey bee aggression.

In 2018, domesticated Canadian honey bees produced 95 million pounds of honey, and the value of Canada's honey industry was $200 million. In 2018, the US imported from Canada more than 55% of the total honey produced in Canada, and was the single largest consumer of Canadian honey in that year. Historically, Ontario and Quebec were the primary producers of Canadian honey; however, since the 1970s, the majority (approximately 80%) of the Canadian honey production has been in Alberta, Manitoba and Saskatchewan.

Honey Prices

Honey is considered a commodity, and the industry's profitability is driven by consumer supply and demand. In 2010, the industry began to see increased demand from consumers for a natural source of sugar. The demand for honey has skyrocketed since then, as honey is seen as an all-natural organic sweetener. In May 2018, Canadian producers sold honey at an all time high of $4.75 per pound on the wholesale market. As a result, many new entrants have entered the market place to capitalize on the demand and high sales prices, and the price for honey is expected to stabilize. In 2019 and the next several years, wholesale honey prices are expected to fall to between $3.75 and $3.25 per pound.

There is no active market information for the sale of honey farms as it is a tightly knit industry with farms typically being inherited from generation to generation. The farms are usually either unincorporated businesses or are owned by private companies. Although Isabelle has never been approached to sell her business, she tells you that a commonly used rule of thumb in the honey industry for the value of a business (including any land) is $750 per beehive.

Beehive Relocation

Since the 1930's, beehive relocation for pollination has become a crucial element of Canadian agriculture. Beehive relocation involves beekeepers trucking beehives around the country to pollinate crops. As a side business, traditional beekeepers often buy and sell beehives for the purpose of renting them out to farmers. Beehives sell for approximately $300 each.

In addition to its 2,000 beehives, the Company has an empty and unused barn and a small shed used to keep tools and equipment.

Honey Processing

Each beehive comprises of one queen bee and upwards of 40,000 worker bees. Honey is harvested once per year in the fall. On average, a healthy hive will produce approximately 40 pounds of honey per year. To safely collect honey from a hive, beekeepers pacify the bees with bee smoke, making the bees less aggressive. The honeycomb is removed from the hive and the honey is harvested using a honey extractor. The honey is then filtered to remove beeswax and other debris. Lastly, honey is bottled for sale. Like many small-scale beekeepers, the Company outsources the honey extraction, filtration and bottling process. The honey extraction and filtration facility charges $0.20 per pound for the first 20,000 pounds and $0.10 per pound for the remainder. The same facility bottles 1-pound honey into jars at a cost of $0.50 each.

The Company has established a strong brand over its long history. Rather than selling on the wholesale market, the Company sells directly to the consumer at farmer's markets in Ontario at a premium of $2.00 per pound above wholesale market price as an artisan product.

Colony Collapse Disorder

Honey bees are known to fly long distances and need a lot of space to find nectar. Honey yields are largely dependent on the bees' environment. While it was mutually beneficial to have a neighbouring potato and corn farm, Matthew is concerned that the Retirement Home Project may trigger colony collapse disorder ("CCD").

CCD occurs when the majority of worker bees disappear due to infection, loss of habitat, and pesticides, and leave behind the queen. Eventually the beehive dies as there are insufficient worker bees to maintain it. In the six years leading up to 2018, an estimated 10 million beehives worldwide were lost to CCD. There is a 50% chance that half of the Company's beehives will be impacted by CCD if the Retirement Home Project proceeds.

Appendix B – Company's Historical Financial Statements

Graham's Honey Bee's most recent Notice to Reader financial statements are summarized below:

Graham's Honey Bee **Income Statement** ***In $CAD***	**Notes**	**30-Jun-19**	**30-Jun-18**
Revenue			
Honey sales	1	540,000	500,000
Cost of Goods Sold			
Distillery	2	10,000	10,000
Bottling Jars	3	40,000	40,000
Delivery	4	10,000	10,000
		60,000	60,000
Expenses			
Management salary	5	60,000	60,000
Bookkeeping	6	10,000	15,000
Seasonal workers	7	60,000	60,000
Repairs and maintenance	8	4,000	3,500
		120,000	120,000
Amortization	9	52,350	52,450
Total expenses		232,350	232,450
Income before tax		307,650	267,550
Taxes	10	(38,456)	(33,444)
Net income		**269,194**	**234,106**

	30-Jun-19	**30-Jun-18**
Retained earnings, beginning of the year	227,950	256,233
Net Income	269,194	234,106
Dividends paid	(306,832)	(262,389)
Retained earnings, end of the year	**190,312**	**227,950**

Notes:

1. The bees produced 80,000 pounds of honey each year. The average market price of honey was $4.75 per pound in 2019 and $4.25 per pound in 2018.

2. Comprises of costs of delivering honey to a third party extraction and filtration company for processing.

3. Comprises of bottling costs. Each jar (which holds one pound of honey) costs $0.50.

4. Comprises of a flat fee cost for honey delivery (up to 100,000 pounds) from the Company to the processing facility (and back to the Company).

5. Comprises of Matthew's salary, which is at market rates.

6. Comprises of fees paid to Isabelle for bookkeeping services preparation of the Company's financial statements and income tax return. These services could be outsourced for $5,000.

7. Seasonal beekeepers are hired for 6 months in the summer and fall to assist with harvesting. One worker is required for every 500 hives at a cost of $20,000. Isabelle assisted with honey harvesting but did not take a salary with respect to these services as she withdrew dividends from the Company instead. Going forward, the Company will need to hire seasonal workers to replace her.

8. Comprises of regular maintenance of the beehives, bee suits and property grounds.

9. Amortization of the beehives is on a 20-year flat line basis which reflects the replacement cost. The barn and shed are amortized on a 25-year flat line basis. Bee suits and other small tool and equipment is expensed.

10. Graham's Honey Bee is a Canadian Controlled Private Corporation ("CCPC").

Graham's Honey Bee **Balance Sheet** ***In $CAD***	**Notes**	**30-Jun-19**	**30-Jun-18**
Assets			
Cash		5,400	1,290
Accounts receivable, net of doubtful accounts		20,100	13,010
Prepaid expenses	1	12,000	11,420
Current assets		37,500	25,720
Incorporation costs		5,000	5,000
Capital assets	2	201,410	251,410
		206,410	256,410
Total Assets		**243,910**	**282,130**
Liabilities			
Accounts payable		3,498	9,080
Due to Shareholder	3	50,000	45,000
		53,498	54,080
Equity			
Retained earnings		190,312	227,950
Common shares	4	100	100
		190,412	228,050
Total Liabilities plus Shareholders Equity		**243,910**	**282,130**

Notes:

1. Represents insurance paid on June 30 for the following 12 months. There is a 6-month penalty for early policy cancellation.

2. At June 30, 2019, capital assets comprised of:

Capital Assets ***In $CAD***	**Cost**	**Accumulated Depreciation**	**NBV**
Beehives	509,899	398,789	111,110
Barn and Shed	125,650	110,350	15,300
Land	75,000	0	75,000
Total	**710,549**	**509,139**	**201,410**

3. Due to the seasonality of the business, Isabelle annually makes a personal loan to the Company during the summer when expenses are at its highest. The loan is usually repaid by the end of the fiscal year using profits from the sale of honey.

4. The paid-up capital (“PUC”) of the shares is $100. The refundable dividend tax on hand (RDTOH) balance is NIL. Any dividends declared and paid by the Company are considered ineligible dividends.

Appendix C – Recent Transactions in the Farming Industry

Though honey is considered a commodity, the honey bee business is unique in the farming business as it is not labor or capital intensive as the bees require minimal maintenance and is not subject to government oversight.

For example, most livestock and agriculture crop farms are now heavily automated and require significant investments in technology. Although agricultural crop farming is less regulated than livestock farming, it is susceptible to extreme weather conditions and price fluctuations.

All this means that honey bee businesses often sell at higher multiples than other types of farms given it has higher profitability per acre of land due to lower labor and capital costs, and more stable cash flows.

Recent transactions in the farming sector are shown below:

Date	Target	EBIT Multiple	Description
2018-07-15	Dairy Delight Corp	3.00	Sale of 200 acres of land in Hanover, Ontario. Animal sanctury and milk and milk products processing facility
2019-03-16	Cam's Cattle Ranch	3.20	Sale of 300 acres of land, heavy machinery and 5,000 livestock between unrelated parties in Banff, Alberta
2018-12-17	Berries On Top	7.00	Sale of a pick-your-own blueberries and cherries business in Niagara on the Lake, Ontario. A 3rd generation farm consisting of 250 acres sold to an overseas investor
2011-09-18	Corn Field Brothers	4.00	The sale of a corn farm from parents to the children - the transaction was structured for tax purposes in Victoria, BC
2018-07-19	Good Cherries	10.00	A 300 acre lot in Hamilton, Ontario that produced 100,000 lbs of cherries and 50 beehives yielding 5,000 lbs of honey. The transaction occurred as part of a divorce between the two founders on amicable terms
2019-04-20	Potato Day	8.50	A 150 acre property backing onto a provincial park in Algonquin, Ontario. The father retired and sold the business at FMV to his two children

Historical Transactions within the Company

Isabelle became the majority shareholder of the Company when her father passed away in 1982. In his will, Isabelle's father left 80% of the shares of the Company to Isabelle and the remaining 20% to Isabelle's younger sister Laura (who was not active in the business). Approximately 10 years ago, Laura became ill and needed $250,000 to travel to the United States for medical treatments. She sold her shares to Isabelle for $200,000 cash. No valuation was performed - the purchase price represented the maximum amount of money Isabelle was able to borrow from the bank. As the value of the land used by the Company has increased considerably since Isabelle bought Laura's shares, the transaction has caused a rift between Isabelle and Laura.

Appendix D – Retirement Home Project Investment Opportunity Proposal

The following is an excerpt from the Golden Years' Investment Opportunity Proposal given to Isabelle.

Overview

We are pleased to announce the development of a state of the art retirement home at 100 Merton Street, Stratford, Ontario, on our 300-acre property (purchased in 2015), which we are referring to "Phase 1" of this retirement home project. In Phase 1, we will be building 75 units.

We strive to give our residents the comforts of home as well as access to assisted home care, 24-hour medical services, and food and meal service for the following fees:

Services	Fees	Participation
Home care assistance	$100 per resident per month	Mandatory
Food and meal service	$500 per resident per month	Optional
Management and maintenance fee	$75 per unit per month	Mandatory
Health care	Free (provincial health care plan)	Mandatory

Retirement housing is an unregulated industry. While most of the fees are mandatory, residents may choose to subscribe to the home's food and meal service. Based on our experience at other properties, it is likely that 50% of the residences will choose this service.

To provide our residents with quality services, the retirement home will incur ongoing expenses as follows:

Services	Expenses
Home care assistance	$40,000 per staff member per 100 units annually
Food and meal service	$400 per resident per month
Management and maintenance fee	$120,000 for 2 full-time staff members annually
Insurance	$50,000 annually
Capital Expenditures	$200,000 annually
Depreciation on building	5% declining balance
Depreciation on furniture and fixtures	20% declining balance

The retirement home industry is a stable industry. Thus, the annual change in working capital is not material.

Timeline of Project Revenues and Expenses – Phase 1

- The 300-acre property was purchased in 2015 for $2 million.
- Phase 1 (and therefore Year 1) of this project commenced when architectural drawings and zoning bylaws were submitted in May 2019. The drawings and zoning were approved at the beginning of September 2019.
- The marketing and promotional stage began on July 1. This stage typically lasts for 6 months.
- Next month, construction will begin and when the building is complete (which is expected to be toward the end of Year 2), units will gradually become occupied.
- Residents may buy a unit, pay an 80% deposit at the time of purchase, and keep the unit vacant until they are ready to move in. Upon their move-in date (i.e., occupancy), residents must pay the remainder of the purchase price. Occupancy is expected to reach capacity in 5 years as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5
Occupancy	0%	60%	90%	95%	100%

- The units will be sold for $150,000 each and can occupy up to 2 residents. It is expected that, on average, each unit will house 1.5 residents. Marketing and promotions for Phase 1 have been extremely successful, and due to the demand for retirement units in this area, 60 units were sold in July and August alone. The remaining units are expected to be sold by the end of Year 1.
- When an agent sells a unit, he/she earns a 2.5% commission at the time of purchase and sale (i.e., when the purchaser pays his/her deposit).
- Builder's insurance will be required for the first three years during the construction period (i.e., until the landscaping is complete).
- Material and labor expenses will be incurred evenly over the time to complete the construction.
- All furniture and fixtures will be put in once the building is complete at the end of Year 2.
- As landscaping is done only after construction has concluded, it will be completed in Year 3.

Estimated costs for Phase 1 are listed below:

Cost to build 75 units (Phase 1):	$
Land	2,000,000
Marketing and promotional expenses	250,000
Builder's insurance (annual)	250,000
Architect drawings	150,000
Zoning permits	50,000
Building material	2,000,000
Furniture and fixtures - in units	500,000
Furniture and fixtures - in common areas	500,000
Labor	1,500,000
Landscaping	300,000

Government Grant

The Government of Ontario is promoting the construction of residences for seniors and has put an incentive in place to encourage such development. The grant is paid once the development has reached 95% occupancy. A sliding scale is used to determine the amount of the grant:

Government Grant Program:	
Value of grant $	**# of units**
200,000	25-50
300,000	50-75
400,000	100-150
500,000	151+

Potential for Phase 2

We are in discussions with the owner of an adjacent property to acquire an additional 200 acres of land, which will allow us to double the size of the building and allow for the construction of an additional 75 units for a total unit count of 150 units. We are optimistic that the purchase of this land will occur in the next few months.

New architectural drawings and the zoning permits will need to be resubmitted (at the same cost as Phase 1); however, we are confident that the expanded development will be approved. We are confident that Phase 2 will be completed on the same timeline as Phase 1. The price per unit of the Phase 2 units will be 10% higher than the price per unit of the Phase 1 units, since we will be able to charge a premium for waterfront property. Despite the increase in the number of available units and the increased price, we still expect the Retirement Home Project to be sold out by the end of Year 1 due to the demand for retirement units in this area.

We expect to achieve some synergies of scale relating to building material, insurance and landscaping, which we expect to increase by only 50% in Phase 2 (compared to Phase 1). Labor costs and furniture and fixtures related to the units will double while furniture and fixtures related to the common area will increase by 25%. There will be no increase to our marketing and selling expenses, other than the incremental sales commissions on the sale of units.

Appendix E – Other Relevant Data

Your staff has performed research and presented you with the following data:

Economic Data

- 5-year Canada bond rate 2.0%
- Bank of Canada overnight rate 1.75%
- Small size premium (revenue < $5M) 3%
- Mid size premium ($5M < revenue <$100M) 1%
- Equity risk premium 5%
- Long-run return on equity 8%
- Residential development risk premium 3%
- Commercial development risk premium 7%
- 10-year AAA corporate bond yield 4.5%
- 10-year junk corporate bond yield 8.0%
- Consumer price index 1.9%
- Optimal residential development debt/equity ratio 20%/80% debt to equity
- Optimal commercial development debt/equity ratio 50%/50% debt to equity

Tax Data (2019 rates for Ontario)

- Corporations - combined federal and provincial income tax rates:
    - Income eligible for small business deduction ($500,000): 12.5%
    - Income not eligible for small business deduction:
        - Manufacturing and processing: 25.0%
        - General: 26.5%
    - Investment income 50.0%
- Individuals - combined federal and provincial income tax rates (top marginal rates):
    - Interest and other income 53.5%
    - Eligible dividends
        - Dividend gross-up 38.0%
        - Tax on grossed-up dividends 39.3%
        - Dividend tax credit 25.0% of grossed-up dividend
    - Non-eligible dividends
        - Dividend gross-up 16.0%
        - Tax on grossed-up dividends 47.4%
        - Dividend tax credit 13.0% of grossed-up dividend
    - Capital gains 26.8%
    - Lifetime capital gains exemption amount $867,000

Other Data

In your litigation search on Golden Years, you read:

"In 2018, Paddy Smith named Golden Years as a defendant in a wrongful dismissal suit alleging that her complaints regarding poor working conditions in Chatham, Ontario lead to her ultimate termination with the company as a health care aid".

Upon further searching, you realise that this has created a rift between the management and staff and there are talks among the employees to unionize.

Table I
Present Value of $1 Received at the End of the Year

Years Hence	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	20.0%
1	0.98	0.97	0.96	0.95	0.94	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83
2	0.96	0.94	0.92	0.91	0.89	0.87	0.86	0.84	0.83	0.81	0.80	0.78	0.77	0.76	0.74	0.73	0.72	0.71	0.69
3	0.94	0.92	0.89	0.86	0.84	0.82	0.79	0.77	0.75	0.73	0.71	0.69	0.67	0.66	0.64	0.62	0.61	0.59	0.58
4	0.92	0.89	0.85	0.82	0.79	0.76	0.74	0.71	0.68	0.66	0.64	0.61	0.59	0.57	0.55	0.53	0.52	0.50	0.48
5	0.91	0.86	0.82	0.78	0.75	0.71	0.68	0.65	0.62	0.59	0.57	0.54	0.52	0.50	0.48	0.46	0.44	0.42	0.40
6	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.60	0.56	0.53	0.51	0.48	0.46	0.43	0.41	0.39	0.37	0.35	0.33
7	0.87	0.81	0.76	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.43	0.40	0.38	0.35	0.33	0.31	0.30	0.28
8	0.85	0.79	0.73	0.68	0.63	0.58	0.54	0.50	0.47	0.43	0.40	0.38	0.35	0.33	0.31	0.28	0.27	0.25	0.23
9	0.84	0.77	0.70	0.64	0.59	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.31	0.28	0.26	0.24	0.23	0.21	0.19
10	0.82	0.74	0.68	0.61	0.56	0.51	0.46	0.42	0.39	0.35	0.32	0.29	0.27	0.25	0.23	0.21	0.19	0.18	0.16
11	0.80	0.72	0.65	0.58	0.53	0.48	0.43	0.39	0.35	0.32	0.29	0.26	0.24	0.21	0.20	0.18	0.16	0.15	0.13
12	0.79	0.70	0.62	0.56	0.50	0.44	0.40	0.36	0.32	0.29	0.26	0.23	0.21	0.19	0.17	0.15	0.14	0.12	0.11
13	0.77	0.68	0.60	0.53	0.47	0.41	0.37	0.33	0.29	0.26	0.23	0.20	0.18	0.16	0.15	0.13	0.12	0.10	0.09
14	0.76	0.66	0.58	0.51	0.44	0.39	0.34	0.30	0.26	0.23	0.20	0.18	0.16	0.14	0.13	0.11	0.10	0.09	0.08
15	0.74	0.64	0.56	0.48	0.42	0.36	0.32	0.27	0.24	0.21	0.18	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06
16	0.73	0.62	0.53	0.46	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05
17	0.71	0.61	0.51	0.44	0.37	0.32	0.27	0.23	0.20	0.17	0.15	0.13	0.11	0.09	0.08	0.07	0.06	0.05	0.05
18	0.70	0.59	0.49	0.42	0.35	0.30	0.25	0.21	0.18	0.15	0.13	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04
19	0.69	0.57	0.47	0.40	0.33	0.28	0.23	0.19	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.04	0.04	0.03
20	0.67	0.55	0.46	0.38	0.31	0.26	0.21	0.18	0.15	0.12	0.10	0.09	0.07	0.06	0.05	0.04	0.04	0.03	0.03

Table II

Present Value of an Annuity of $1 Received at the End of Each Year

No. of Years Received	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	20.0%
1	0.98	0.97	0.96	0.95	0.94	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83
2	1.94	1.91	1.89	1.86	1.83	1.81	1.78	1.76	1.74	1.71	1.69	1.67	1.65	1.63	1.61	1.59	1.57	1.55	1.53
3	2.88	2.83	2.78	2.72	2.67	2.62	2.58	2.53	2.49	2.44	2.40	2.36	2.32	2.28	2.25	2.21	2.17	2.14	2.11
4	3.81	3.72	3.63	3.55	3.47	3.39	3.31	3.24	3.17	3.10	3.04	2.97	2.91	2.85	2.80	2.74	2.69	2.64	2.59
5	4.71	4.58	4.45	4.33	4.21	4.10	3.99	3.89	3.79	3.70	3.60	3.52	3.43	3.35	3.27	3.20	3.13	3.06	2.99
6	5.60	5.42	5.24	5.08	4.92	4.77	4.62	4.49	4.36	4.23	4.11	4.00	3.89	3.78	3.68	3.59	3.50	3.41	3.33
7	6.47	6.23	6.00	5.79	5.58	5.39	5.21	5.03	4.87	4.71	4.56	4.42	4.29	4.16	4.04	3.92	3.81	3.71	3.60
8	7.33	7.02	6.73	6.46	6.21	5.97	5.75	5.53	5.33	5.15	4.97	4.80	4.64	4.49	4.34	4.21	4.08	3.95	3.84
9	8.16	7.79	7.44	7.11	6.80	6.52	6.25	6.00	5.76	5.54	5.33	5.13	4.95	4.77	4.61	4.45	4.30	4.16	4.03
10	8.98	8.53	8.11	7.72	7.36	7.02	6.71	6.42	6.14	5.89	5.65	5.43	5.22	5.02	4.83	4.66	4.49	4.34	4.19
11	9.79	9.25	8.76	8.31	7.89	7.50	7.14	6.81	6.50	6.21	5.94	5.69	5.45	5.23	5.03	4.84	4.66	4.49	4.33
12	10.58	9.95	9.39	8.86	8.38	7.94	7.54	7.16	6.81	6.49	6.19	5.92	5.66	5.42	5.20	4.99	4.79	4.61	4.44
13	11.35	10.63	9.99	9.39	8.85	8.36	7.90	7.49	7.10	6.75	6.42	6.12	5.84	5.58	5.34	5.12	4.91	4.71	4.53
14	12.11	11.30	10.56	9.90	9.29	8.75	8.24	7.79	7.37	6.98	6.63	6.30	6.00	5.72	5.47	5.23	5.01	4.80	4.61
15	12.85	11.94	11.12	10.38	9.71	9.11	8.56	8.06	7.61	7.19	6.81	6.46	6.14	5.85	5.58	5.32	5.09	4.88	4.68
16	13.58	12.56	11.65	10.84	10.11	9.45	8.85	8.31	7.82	7.38	6.97	6.60	6.27	5.95	5.67	5.41	5.16	4.94	4.73
17	14.29	13.17	12.17	11.27	10.48	9.76	9.12	8.54	8.02	7.55	7.12	6.73	6.37	6.05	5.75	5.47	5.22	4.99	4.77
18	14.99	13.75	12.66	11.69	10.83	10.06	9.37	8.76	8.20	7.70	7.25	6.84	6.47	6.13	5.82	5.53	5.27	5.03	4.81
19	15.68	14.32	13.13	12.09	11.16	10.34	9.60	8.95	8.36	7.84	7.37	6.94	6.55	6.20	5.88	5.58	5.32	5.07	4.84
20	16.35	14.88	13.59	12.46	11.47	10.59	9.82	9.13	8.51	7.96	7.47	7.02	6.62	6.26	5.93	5.63	5.35	5.10	4.87

Table III

Capital Cost Allowance Tax Shield

• Declining balance basis, assuming full capital cost allowance in first year as well as thereafter:

$$\frac{\text{Investment Cost (UCC) X Tax Rate X CCA Rate}}{\text{Rate of return + CCA rate}}$$

• Formula reflecting the allowance of one-half of the CCA in the year the assets are acquired:

$$\frac{\text{Investment Cost (UCC) X Tax Rate X CCA Rate}}{\text{Rate of return + CCA rate}} \times \frac{\text{((1 + (0.5 X Rate of return))}}{\text{(1 + Rate of return)}}$$

Maximum Capital Cost Allowance Rates for Selected Classes

	Rate	
Class 1	4%	
Class 6	10%	
Class 8	20%	
Class 10	30%	
Class 10.1	30%	
Class 12	100%	
Class 14	Lesser of capital cost spread over useful life or the UCC at the end of the tax year	
Class 14.1	5%	Property acquired after December 31, 2016
Class 17	8%	
Class 29	50%	Straight line (25% in 1st year, 50% in 2nd year, 25% in 3rd year)
Class 38	30%	
Class 43	30%	
Class 44	25%	
Class 45	45%	
Class 46	30%	
Class 50	55%	
Class 53	50%	

SUGGESTED SOLUTIONS

Question 1 - Free Meat – Suggested Solution

Requirements 1 and 2 – Recommendation as to the per-share listing price and recommendation as to the total net proceeds Free Meat will generate immediately following the issuance

To: Peter Adams
From: Registered Student in CBV Institute Program of Studies, XYZ Bank
Re: Free Meat IPO
Date: September 16, 2019

Engagement and Reporting Matters

- At this point, a valuation report is not required as our work is for internal pricing purposes only. If our work were to be distributed externally, an Advisory Report under Section 210 of the CICBV Practice Standards would be appropriate as our recommendations are not independent - we are the lead bank on the IPO, and will be getting a fee based on the IPO proceeds.
- Valuation date is current date [*Note to Candidates: August 31, 2019 was also accepted*].
- FMV is defined as: *The highest price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts*.
- Fair market value, as defined above, is a concept of value which may or may not equal the purchase or sale price that could be obtained for the business if it were sold in an actual market transaction.

Marker Comments

- *Most Candidates handled the engagement and reporting sections of the question well.*
- *Many Candidates, though recognizing that XYZ was not independent, did not explicitly say why (i.e., contingent fees on IPO proceeds) – most Candidates failed to remember that XYZ would charge a fee that should be deducted from the IPO proceeds.*

Valuation of Free Meat (Exhibit 1)

- A DCF approach is appropriate because the business is forecast to grow significantly subsequent to the valuation date.
- Management's forecast should be viewed with caution as there is a bias to provide overly optimistic forecast to generate highest level of proceeds.
- A 5-year forecast, and a terminal period forecast after Year 5, was built in accordance with the expected revenues, cost of goods sold, and expenses described in Appendices 3 and 5 of the question.

- Income taxes, required capital expenditures (net of tax shield using ½ year rule) and required working capital investments were deducted in each year to arrive at annual after-tax free cash flows.
- A capitalization rate based on Free Meat's average WACC (calculated in Exhibit 2) was applied to the terminal period after-tax free cash flows to arrive at a terminal value.
- The annual after-tax free cash flows and the terminal value were discounted to present value using Free Meat's average WACC (calculated in Exhibit 2).
- The above present values were summed to arrive at Free Meat's Enterprise Value, of approximately $1.8B (Exhibit 1).

Marker Comments

- *Many Candidates did not explicitly discuss the impact of management bias on the forecast*
- *Working capital changes were often ignored*
- *For the most part, loss carryforwards, which were albeit a relatively minor amount compared to overall en-bloc value, were addressed in a superficial manner.*

Valuation of Free Milk (Exhibit 3)

- Capitalized cash flow approach is appropriate because the company has been profitable and is expected to be a going concern, no forecasts are available, revenues and expenses are expected to remain stable in future, and sustaining capital reinvestment is expected to differ from historical and prospective depreciation.
- Free Milk's income statement and EBTIDA for 2017 to 2019 were restated.
- Normalization adjustments were made to EBITDA to arrive at maintainable EBITDA for 2017 through 2019. A range of maintainable EBITDA was selected.
- Income taxes and required capital expenditures, net of tax shield (using ½ year rule) were deducted to arrive at maintainable after-tax cash flow.
- A WACC capitalization rate (multiple) was applied to arrive at capitalized cash flow (Exhibit 4).
- The midpoint of this range was selected as Free Milk's Enterprise Value, of approximately $57 million (Exhibit 3).
- FMV of Free Milk's en bloc equity is $52 million (average). FMV of 49% equity stake is $26 million (average) (Exhibit 3).
- The en bloc FMV of Free Milk using the purchase formula ($48 million – see Exhibit 3) is less than the value derived using a capitalized cash flow method. Therefore, Free Meat should acquire the remaining 51% of Free Milk, as the purchase price is less than the FMV. Additionally, this will optimize the value of Free Meat before the IPO.

Marker Comments

- *Candidates generally performed well in the DCF and CCF portions of the question, including recognizing most of the required normalizing adjustments, and treating them appropriately.*
- *General valuations of Free Meat and Free Milk were done well.*
- *When assessing whether to acquire the remaining 51% of Free Milk, many Candidates compared 100% of the value of Free Milk using the formula against 49% of the FMV of Free Milk that they had calculated above.*
- *Difficult adjustments seemed to be the lost market share and the management fees.*
- *Some Candidates tried to short cut the capitalization rate selection by copying the one used for Free Meat, however this was meant to be a different approach.*
- *The purchase decision of Free Milk was often addressed without appropriately comparing the 51% of FMV vs. 51% of the purchase price calculation.*
- *Most Candidates could calculate the cost to purchase the other 51% of the shares using the formula and conclude appropriately.*

Free Meat Equity Value Determination (Exhibit 1)

- The FMV of Free Milk was added, and the cost to acquire the 51% (based on the formula) was deducted.
- Redundant net working capital was calculated based on the target receivables, inventory and payables.
- Interest bearing debt was deducted and cash was added.
- The convertible debt was calculated on a not-converted and converted basis. The value of the convertible debt if redeemed is higher than if converted to common shares. Therefore, we have chosen to redeem the convertible debt (including accrued interest). See Exhibit 1 for calculations.
- The value per share was calculated with reference to the 30 million shares issued and outstanding.
- A minority discount was considered, recognizing the holders of the IPO shares would hold non-controlling share interests.
- The value per share is $50.72, therefore IPO should be priced in the range of (say) $48 to $52 per share.
- The net proceeds to Free Meat, net of the 6% investment banking fee, would be in the range of $900 million to $980 million (see Exhibit 1).

Marker Comments

- *Most Candidates treated Free Milk as a redundant asset but did not adjust for the purchase of the other 51% of the shares, or conversely the sale of the 49%.*
- *Candidates generally did not deduct the cost of acquiring the remaining portion of Free Milk when adding 100% of the value to the FMV of Free Meat.*

- *Few Candidates considered all of the conversion discount, blockage discount and valuation cap in their analysis*
- *Many Candidates did not incorporate accrued interest in their convertible debt calculations.*
- *Many Candidates struggled with the convertible debt section with very few comparing the two options of remaining as debtholders or becoming equity holders.*
- *IPO Issue Price was generally calculated but without consideration of a minority discount*

Comparable Company Analysis (Exhibit 5)

- The comparable companies listed on Appendix 6 and 7 were analyzed to determine whether the indicated EV/EBITDA multiples for Free Meat and Free Milk were reasonable.
- Of the companies listed in Appendix 6 and 7, Phish and Chz-It were the most comparable to Free Meat and Free Milk, respectively. Phish uses a similar technology to Free Meat in order to produce fish products in a lab. Chz-it produces dairy alternative products that are similar to Free Milk's products. The other companies listed are not considered comparable.
- The adjusted IPO multiples of Phish and Chz-It are 24.2x and 15.7x, respectively (see Exhibit 5).
- The IPO multiples are likely higher post-issuance as a result of investor demand and hype for the shares.

Marker Comments

- *Candidates' discussion on the comparable companies was not done well. Little reasoning was provided for the comparables selected. Very few Candidates performed a secondary analysis on the FMV of Free Milk.*
- *Most Candidates addressed the comparable companies but few correctly identified the two companies that were comparable and therefore the ratio analysis was not completed well.*
- *Candidates typically did not identify Phish as the only comparable for Free Meat.*
- *Very few Candidates adjusted the EV/EBITDA of the comparable companies based on the 1 week change in stock price.*

Calculation of WACC for each of Free Meat and Free Milk (Exhibits 2 and 4)

- High and low discount rates (i.e., WACCs) and capitalization rates were calculated for each of Free Meat and Free Milk, and an average WACC for Free Meat and Free Milk was also calculated.
- Free Meat's WACC was calculated using a CAPM approach as an unlevered beta was provided. Free Milk's WACC was calculated using a build-up approach as an industry risk premium was provided. Free Milk's size premium is necessarily higher than Free Meat's as the company is smaller in size.
- Free Meat's average WACC is calculated as 14.4% (capitalization rate of 8.1x). Free Milk's average WACC is calculated as 15.8% (capitalization rate of 7.3x).

Marker Comments

- *Discount rate was completed well; however, very few Candidates addressed the levered or unlevered beta. Some of the company specific risk factors did not seem to affect the risk at all.*
- *Some Candidates only adjusted Free Meat's WACC for Free Milk instead of performing a separate calculation (even though separate case facts were provided).*
- *Several Candidates did not use a CAPM approach to calculate cost of equity, despite being provided with Beta.*
- *Candidates often did not match the time periods in the RFR and ERP rates selected.*

Requirement 3 - Advice to Seed Round Investors

The following are key items that the seed round investors should consider prior to selling their shares.

- Tax considerations: seed round investors invested at much lower valuation and will likely have a large capital gain upon disposal of shares.
- Blockage discount: potential restriction period on the sale of shares immediately subsequent to the IPO (and possibly for a short period thereafter) to mitigate volatility of share price.
- Shareholder priorities/concerns: new shareholders may vote on decisions that early stage investors are not aligned on.
- Potential dilution of value. Investors may potentially lose control as the new common shares issued dilutes the founders ownership to less than 50%.
- May be able to retain control by having more board seats or largest block of shares, but other shareholders could combine to outvote.

Marker Comments

- *Few Candidates attempted to provide any advice to seed round investors – the discussion that was provided was generally limited to the lifetime capital gain deduction, with no recognition that it was immaterial.*
- *A few Candidates caught that there would be a potential blockage discount for seed round investors. More Candidates realized there would be a taxable capital gain.*

Exhibit 1
Valuation of Free Meat – Discounted Cash Flow (DCF)

Year ending August 31 (in CAD)		2020F	2021F	2022F	2023F	2024F	Terminal	Notes
Revenue		**441,000**	**617,400**	**740,880**	**889,056**	**1,066,867**	**1,098,873**	
Growth		*40%*	*40%*	*20%*	*20%*	*20%*	*3%*	*Appendix 5*
Gross profit		**212,590**	**306,887**	**379,378**	**468,589**	**578,310**	**595,659**	
Margin		*48.2%*	*49.7%*	*51.2%*	*52.7%*	*54.2%*	*54.2%*	*Appendix 5*
Research & development		(44,100)	(61,740)	(59,270)	(71,124)	(85,349)	(87,910)	*1*
Selling, general, and administration		(41,730)	(54,651)	(47,777)	(61,121)	(64,700)	(58,528)	*2*
Advertising & promotion		(26,460)	(37,044)	(44,453)	(53,343)	(64,012)	(65,932)	*3*
Rent expense		(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	*Appendix 3*
EBITDA		**97,800**	**150,952**	**225,378**	**280,500**	**361,749**	**380,788**	
Margin		*22.2%*	*24.4%*	*30.4%*	*31.6%*	*33.9%*	*34.7%*	
Less: taxes payable (25%)		(20,700)	(37,738)	(56,344)	(70,125)	(90,437)	(95,197)	*Note 4*
Add: SRED credit		1,544	2,161	2,074	2,489	2,987	3,077	*1*
After-tax cash flow		**78,644**	**115,375**	**171,108**	**212,864**	**274,299**	**288,668**	
Less: Capex		(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	*Appendix 5*
Add: Tax shield		758	758	758	758	758	758	*Note 5*
Less: NWC		(10,080)	(14,112)	(9,878)	(11,854)	(14,225)	(2,560)	*Appendix 5*
After-tax free cash flow		**64,321**	**97,020**	**156,987**	**196,768**	**255,831**	**281,865**	
Terminal value capitalization rate							8.1x	*Exhibit 2*
Capitalized terminal value							**2,276,207**	
Discount rate	14.4%							*Exhibit 2*
Discount factor		0.5	1.5	2.5	3.5	4.5		
Discounted after-tax free cash flow		**60,127**	**79,252**	**112,058**	**122,734**	**139,443**	**1,240,664**	

PV free cash flow, Years 1-5	513,614		
PV terminal value	1,240,664		
Add: Tax shield on existing UCC (rounded)	7,300	*Note 6*	
BEV of Free Meat	**1,761,577**		
Add: FMV Free Milk (average)	52,066	*Exhibit 3*	
Less: Cost to acquire 51%	(24,532)	*Exhibit 3*	
Add: Excess (deficient) net working capital	47,877	*Note 7*	
Less: Interest bearing debt, excluding convertible deb	(31,000)	*Appendix 3*	
Add: Cash	4,480	*Appendix 3*	
Equity value before convertible debt	**1,810,468**	***1,810,468***	
Less: Convertible debt - not converted	(18,376)		*$15.0 million face value, annual interest 7%, 3 years*
Less: Convertible debt - converted		n/a	
FMV of Free Meat equity - not converted, converted	**1,792,092**	**1,810,468**	
FMV of Free Meat equity (rounded)	**1,790,000**	**1,810,000**	
# of shares o/s	30,000	30,000	*Note 8*
# of shares - converted	n/a	255	*Note 8*
	30,000	30,255	
Value per share - not converted, converted	59.67	59.82	
Value of convertible debt	*18,376*	*15,255*	*Therefore convertible debt holder would NOT convert.*
Value per share, above	*59.67*		
Less: Minority discount	*15%*	*IPO participants will have non-controlling interest*	
FMV per share	***50.72***		
Conclusion: Recommend IPO price in range of $48 to $52.			

	Low	High	
Shares from treasury	20,000	20,000	*Must exclude 1 million shares of Founders being directly sold*
Value per share	48.00	52.00	
Gross proceeds to Free Meat	960,000	1,040,000	
Less: 6% investment bank fee	(57,600)	(62,400)	
Net proceeds to Free Meat	**902,400**	**977,600**	

Conclusion: Net proceeds to Free Meat would be in range of $900 million to $980 million.

Multiple corroboration

Free Meat EV/FY19 EBITDA	31.5x	
Free Meat EV/FY20 EBITDA (NTM)	18.0x	
Phish EV/ EBITDA (Adj.)	24.2x	*Exhibit 5*
Phish EV/ NTM EBITDA	19.5x	*Exhibit 5*

Conclusion: Free Meat LTM multiple slightly higher than Phish and NTM multiple in line; given new industry, expect to see volatility in multiples and valuation

Notes to Free Meat DCF

1. R&D

		2020F	2021F	2022F	2023F	2024F	Terminal
Revenue		441,000	617,400	740,880	889,056	1,066,867	1,098,873
R&D as a % of revenue		10%	10%	8%	8%	8%	8%
R&D expense		**44,100**	**61,740**	**59,270**	**71,124**	**85,349**	**87,910**
Eligible expense		70%	70%	70%	70%	70%	70%
Tax credit (5% of eligible expense)		**1,544**	**2,161**	**2,074**	**2,489**	**2,987**	**3,077**

2. Selling, general, and administration

		2020F	2021F	2022F	2023F	2024F	Terminal
2019A expense	39,000						
Annual growth rate	7%						
Selling, general, and administration expense		41,730	44,651	47,777	51,121	54,700	58,528
Additional expense ($10M every $220M revenue)							
2019A revenue		1					
Forecast revenue		441,000	617,400	740,880	889,056	1,066,867	1,098,873
Accumulated revenue ($)		440,999	617,399	740,879	889,055	1,066,866	1,098,872
Additional revenue after each $220M milestone		440,999	397,399	520,879	449,055	406,866	438,872
$220M additional revenue reached			220,000		220,000	220,000	
Additional expense			**10,000**		**10,000**	**10,000**	
Total selling, general, and administration expense		**41,730**	**54,651**	**47,777**	**61,121**	**64,700**	**58,528**

3. Advertising & Promotion

		2020F	2021F	2022F	2023F	2024F	Terminal
Revenue		441,000	617,400	740,880	889,056	1,066,867	1,098,873
Branded revenues (60%)		264,600	370,440	444,528	533,434	640,120	659,324
Expense (10% of branded)		**26,460**	**37,044**	**44,453**	**53,343**	**64,012**	**65,932**

4. Non-capital loss

Taxable income	**Year 1**					
EBITDA	97,800	150,952	225,378	280,500	361,749	380,788
Less: Non-capital loss ($15M) *	(15,000)					
Taxable income	82,800	150,952	225,378	280,500	361,749	380,788
Taxes payable (25%)	**20,700**	**37,738**	**56,344**	**70,125**	**90,437**	**95,197**

*[*Note to Candidates: Candidates who adequately calculated the value of the non-capital loss carry-forward as a redundant asset separately added to enterprise value were also awarded full marks]*

5. Capital Cost Allowance

Half-year tax shield formula using the following inputs:

$$\frac{\text{(Investment cost * tax rate * CCA rate)}}{\text{Rate of return + CCA rate}} \times \frac{\text{(1+(0.5 * rate of return))}}{\text{(1 + rate of return)}}$$

	Office equipment	Machinery	Total
Required capital expenditures (appendix 5)	1,500	3,500	
Tax rate (25%)	25%	25%	
Estimated combined CCA rate	20%	30%	
Average WACC, Free Meat (Exhibit 2)	14.4%	14.4%	
Tax shield	204	553	**758**

6. Capital Cost Allowance (no half-year rule)

	Plant	Furniture/ fixtures	Machinery	Total
Existing UCC (appendix 3, note 4)	95,000	3,000	10,000	
Tax rate (25%)	25%	25%	25%	
Estimated combined CCA rate	4%	20%	30%	
Average WACC, Free Meat (Exhibit 2)	14.4%	14.4%	14.4%	
Tax shield	5,153	436	1,688	7,276

$$\frac{\text{(Investment cost * tax rate * CCA rate)}}{\text{Rate of return + CCA rate}}$$

7. Net working capital excess / deficiency

Target inventory and accounts receivable turnover is provided in Appendix 3, notes 1 and 2.

Inventory	
Average inventory (FY18 - FY19) (appendix 4)	30,500
Cost of goods sold (FY19) (appendix 3)	160,000
Days	365
FY19 turnover	**70**
Target turnover days	25
Target inventory (FY19)	10,959
Inventory at August 31, 2019 (appendix 4)	35,000
Redundant	**24,041**

Accounts Receivable	
Average accounts receivable (FY18 - FY19) (appendix 4)	69,000
Revenues (FY19) (appendix 3)	315,000
Days	365
FY19 turnover	**80**
Target turnover days	30
Target accounts receivable (FY19)	25,890
Accounts receivable at August 31, 2019 (appendix 4)	80,000
Redundant	**54,110**

Accounts payable	
Average AP (FY18 - FY19) (appendix 4)	42,500
Cost of goods sold (FY19) (appendix 3)	160,000
Days	365
FY19 turnover	**97**
Target turnover days	45
Target AP (FY19)	19,726
AP at August 31, 2019 (appendix 4)	50,000
Redundant	**30,274**

Inventory	24,041
AR	54,110
AP	(30,274)
Total	**47,877**

8. Shares outstanding

Round	# of shares in the round	Dan & Patrick total number of shares	Total shares outstanding	Round size ($)	Price per share ($)	Notes
Initial investment (appendix 2)	20,000	20,000	20,000	10	$0.001	*Issued 20M shares from treasury*
Seed round (appendix 2)	2,500	17,500	20,000	30,000	$12.00	*No change, shares acquired from founders*
Series A (appendix 2)	1,800	15,700	20,000	25,000	$13.89	*No change, shares acquired from founders*
Series B (led by DTM) (appendix 2)	10,314	15,386	30,000	80,000	$7.76	*Acquired 2% of Dan & Patrick's shares and 10M shares from treasury*

Convertible debt - # of shares if converted

Face Value per unit of debt	10	*Appendix 2*
Investment	15,000	*Appendix 2*
Number of notes issued	1.5	*Appendix 2*
Conversion factor	200	*Appendix 2*
Number of shares if converted	300	*Appendix 2*
Conversion discount	-5%	*Appendix 2*
Liquidity discount (2-year restriction on trading)	-10%	
# of shares after conversion and blockage discounts	**255**	

Exhibit 2
Free Meat WACC – Capital Asset Pricing Model (CAPM)

Cost of equity	10-year (Low)	Long-term (High)	
Risk free rate	2.2%	2.8%	
ERP	6.0%	6.5%	
Levered Beta	1.5	1.5	
Size premium	4.0%	4.0%	
Company specific	2.0%	3.0%	*Note 1*
Cost of equity	**17.2%**	**19.6%**	
Weighting	70.0%	70.0%	
Weighted cost of equity	**12.0%**	**13.7%**	
Cost of debt			
Pre-tax debt	7.0%		
Tax	25.0%		
After-tax cost of debt	**5.3%**		
Weighting	30.0%		
Weighted cost of debt	**1.6%**		
WACC	**13.6%**	**15.3%**	
Long-term inflation rate	2.0%	2.0%	
Capitalization rate	**8.6x**	**7.5x**	
Average cap rate	**8.1x**		
Average WACC (Free Meat)	**14.4%**		

Conclusion: Average cost of equity is 12.9%, cost of debt is 1.6% and average WACC is 14.4%. Average cap rate is 8.1x

Notes

1. Company specific risk factors for Free Meat (+ = positive factor; - = negative factor):
- Entry into a new market (US) (+)
- Historical profitability (+)
- Meets consumer demand for environmentally friendly (+)
- High demand from investors/able to raise financing through multiple funding rounds (+)
- Forecast risk (-)
- Heavily reliant on technology which could fail and/or become obsolete (-)

Exhibit 3
Valuation of Free Milk – Capitalized Cash Flow (CCF)

Year ending August 31 (in CAD)	2017A	2018A	2019A	Notes
Earnings before tax	**5,675**	**4,450**	**12,125**	*Appendix 4*
Add: depreciation	100	100	100	*Appendix 4*
Add: interest	700	600	500	*Appendix 4*
EBITDA	**6,475**	**5,150**	**12,725**	
Bankrupt customer			1,400	*Appendix 4*
Royalty	1,500	1,500	1,500	*1*
Add: cost of goods sold (per income statement)	25,000	24,000	27,000	*Appendix 4*
Deduct: new cost of goods sold	(22,904)	(23,884)	(29,720)	*2*
Recalled product outbreak - charge		2,000		*Appendix 4*
Add: recalled product outbreak - market share loss		1,091		*3*
Add: old compensation ($50,000)	100	50		*Appendix 4*
Deduct: new compensation ($130,000)	(260)	(130)		*Appendix 4*
Deduct: advertising expense (20%)	(750)	(800)	(875)	*Appendix 4*
Add back: management fee (2.5% net sales)	1,025	1,009	1,275	*Appendix 4*
Deduct: Management fee	(767)	(767)	(767)	*4*
Adjusted maintainable EBITDA	**9,419**	**9,218**	**12,538**	
EBITDA Range	**9,500**	**12,500**		
Tax (25%)	(2,375)	(3,125)		
After tax	**7,125**	**9,375**		
Less: Capex	(400)	(400)		*Appendix 4*
Add: Tax shield	52	52		*5*
After tax Cash Flow	**6,777**	**9,027**		
Cap rate	7.8	6.8		*Exhibit 4*
Capitalized cash flow *	**52,523**	**61,609**		
			Average	
Enterprise value	**52,523**	**61,609**	**57,066**	
Less: debt	(5,000)	(5,000)		
FMV of Free Milk (en-bloc)	**47,523**	**56,609**	**52,066**	
FMV of Free Milk (49%) **	**23,286**	**27,738**	**25,512**	
FMV of Free Milk (51%) ***	**24,237**	**28,870**	**26,554**	

** Company's existing UCC is not material, per Appendix 4. Thus, calculation for tax shield on existing UCC is not necessary.*

*** Free Meat controls the board of Free Milk and therefore, no minority discount. Further, formula in appendix 4 explicitly stats that no premiums or discounts are to be applied.*

**** A minority discount on the 51% interest could have been considered as Free Meat controls the board; however, it would likely be nominal or modest as the formula in the agreement provides liquidity for the 51% interest, albeit it at a value that could differ from FMV.*

Conclusion: Enterprise value of Free Milk is $57M (average) and FMV of en bloc equity is $52M (average). FMV of 49% stake is $25.5M (average) and 51% interest is $26.5 average.

Multiple corroboration

Free Milk EV/FY19 EBITDA (high)	4.5x	
Free Milk EV/FY19 EBITDA (low)	3.8x	
Chz-It EV/ EBITDA (Adj.)	15.7x	*Exhibit 5*
Chz-It EV/ NTM EBITDA	11.0x	*Exhibit 5*

Conclusion: Free Milk appears to be undervalued when compared to Chz-It, which further supports the decision to acquire the remaining 51%

Valuation of Free Milk: (formula)

	FY2019	FY2018	Average
EBITDA	12,538	9,218	10,878
Taxes (25%)			(2,719)
After-tax EBITDA			8,158
Less: Capex			(400)
After-tax EBITDA net of capex			**7,758**
Multiple			6.2x
Equity value (as per formula)			**48,102**
Value of 49% (as per formula)			**23,570**
Cost to acquire 51% (as per formula)			**24,532**

[Note to Candidates: Marks were available if you discussed debt and/or redundant assets not being contemplated in the formula]

Conclusion: the FMV of Free Milk is higher than the value derived using the purchase formula; therefore, should acquire remaining 51% as this will maximize the value of Free Meat

Notes to Free Milk Capitalized Cash Flow

1. Royalty	**2017A**	**2018A**	**2019A**
Products sold (first 5000 @ $0.20)	1,000	1,000	1,000
Products sold (remaining 5000 @ $0.10)	500	500	500
Royalty add back	**1,500**	**1,500**	**1,500**
2. Co-packer fee adjustment			
Regular "milk" sold	9,659	9,455	11,560
New fee - $2.00 regular "milk"	19,318	18,910	23,120
Chocolate "milk" sold	1,630	2,261	3,000
New fee - $2.20 chocolate "milk"	3,586	4,974	6,600
New total cost of goods sold	**22,904**	**23,884**	**29,720**

3. Recall - market share loss			
Market share in FY2017	3.2%		
Sales in FY2017	41,000		
Implied size of market in FY2017	1,281,250		
Market share in 2018 (post-recall)	3.0%		
Sales in FY2018	40,359		
Implied size of market in FY2018	1,345,300		
FY2018 implied sales @ 3.2% market share	43,050		
Implied lost sales due to loss in market share	2,691		
Gross margin in FY2018	40.5%		
Lost margin in FY2018	1,091		
4. Management Fee			
Controller salary ($100,000 @ 70%)	70	70	70
Sales director salary ($85,000 @ 85%)	72	72	72
Other services	625	625	625
Total cost from Free Meat	**767**	**767**	**767**
5. Capital Cost Allowance			
Half-year tax shield formula using the following inputs:			
$\frac{\text{(Investment cost * tax rate * CCA rate)}}{\text{Rate of return + CCA rate}}$ X $\frac{\text{(1+(0.5 * rate of return))}}{\text{(1 + rate of return)}}$			
	Office equipment		
Required capital expenditures	400	*Appendix 4*	
Tax rate (25%)	25%		
Estimated combined CCA rate	20%		
Average WACC, Free Milk	15.8%	*Exhibit 4*	
Tax shield	$52		

Exhibit 4
Free Milk WACC – Build-Up Method

Cost of equity	10-year (Low)	Long-term (High)	
Risk free rate	2.2%	2.8%	
ERP	6.0%	6.5%	
Industry risk premium	1.8%	1.8%	
Size premium	5.0%	5.0%	
Company specific	1.0%	2.0%	*Note 1*
Cost of equity	**16.0%**	**18.1%**	
Weighting	83.3%	83.3%	
Weighted cost of equity	**13.3%**	**15.1%**	
Cost of debt			
Pre-tax debt	8.0%		
Tax	25.0%		
After-tax cost of debt	**6.0%**		
Weighting	16.7%		
Weighted cost of debt	**1.0%**		
WACC	**14.9%**	**16.7%**	
Long-term inflation rate	2.0%	2.0%	
Capitalization rate	**7.8x**	**6.8x**	
Average cap rate	**7.3x**		
Average WACC (Free Milk)	**15.8%**		

Notes:

1. Company specific risk factors for Free Milk (+ = positive factor; - = negative factor):

- History of profitability (+)
- Meets consumer demand for plant-based products (+)
- Don't have control over manufacturing (outsource to a co-packer) (-)

Conclusion: Average cost of equity is 14.2%, cost of debt is 1.0% and average WACC is 15.8%. Average cap rate is 7.3x

Exhibit 5
Trading Multiples and IPO Multiples of Comparable Companies

Free Meat Comparable Trading Multiples	**EV/EBITDA**		**Comparable?**
McBurger	9.0x	*Appendix 6*	Not comparable
Incredible Food	16.5x	*Appendix 6*	Not comparable
Beyond Beef	16.5x	*Appendix 6*	Not comparable
Chiken Nugg	16.5x	*Appendix 6*	Not comparable
Burger Boy			
Phish	**19.5x**	*Appendix 6*	Comparable to Free Meat; consider potentially overvalued
Chz-It	**11.0x**	*Appendix 6*	Comparable to Free Milk; consider potentially overvalued

		a		*b*	*c*	*d= b- c*	*e = d /a*
Precedent IPO Multiples (appendix 7)	**EBITDA**	**Share price**	**1 wk change**	**EV time of IPO**	**Net Debt (@IPO)**	**Mkt Cap**	**Share O/S (M's)**
Phish	75.0	35.0	12%	1,650.0	250.0	1,400.0	40.00
Incredible Food	45.0	23.0	20%	900.0	100.0	800.0	34.78
Beyond Beef	70.0	12.0	35%	1,200.0	200.0	1,000.0	83.33
Chicken Nugg	15.0	9.0	2%	300.0	50.0	250.0	27.78
Burger Boy	85.0	18.0	1%	1,200.0	250.0	950.0	52.78
Chz-It	50.0	15.0	5%	750.0	100.0	650.0	43.33
McBurger	85.0	18.0	-3%	1,000.0	120.0	880.0	48.89

	f	*g = f * e*	*h = g + c*	
	Adj. Share price	**Adj. Mkt Cap**	**Adj. EV**	**Adj. EV/ EBITDA**
Phish	39.20	1,568.00	1,818.00	24.2x
Incredible Food	27.60	960.00	1,060.00	23.6x
Beyond Beef	16.20	1,350.00	1,550.00	22.1x
Chicken Nugg	9.18	255.00	305.00	20.3x
Burger Boy	18.18	959.50	1,209.50	14.2x
Chz-It	15.75	682.50	782.50	15.7x
McBurger	17.46	853.60	973.60	11.5x

Candidate to provide reason as to why IPO value of the companies is lower at issuance and then subsequently increases (e.g., hype, supply and demand, etc.)

Question 2 - Graham's Honey Bee Farm – Suggested Solution

To: CBV, First East Consulting
From: CBV, First East Consulting
Re: Proposed Sale of Graham's Honey Bee Farm and Potential Investment in Retirement Home Project
Date: September 16, 2019

This memo sets out my analysis of the proposed sale of Graham's Honey Bee Farm ("GHBF") and investment in the Golden Years Retirement Limited's ("Golden Years") Retirement Home project *[Note to Candidates: while a formal report must eventually be prepared with respect to Requirements #2 and #3, Candidates should consider this work to form part of their working papers for this engagement. A formal report is not required at this time].*

Requirement 1 – Reporting Options and Engagement Considerations

- Isabelle have asked me to advise her as to what type of reporting options are appropriate, and other relevant engagement considerations
- Based on Isabelle's request for advisory services, the request to structure the engagement with contingent fees, as well as our personal relationship, there would be a lack of independence when I provide my services. Therefore, a Valuation Report (under the CBV Institute's Practice Standards) is not an available option; moreover, it would not best meet her objectives.
- I would be acting in the capacity of an advisor (and eventually issuing an Advisory Report under the CBV Institute's Practice Standards). As such, there is no expectation or requirement of independence. Under this arrangement, I would be able to accept contingent fees, which can be finalized under my engagement letter as we move forward.
- In the context of this engagement, the relevant appropriate practice standards (and practice bulletins) published by the CBV Institute would be an Advisory Report under CICBV Practice Standards 210, 220, and 230.
- CBV Institute's Practice Bulletin 6 (Guidance on Disclosure of Reliance on Financial Statements and Other Information) may be relevant for this engagement. Isabelle (who has no training as an accountant or bookkeeper) prepared the financial statements. This means that the "notice to reader" financial statements, which provide very limited assurance as to their accuracy or completeness, may not be reliable. However, I have assumed that the financial information provided is fairly stated.

Marker Comments

- *Few Candidates recognized that an advisory report did not need to be independent and could accept a contingency fee.*
- *Many Candidates assumed a Valuation Report (under Practice Standard 110, 120, and 130) would be appropriate, pointing to the potential for a CRA audit other reasons as a need to be independent – Candidates should be careful in reviewing case facts and consider the request of the client as main indicator of required.*

- *Most Candidates did not address the independence issue or make a conclusion as to the appropriate type of report.*
- *Many Candidates provided full reports with boilerplate wording instead of the memo that was requested.*
- *The Candidate should consider making disclosure in the report that they have not audited, reviewed or otherwise undertaken any procedures to assess the reliability of the information relied upon in arriving at a conclusion.*
- *Very few Candidates address Practice Bulletins.*

Requirement 2 – Assessment of the After-Tax Proceeds on Sale of GHBF's Shares vs. Sale of Land

You have also asked us to help you determine which course of action will lead to the highest after-tax proceeds, given your desire to retire and travel:

- Selling the shares of GHBF to your son, Matthew, who will continue operations as normal; or
- Selling GHBF's land to Golden Years, which would result in the farm being shut down and wound up.

We have calculated the after-tax proceeds to you under these two options:

- Option 1 – sell to the shares of GHBF to Matthew based on their fair market value ("FMV") as a going concern, using a capitalized EBIT approach; and
- Option 2 – sell the land to Golden Years, sell the remaining individual assets of GHBF using a cost approach, specifically an orderly liquidation approach, and windup GHBF.

Valuation of GHBF – Sale of Shares to Matthew (Appendix A)

Capitalized EBIT Approach

Capitalized EBIT is appropriate given the GHBF's stable operations and given the fact that depreciation approximates capital expenditures (specifically for bee hives, which are the largest asset). Market multiples are appropriate given the availability of comparable precedent transaction data.

Our valuation of the shares uses an income approach in the form of a capitalized earnings methodology using market multiples (i.e. capitalized EBIT) *[Note to Candidates: full marks were provided if Candidates instead applied a capitalization rate to EBIT, and used the market multiples as a check of reasonableness].* This approach capitalizes maintainable normalized EBIT using an appropriate rate based on comparable market multiples. Based on the resulting fair market value of the shares, we then calculated your after-tax proceeds, considering the use of her lifetime capital gains exemption ("LCGE"). See Appendix A.

We have valued GHBF considering two scenarios that are expected to impact its future earnings. In one scenario, GHBF is impacted by colony collapse disorder ("CCD"). In the other scenario, GHBF is not impacted by CCD. In Appendix A, maintainable EBIT has been calculated under the CCD and non-CCD scenarios. Given the significant effect on operations

and profitability under a CCD scenario, it is appropriate to calculate two distinct EBIT estimates (as opposed to a range or reflecting the differing levels of risk through the discount rate). We have weighed these scenarios equally based on Matthew's predictions.

An EBIT multiple of 8.5x was used for both scenarios based on a review of comparable companies. The capitalized EBIT value (i.e., enterprise value) under each scenario was then multiplied by 50% to get the weighted average enterprise value. It is important that the effects of the CCD scenario are not incorporated in both the income stream and the multiple as that would result in risk being double-counted.

After deducting the adjusted cost base of the shares and your LCGE, capital gains were $Nil. Your after-tax proceeds from the sale of shares would be $825,500.

Marker Comments

- *Most Candidates commented on the comparability of precedent transactions.*
- *Few Candidates explicitly considered the CCD scenario, even though the question was written to emphasize the probability of this scenario CCD.*
- *Marks were awarded for appropriate incorporation of personal taxes and calculation of capital gain. If the Candidates' enterprise value was below the LCGE (as reflected in the suggested solution), marks were awarded as no additional calculation was necessary.*

Secondary Approach - Rule of Thumb

The capitalized earnings approach appropriately takes into consideration the unique factors of the business (i.e., margins, risk of CCD, etc.). Because a commonly-used industry rule of thumb (ROT) exists, the FMV under the capitalized earnings approach has been corroborated using that rule of thumb (ROT):

Rule of Thumb	
# of beehives on farm (in Background Information)	2,000
Price per beehive (Appendix A)	750
FMV	**1,500,000**

The ROT results in a much higher value than the FMV under the capitalized earnings approach. This is likely because the FMV calculated under the capitalized earnings approach reflects the potential CCD scenario, whereas the ROT value likely does not reflect it - the non-CCD capitalized value per our analysis on Appendix A ($1,538,500) is very close to the ROT value.

Marker Comments

- *While most Candidates did attempt to calculate the value of Honey Bee using the Rule of Thumb approach, most explanations on why the rule of thumb value was different from the capitalized earnings value were superficial (or not provided at all).*
- *To receive the marks available, Candidates needed to explain the different between the ROT and capitalized earnings values (particularly the impact of CCD on value).*

Review of Related Party Transaction

We did not rely on the transaction between you and your sister Laura because the transaction does not meet several requirements of the FMV definition (i.e., *The highest price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts):*

- It is unlikely that the price paid represented the highest price achievable:
    - The price that was paid was what you were able to borrow from her bank, and was not reflective of the intrinsic value of Laura's interest.
    - It was a related party transaction (between two sisters).
    - It reflected a distressed sale given Laura needed the funds for her health.
    - The interest was not marketed to any other potential purchasers.
- The transaction is also dated, and is not indicative of current market conditions.

Marker Comments

- *Very few Candidates considered the related party transaction between Isabelle and her sister Laura*

Valuation of GHBF – Sale of Land to Golden Years (Appendix B)

We have calculated the amount of after-tax proceeds assuming you sell the land to Golden Years. The value of the after-tax proceeds will utilize an asset-based approach on the basis that the value of GHBF would be based on the after-tax proceeds of the assets. Specifically, the liquidation methodology is considered appropriate given the anticipated sale of assets and windup of GHBF.

The liquidation methodology consists of the following:

- Calculate the expected net pre-tax proceeds from the sale of all assets held by GHBF (we have assumed that the values from the latest balance sheet are consistent with those at the Valuation Date);
- Deduct the expected tax liability (i.e., capital gains, CCA recapture) from the sale of assets;
- Deduct any other liabilities that would be settled on the wind-up of GHBF;
- Calculate the taxes on the wind up of GHBF whereby all the cash from the sale of assets and settlement of liabilities is paid to you in the form of a dividend;
- Compare the net proceeds from the liquidation and wind up to the net proceeds on the sale of shares calculated above.

As illustrated on Appendix B, the total funds available for distribution, after GHBF's assets are sold and appropriate corporate taxes are paid, is approximately $4.239 million. Personal taxes on this amount (i.e., on the resulting deemed dividend) are approximately $701,000. The resulting after-tax proceeds are approximately $3.538 million.

Marker Comments

- *The liquidation of GHBF was generally done poorly, many Candidates only did a calculation for land disposition instead of the full liquidation of GHBF.*
- *Some Candidates did do a reasonable job of calculating taxes on a wind-up, recognizing the deemed dividend with the dividend gross up and related tax credit. Candidates who performed reasonable tax calculations received the majority of the available marks.*

Conclusion – Recommendation (Sale of Shares vs. Sale of Land)

One of your primary goals when approaching us as advisors was your desire to maximize your after-tax proceeds so that you can retire and travel the world.

The sale of the land to Golden Years would yield significantly higher after-tax proceeds ($3.538 million) than the sale of the shares on a going concern basis (capitalized earnings approach) to Matthew ($825,500). Based on this analysis, we would recommend selling the land to Golden Years and liquidating GHBF.

Qualitative Considerations

We cannot quantify the impact of the qualitative considerations discussed below. Accordingly, we have based our above conclusion and recommendations on the financial considerations (i.e., maximization of your after-tax proceeds).

- You would be ending a family tradition and Matthew would have to find a new job, which may alienate him. You could consider giving away some of the proceeds from the sale of the shares to Matthew, so he could start a new beekeeping business that rents out beehives.
- There may be animosity between you and the community if you decide to sell the land due to concerns over increased traffic and farmland cannibalization.

Marker Comments

- *The qualitative considerations were not a significant part of the total overall marks for the question. As such, reasonable considerations which were strongly tied to provided case facts were given marks.*

Requirement 3 – Recommendation re: Retirement Home Project Investment

Evaluation of the Golden Years Investment Opportunity (Appendix C)

Given that there are fluctuating cash flows during the construction of the retirement home, and given that details on future cash flows are available, a discounted cash flow methodology was used to value the potential investment in the retirement home.

The discounted cash flow methodology consists of the following:

- Calculate the operating cash flows for the retirement home based on the number of residents and their occupancy in each forecasted year (until home is at full occupancy in Year 5);
- Deduct the operating and development expenses and capital costs;

- Adjust cash flows for taxes to arrive at after-tax operating income;
- Deduct the development capital costs to arrive at after-tax operating net income less development capital costs;
- Deduct sustaining capital expenditures (net of tax shield) to arrive at available cash flows;
- Calculate FMV by discounting the forecasted available cash flows using Weighted Average Cost of Capital ("WACC");
- Calculate the value of a 20% interest by adjusting the pro-rata interest for a minority discount; and
- Compare the resulting value of the 20% interest to the $500,000 purchase price.

Conclusion

The fair market value of a 20% in the Golden Years Investment Opportunity is approximately $516,000. This figure is extremely close to the offered purchase price of $500,000.

Therefore, you should make the investment.

Qualitative Factors Regarding Investment in Golden Years

Other qualitative factors which could be considered in the deciding whether to invest in the Golden Years opportunity are as follows:

- Three other landowners thought the investment was too expensive;
- The Golden Years forecast was prepared for marketing purposes and thus may overstate cash flows; and
- Synergies with Phase II makes the investment more attractive.

Marker Comments

- *The DCF calculation was generally well done. However, many Candidates seemed to spend too much time on the DCF. Some Candidates did a separate DCF for Phase 1 and Phase 2, which was not needed, and others omitted Phase 2 completely.*
- *Most Candidates attempted the DCF adjustments but ignored development capital costs.*
- *Some Candidates did not include the terminal value, or treated the terminal year as year 6, not recognizing the retirement home will continue to operate.*
- *There were a number of different reasonable assumptions that Candidates could make with respect to the DCF, WACC inputs, and minority discounts, which could have led to a conclusion to purchase or turn down the investment. As long as the Candidate's conclusion was consistent with their calculations, Candidates were awarded marks for providing appropriate advice to Isabelle. In particular:*
    - *The suggested solution assumed that Golden Years will sell units, but will maintain ownership over the building and furniture and fixtures.*
    - *A wide range of minority discounts could have been used as there were minimal details on other shareholder holdings and shareholder's agreements. A marketability/liquidity discount had to have been addressed either quantitively or discussed as a contributing factor to the minority discount to receive additional marks. Alternatively, a Candidate could have received marks for explicitly stating*

that there is insufficient information to be able to conclude, and that a shareholder's agreement had to be reviewed to assess marketability discount.

- *Various inputs could have been used for WACC, as long as reasonable support and/or explanations were provided.*

Marker Comments – OVERALL QUESTION

- *Those who "took a step back" to evaluate the question on a whole (i.e., regarding Isabelle's objectives) did well.*
- *This question was meant to challenge Candidates as it required providing Isabelle with the best advice on multiple elements. Candidates were required to first conclude on whether Isabelle should sell the land to Golden Years (and liquidate GHBF), or sell the shares of GHBF. Then, Candidates had to calculate the investment in the retirement home. The set of calculations and recommendations impacted the value of the retirement home. That is, only Phase 1 would have proceeded if Isabelle sold the shares to Matthew, and both Phase 1 and 2 would have proceeded if Isabelle decided to sell the land and liquidated GHBF [Note the Candidates: there was enough cushion in case facts that such Candidates should have decided that the sale of land and liquidation of GHFB yielded the highest net proceeds to Isabelle]. Thus, the calculation of value of the retirement home opportunity would differ depending on whether the Candidate advised Isabelle to sell the shares (resulting in Phase 1 only) or sell the land and liquidate GHFB (resulting in both Phase 1 and Phase 2)*
- *Most Candidates made an overall recommendation to Isabelle that was consistent with the results of their analysis .*

Appendix A

Graham's Honey Bee Farm Capitalized EBIT Method In $	Notes	No CCD	50% CCD
Honey Production (lbs)	1	*80,000*	*40,000*
Revenue			
Honey sales	1	$ 440,000	$ 220,000
Cost of Goods Sold			
Distillery	2	10,000	6,000
Bottling Jars ($0.50/lb)	3	40,000	20,000
Delivery	4	10,000	10,000
		60,000	36,000
Expenses			
Management Salary	5	60,000	60,000
Bookkeeping	6	5,000	5,000
Seasonal workers	7	80,000	40,000
Repairs and maintenance	8	4,000	4,000
		149,000	109,000
Amortization	9	50,000	50,000
Total expenses		259,000	195,000
Maintainable EBIT		181,000	25,000
Selected EBIT Multiple	10	8.50x	8.50x
Capitalized Value (pre-tax)		1,538,500	212,500
Probability weighting		50%	50%
		769,250	106,250
Enterprise Value		**875,500**	
Shareholder Loan	11	(50,000)	
Fair Market Value of Shares		**825,500**	
Tax on Sale of Shares:			
Proceeds on the sale of shares		825,500	
ACB	12	210,000	
Capital Gain		615,500	
Lifetime Capital Gains Exemption		867,000	
		-	
After-tax proceeds on sale of shares	13	**825,500**	

Notes:

[Note to Candidates: a capitalized earnings/cash flow approach using WACC was also appropriate. Though few Candidates used this approach, full marks were awarded, provided: (1) the WACC calculated was reasonable, and (2) the Candidates used the market multiples as a point of comparison. As discussed in the body of the suggested solution, the suggested solution uses a capitalized EBIT approach and market multiples as the primary valuation approach].

1. Honey production under the CCD and non-CCD scenarios:
    - Non-CCD scenario: 40lbs per hive and 2,000 hives (80,000 lbs total), at average expected rate of $3.50/lb plus $2.00 premium = $440,000.
    - CCD scenario: 40lbs per hive and 1,000 hives (40,000 lbs total), at average expected rate of $3.50/lb plus $2.00 premium = $220,000.

    [Note to Candidates: other reasonable assumptions on pricing were accepted based on information provided].

2. Distillery (extraction and filtration) charges are $0.20 per pound of honey processed up to 20,000 lbs, and $0.10 per pound on the remainder.
    - Non-CCD scenario: 2,000 hives * 40lbs per hive = $80,000 lbs.
      20,000 lbs * $0.20/lb = $4,000
      60,000 lbs * $0.10/lb = $6,000
      Total = $10,000 under non-CCD scenario.
    - CCD scenario: 1,000 hives * 40lbs per hive = $40,000 lbs.
      20,000 lbs * $0.20/lb = $4,000
      20,000 lbs * $0.10/lb = $2,000
      Total = $6,000 under non-CCD scenario.

3. Bottling expense at $0.50 per 1lb jars each on honey production under non-CCD (80,000lbs * $0.50 = $40,000) and CCD (40,000 lbs * $0.50 = $20,000).

4. Flat fee honey delivery up to 100,000lbs is not exceeded in either scenario.

5. Deduct Matthew's salary (no changes as Matthew earns a market wage in either scenario).

6. Assumes bookkeeping services will be outsourced for $5,000 per year.

7. Salary of seasonal worker under CCD and non-CCD scenarios:
    - Non-CCD scenario: 2,000 hives/500 hives per worker * $20,000 per worker.
    - CCD scenario: 1,000 hives/500 hives per worker * $20,000 per worker.

8. Reasonable assumption on repairs and maintenance expense.

9. Based on recent years amortization of $52,000, adjusted down to reflect unused barn and shed (beehives' depreciation approximates replacement).

10. The EV/EBIT multiple was based on the following transactions:

Acquired Company	Comparability	Comment	Comparable EBIT Multiple
Dairy Delight Corp	Not comparable	Different highly capital intensive industry	
Cam's Cattle Ranch	Not comparable	Different industry - livestock	
Berries On Top	Comparable	recent, same size, non-arms legnth	7.0
Corn Field Brothers	Not comparable	arm's lgnth	
Good Cherries	Comparable	recent, same size, non-arms legnth	10.0
Potato Day	Comparable	recent, same size, non-arms legnth	8.5
		Average	**8.5**

11. Assume June 2019 shareholder loan balance is still unpaid *[Note to Candidates: an adjusted deduction assuming some level of seasonal repayment could be included].*

12. Assume ACB is $200,000 for Laura's shares acquired, and an additional $10,000 for inherited shares.

13. Based on utilization of lifetime capital gains exemption, no personal taxes on the sale of shares to Matthew.

Appendix B

Graham's Honey Bee Liquidation Approach In $	Notes	FMV	
As at September 16, 2019	1		
Cash	2	5,400	
Accounts receivable, net of doubtful accounts	2	20,100	
Prepaid expenses	3	6,000	
Incorporation costs	4	-	
Capital assets	5	5,550,000	
Accounts payable	2	(3,498)	
After-tax windup costs	6	-	
		5,578,002	
Loan from Isabelle	2	(50,000)	
Funds available for distribution		5,528,002	
Less: corporate taxes		(1,289,211)	
Net cash retained by the corporation and available for distribution		4,238,791	A
Distributed as:			
Paid-up capital		100	
Capital dividend account (assumed no existing balance)	5	2,482,551	
Deemed taxable dividend (remainder)		1,756,140	
Tax at Shareholder level on Wind-up			
Deemed taxable dividend		1,756,140	
Dividend gross-up @ 16%		280,982	
Grossed up Dividend		2,037,123	
Personal Tax Rate (Fed + Provincial) on grossed-up dividends		47.4%	
Gross taxes on grossed-up dividends		965,596	
Less: dividend tax credit @ 13% on gross up dividend		(264,826)	
Net taxes		700,770	B
After-tax proceeds on liquidation of assets - Rounded	**A - B**	**3,538,000**	

Notes:

1. Assume no material change in net assets between June 2019 Financial Statements and September 16, 2019.
2. Assume BV = FMV under an orderly liquidation.
3. Assumes immediate cancellation resulting in a 6-month refund.
4. Assumes incorporation costs have no market value.

5. See schedule below.

		FMV	Original Capital Cost	UCC	Recapture/ (Terminal Loss)	Capital Gain, net of disposition costs	CDA
			(d)	(e)	(f)	(g)	(h)
Beehives	a	600,000	509,899	111,110	398,789	90,101	45,051
Barn and Shed	b	-	125,650	15,300	(15,300)	-	
Land	c	4,950,000	75,000	75,000	n/a	4,875,000	2,437,500
Total		5,550,000	710,549	201,410	383,489	4,965,101	2,482,551

Inclusion rate	100%	50%
Tax rate	12.50%	50%
Corporate tax	47,936	1,241,275
Total corporate tax	**1,289,211**	

Notes:

(a) 2,000 hives * $300 per hive = $600,000

(b) Assumed Golden Years would not put any value on old shed and barn (i.e., would tear down).

(c) Land Adjusted FMV

Proceeds from sale of land ($25,000/acre * 200 acres)	5,000,000
Estimated disposal fees (~1% of land value)	(50,000)
Land Adjusted FMV	4,950,000

(d) Per balance sheet

(e) Assumed UCC = NBV

(f) UCC minus lesser of FMV and cost.

(g) FMV less original capital cost

(h) 1/2 of capital gain

6. Assumption for wind-up costs was not provided in the question; however, reasonable assumptions were accepted.

Appendix C

Golden Years REIT Discounted Cash Flow Method In $		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Revenue							
Sale of units (80% deposit paid upon purchase)	1	11,700,000		-	-	-	-
Sale of units (20% paid upon occupancy)	2	-	2,835,000	1,449,000	189,000	252,000	-
Home care assistance	3	-	162,000	244,800	255,600	270,000	275,130
Food and meal service	3	-	405,000	612,000	639,000	675,000	687,825
Management and maintenance fee	3	-	81,000	122,400	127,800	135,000	137,565
Government grant	4	-	-	-	400,000	-	-
Total revenue		11,700,000	3,483,000	2,428,200	1,611,400	1,332,000	1,100,520
Expenses							
Home care assistance	5	-	40,000	80,000	80,000	80,000	81,520
Food and meal service	5	-	324,000	489,600	511,200	540,000	540,000
Management and maintenance fee	6	-	120,000	120,000	120,000	120,000	122,280
Insurance	7	-	50,000	50,000	50,000	50,000	50,950
Operating expenses		-	534,000	739,600	761,200	790,000	794,750
Development expenses							
Agent commission	8	410,625	-	-	-	-	-
Marketing and promotional expense	9	250,000	-	-	-	-	-
Builder's insurance	10	375,000	375,000	375,000	-	-	-
EBITDA		10,664,375	2,574,000	1,313,600	850,200	542,000	305,770
Depreciation - furniture and fixtures	11	-	(162,500)	(292,500)	(234,000)	(187,200)	-
Depreciation - building	11	-	(171,250)	(333,938)	(317,241)	(301,379)	(286,310)
EBT		10,664,375	2,240,250	687,163	298,959	53,421	19,460
Less: income taxes at 26.5%	12	(2,826,059)	(593,666)	(182,098)	(79,224)	(14,157)	(5,157)
After-tax operating net income		7,838,316	1,646,584	505,064	219,735	39,265	14,303
Development capital costs							
Architect drawings	13	300,000	-	-	-	-	-
Zoning permits	14	100,000	-	-	-	-	-
Building material	15	1,500,000	1,500,000	-	-	-	-
Furniture and fixtures units	16	-	1,000,000	-	-	-	-
Furniture and fixtures common area	16	-	625,000	-	-	-	-
Labor	17	1,500,000	1,500,000	-	-	-	-
Landscaping	18	-	-	450,000	-	-	-
Development capital costs		3,400,000	4,625,000	450,000	0	0	0
After-tax operating net income less development capital costs		4,438,316	(2,978,416)	55,064	219,735	39,265	14,303

After-tax operating net income less development capital costs		4,438,316	(2,978,416)	55,064	219,735	39,265	14,303
Addback: Depreciation/Amortization	11	-	333,750	626,438	551,241	488,579	286,310
Less: Other ongoing capital expenditures	19	-	(200,000)	(200,000)	(200,000)	(200,000)	(203,800)
Add: tax shield other ongoing capital expenditures	20	-	21,763	21,763	21,763	21,763	22,176
Available Cash Flow		4,438,316	(2,822,903)	503,265	592,739	349,606	118,989
Terminal value multiple (1/(13%-1.9%))	21						9.04x
Terminal value of investment							1,076,169
Add: Terminal remaining development tax shield (furniture/fixtures)	22						55,253
Add: Terminal remaining development tax shield (building)	22						422,527
		4,438,316	-2,822,903	503,265	592,739	349,606	1,553,948
PV Factor (Discount Rate of 13%)	21	94.09%	83.30%	73.74%	65.28%	57.80%	57.80%
Present Value of Available Cash Flow		4,176,015	-2,351,407	371,121	386,964	202,057	898,115
Equity value of investment opportunity		**3,682,866**					
Prorata FMV of Isabelle's 20% investment		**736,573**					
Minority Discount	25	(147,315)					
Illiquidity Discount	25	(73,657)					
FMV of Isabelle's investment - Rounded		**516,000**					

Notes:

1. Sale of units to be sold calculated as follows:

Units to be sold		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Phase I							
Units sold	15						
Price per unit	$150,000						
Deposit	80%						
Total Phase I		1,800,000	-	-	-	-	-
Phase II							
Units sold	75						
Price per unit*	$165,000						
Deposit	80%						
Total Phase II		9,900,000	-	-	-	-	-
Total sale of units		11,700,000					
* Phase II units have 10% markup over Phase I prices.							

2. Sales proceeds received on occupancy are calculated as follows:

Sale proceeds on occupancy		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Occupancy %		0%	60%	90%	95%	100%	
Phase I							
Total units occupied	75	0	45	68	71	75	75
Occupied during the year		0	45	23	3	4	0
Price per unit	150,000						
Payment upon occupancy	20%	-	1,350,000	690,000	90,000	120,000	-
Phase II							
Total units occupied	75	0	45	68	71	75	75
Occupied during the year	165,000	0	45	23	3	4	0
Payment upon occupancy	20%	-	1,485,000	759,000	99,000	132,000	-
Total payments received on occupancy		-	2,835,000	1,449,000	189,000	252,000	-

3. Operating revenues are calculated based on number of residents or occupied units as follows:

Operating revenues	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Units occupied (from above, both phases)	0	90	136	142	150	150
Number of residents (assuming 1.5 per unit)	0	135	204	213	225	225
Home care assistance ($100/month per resident)	-	162,000	244,800	255,600	270,000	275,130
Food service ($500/month per resident)	-	405,000	612,000	639,000	675,000	687,825
Management fee ($900/month per unit)	-	81,000	122,400	127,800	135,000	137,565

Terminal year amounts are based on Year 5 with a 1.9% long-term growth rate applied.

4. Government grant of $400,000 to be received once occupancy reaches 95% (expected in Year 4).

5. Operating costs are calculated based on number of residents or occupied units as follows:

Operating costs	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Units occupied (from above, both phases)	0	90	136	142	150	150
Number of residents (assuming 1.5 per unit)	0	135	204	213	225	225
Home care assistance ($40,000 per 100 units)	-	40,000	80,000	80,000	80,000	81,520
Food and meal service ($400/month per resident, 50% of residents will choose this service)	-	324,000	489,600	511,200	540,000	540,000

Terminal year amounts are based on Year 5 with a 1.9% long-term growth rate applied.

6. Management fee is $120,000 per year based on 2 full-time staff members. Amounts in the terminal year are based on Year 5 with a 1.9% long-term growth rate applied.

7. Insurance costs of $50,000 annually is mandatory once occupancy begins.

8. Agent commission calculated as follows:

Agent commission on units to be sold	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Proceeds from unit sales (Per note 1 and 2)	11,700,000	2,835,000	1,449,000	189,000	252,000	-
Agent commission (2.5%)	292,500	70,875	36,225	4,725	6,300	-
Assume total commission received in Year 1 (commissions received upon purchase, not occupancy)	410,625					

9. Marketing and selling expense per case facts ($250,000 as budgeted, unchanged by Phase 2).

10. Builder's insurance calculated as follows:

Phase I - required for 3 years until building complete	250,000	250,000	250,000	-	-	-
Phase II - 50% of Phase I	125,000	125,000	125,000	-	-	-
Total builder's insurance	375,000	375,000	375,000	-	-	-

11. Depreciation calculated as 5% declining balance of the building cost and 20% of furniture cost (with ½ year rule), as follows:

Furniture and Fixtures							
Capital cost		1,625,000	1,625,000	1,462,500	1,170,000	936,000	748,800
Depreciation (declining balance)	20%	-	325,000	292,500	234,000	187,200	-
1/2 year rule in first year of depreciation		-	162,500	-	-	-	-
UCC		1,625,000	1,462,500	1,170,000	936,000	748,800	748,800
Buildling							
Capital cost		6,850,000	6,850,000	6,678,750	6,344,813	6,027,572	5,726,193
Depreciation (declining balance)	5%	-	342,500	333,938	317,241	301,379	286,310
1/2 year rule in first year of depreciation		-	171,250	-	-	-	-
UCC		6,850,000	6,678,750	6,344,813	6,027,572	5,726,193	5,439,884

12. Corporate taxes calculated at 26.5%, based on case facts.

13. Architect costs are $150,000 for each of Phase 1 and Phase 2, as they must be redrawn.

14. Zoning costs are $50,000 for each of Phase 1 and Phase 2, as they must be redrawn.

15. Building material cost is calculated as follows:

Phase I - to be spent over 2 years	1,000,000	1,000,000	-	-	-	-
Phase II - 50% of phase I	500,000	500,000	-	-	-	-
Total building material cost	1,500,000	1,500,000	-	-	-	-

16. Furniture and fixtures costs (for units and common areas) are calculated as follows:

Furniture and fixtures for units						
Phase I - spent in year 2	-	500,000	-	-	-	-
Phase II - same as Phase I	-	500,000	-	-	-	-
Total furniture and fixtures for units	-	1,000,000	-	-	-	-
Furniture and fixtures for common areas						
Phase I - spent in year 2	-	500,000	-	-	-	-
Phase II - 25% of Phase I	-	125,000	-	-	-	-
Total furniture and fixtures for common areas	-	625,000	-	-	-	-

17. Labor costs are calculated as follows:

Phase I - to be spent over 2 years	750,000	750,000	-	-	-	-
Phase II - same as Phase I	750,000	750,000	-	-	-	-
Total labour	1,500,000	1,500,000	-	-	-	-

18. Landscaping costs are calculated as follows:

Phase I - to be spent in year 3	-	-	300,000	-	-	-
Phase II - 50% of Phase I	-	-	150,000	-	-	-
Total furniture and fixtures for units	-	-	450,000	-	-	-

19. Other ongoing capital expenditures are $200,000 per year (per case facts). Terminal year amounts are based on Year 5 with a 1.9% long-term growth rate applied.

20. Capex assumptions: 10% CCA as average of building and furniture, tax rate of 26.5%
[Note to Candidates: Other reasonable assumptions on CCA for sustaining capex were accepted]

21. Discount rate of 13.0% used per WACC analysis in Appendix D, assuming mid-year cash flow values. Terminal value calculated using discount rate less growth rate of 1.9%
[*Note to Candidates: Other reasonable assumptions on discount rate were accepted]*

22. Add back remaining tax shield for development capital assets in terminal year, using the following assumptions.

Tax shield on existing UCC in terminal year	
Furniture and fixtures	
UCC terminal year (see Note 11)	748,800
CCA rate - assumed	20%
Discount rate (WACC)	13%
Building	
UCC terminal year (see Note 11)	5,439,884
CCA rate - assumed	5%
Discount rate (WACC)	13%

23. Less land purchase of $2.0 million for the neighbour's land in 2015 and $5.0 million for Isabelle's land.

24. Add deposits at 80% of $150,000 times 60 sold units, less commissions of 2.5% of gross sales price for first 60 units

25. Assumed minority discount of 20% applied based on 20% ownership, assuming a limited number of other investors. We would need to review shareholder's agreement and org chart before assessing further. Assumed marketability/illiquidity discount of 10% based on private company shares. *[Note to Candidates: Other reasonable minority discounts could be applied. Further, a combined minority/marketability discount was accepted, providing that the Candidate discussed both elements (i.e., implications of a minority shareholding and implications of an illiquid shareholding].*

Appendix D

Golden Years
Weighted Average Cost of Capital
As at September 16, 2019

	Low	High	Rationale
Risk free rate	2.0%	2.0%	Based on 5-year GoC rate (Appendix E)
Equity risk premium	5.0%	5.0%	Appendix E
Size premium	2.0%	3.0%	Small size premium (App E - low (1%) as year 1 revenue +$5 M)
Industry risk premium	4.0%	5.0%	In between a residential and commercial project (App E)
Company specific premium	3.0%	4.0%	(-) Litigation and possible unionization / (+) Golden
Return on equity	16.0%	19.0%	Years proven operator (10 properties)
Pre-tax cost of debt	5.0%	7.0%	In between AAA due to size but better than junk rating
Tax cost at 26.5%	1.3%	1.9%	
After-tax cost of debt	3.7%	5.1%	
Debt to Capital ratio	40.0%	30.0%	Characteristics of both a residential and commercial project (App E)
Weighted Average Cost of Capital	**11.1%**	**14.8%**	
WACC average	**13.0%**		
Long-term growth rate	1.9%		CPI/Inflation (Appendix E)
Capitalization rate	11.1%		
Capitalization multiple	**9.04x**		