CERTIFIED PUBLIC ACCOUNTANT

INTERMEDIATE LEVEL EXAMINATIONS

I1.1: MANAGERIAL FINANCE

DATE: THURSDAY, 26 AUGUST 2021

MODEL ANSWER AND MARKING GUIDE

SECTION A

QUESTION ONE:

Marking guide	**Marks**
a) **Calculations of Net Present Value**	
Adjusted expected value of car parking charges	1
Sales Revenue for Year 1	1
Contribution for Year 1	1
Adjusted Fixed Cost for Year 1	1
Adjusted Security Costs for Year 1	1
Contribution for all the years	0.5
Leasing costs for all the years	0.5
Staff costs for all the years	0.5
Security system costs	0.5
Net cash flows	0.5
Taxation @ 30%	1
Land purchase and development	0.5
Net cash flows before tax	0.5
Taxation payment	0.5
Taxation payable in the following year	0.5
Net cash flows after tax	0.5
Discount factors @ 8%	0.5
Present Values	0.5
Net Present Value	1
Decision	1
Maximum marks	**14**
b) Kagitumba Manufacturing Ltd	
i. Individual cost of each source of financing	
Cost of debt (0.5 marks for formula, 3 marks for computation)	3.5
Cost of preferred stock (0.5 marks for formula, 1.5 marks for computation)	3.5
Cost of new common stock (0.5 marks for formula, 1 mark for computation)	3.5
Maximum marks	**7**
ii.Firm's weighted average cost of capital using the weights	
Long-term debt	1
Preferred stock	1
Common stock equity	1
Total	1
Maximum marks	**4**
Total marks	**25**

Detailed Answer

a) Net Present Value

The expected value of Year 1 car parking charges is:				
Price	**Probability**	**EV**	**Inflation**	**EV (Adjusted)**
6,000	40%	2,400		
5,000	25%	1,250		
7,000	35%	2,450		
		6,100	1.05	6,405
Year 1 sales revenue				
Spaces	**Capacity**	**EV**	**Weeks**	**Revenue**
600	0.75	6,405	52	149,877,000
Year 1 contribution				
Revenue	**Contribution Ratio**			**Contribution**
149,877,000.00	0.8			119,901,600
Fixed Cost				
Year 1 Staff cost				
FC	**Inflation**			**FC (Adj)**
35,000,000	1.04			36,400,000
Year 1 Security system costs				
SC	**Inflation**			**SC (Adjusted)**
10,000,000	1.04			10,400,000

Year	**1**	**2**	**3**	**4**	**5**		
Cash flows	Frw	Frw	Frw	Frw	Frw		
Contribution	119,901,600	125,896,680	132,191,514	138,801,089.7	145,741,144.19		
Leasing costs	(5,000,000)	(5,000,000)	(5,000,000)	(5,000,000)	(5,000,000)		
Staff costs	(36,400,000)	(37,856,000)	(39,370,240)	(40,945,049.6)	(42,582,851.58)		
Security system costs	(10,400,000)	(10,816,000)	(11,248,640)	(11,698,585.6)	(12,166,529.02)		
Net cash flows	**68,101,600**	**72,224,680**	**76,572,634**	**81,157,454.5**	**85,991,763.58**		
Taxation @ 30%	**20,430,480**	**21,667,404**	**22,971,790.2**	**24,347,236.35**	**25,797,529.07**		
Land purchase and development	(80,000,000)					100,000,000	
Net cash flows		68,101,600	72,224,680	76,572,634	81,157,454.5	85,991,763.58	
Tax payment		(10,215,240)	(10,833,702)	(11,485,895.10)	(12,173,618.18)	(12,898,764.54)	
Tax payment			(10,215,240)	(10,833,702)	(11,485,895.10)	(12,173,618.18)	(12,898,764.54)
Net cash flow after tax	(80,000,000)	57,886,360	51,175,738	54,253,036.90	57,497,941.23	160,919,380.87	(12,898,764.54)
Discount factors @ 8%	1.000	0.926	0.857	0.794	0.735	0.681	0.630
Present value	(80,000,000)	53,602,769.36	43,857,607.47	43,076,911.30	42,260,986.8	109,586,098.37	(8,126,221.66)
NPV	**204,258,151.64**						
The project has a positive NPV of Frw 204m and therefore should be accepted.							
Total marks							

b) Kagitumba Manufacturing Ltd:

i. Individual cost of each source of financing

Particulars
Cost of debt, *ri* (using approximation formula)
rd = $\dfrac{I + \dfrac{1{,}000 - Nd}{n}}{\dfrac{Nd + 1{,}000}{2}}$
I = 0.10 * Frw1,000 = Frw100
Nd = Frw1,000 - Frw30 discount - Frw20 flotation cost = Frw950
n = 10 years *rd* = $\dfrac{100 + \dfrac{1{,}000 - 950}{10}}{\dfrac{950 + 1{,}000}{2}}$ *rd* = $\dfrac{100 + 5}{975}$ *rd* = 10.8% Also Calculator solution = 10.8%
ri = *rd* * (1 - *T*) *T* = 0.30 *ri* = 10.8, * (1 - 0.30) = 7.5%
Cost of preferred stock, *rp*
rp = $\mathbf{r} = \frac{Dp}{Np}$
D*p* = 0.11 * Frw100 = Frw11
N*p* = Frw100 - Frw4 flotation cost = Frw96
rp = $\dfrac{11}{96}$ *rp* = 11.5%
Cost of new common stock, *rn*
rn = $\frac{D1}{Nn} + g$
*D*1 = Frw6
Nn = Frw80 - Frw4 underpricing - Frw4 flotation cost = Frw72
g = 6%

$rn = \frac{6}{72} + 6\% = 8.3\% + 6\% = 14.3\%$
Total marks

ii. Firm's weighted average cost of capital using the weights

Source of capital	**Weight**	**Cost**	**Weighted cost**
Long-term debt	40%	7.5%	3.0%
Preferred stock	15%	11.5%	1.7%
Common stock equity	45%	14.3%	6.5%
Total	**100%**		**11.2%**

QUESTION TWO

Marking guide **Marks**

(a) Factors determining the firm's working capital needs

(1 mark for each factor, maximum 5) **5**

(b) Changes from 2019 to 2020 for all items:

(i)

New plant and equipment 1
Accounts receivable 1
Inventory 1
Long-term debt 1
Notes payable 1
Maximum marks **5**

(ii) Ratios

Current ratio 1
Cash ratio 1
Inventory turnover 1
Days' sales in receivable 1
Cash coverage ratio 1
Maximum marks **5**

(iii) Return on Equity (ROE) Nyarugunga Co. Ltd **5**

(0.5 marks for formula, 4.5 marks for computation)

Total marks **20**

Detailed Answer

a) **Factors which determine the firm's working capital needs**

Working capital requirement is influenced by various factors. Majority activities of the company affect the working capital requirements of the company. The magnitude of influence may be different. Some important of them are listed below:

i. Nature of the Industry / Business: The management of working capital is completely different from industry to industry. A simple comparison of the service industry and manufacturing industry can clarify the point. In the service industry, there is no inventory and therefore, one big component of working capital is already avoided. So, the nature of the industry is a factor in determining the working capital requirement.

ii. Seasonality of Industry and Production Policy: Businesses based on seasons like manufacturing of ACs whose demand peaks in summer and dips in winter. The requirement of working capital will be more in summer compared to winter if they are produced in the fashion of their demand. The policy of producing throughout the year can smoothen the fluctuation of the working capital requirement.

iii. Competition: If the industry is competitive, quick response to customer needs is compulsory and therefore a higher level of inventory is maintained. Liberal credit terms are also mandatory with good service to survive in the market. So, higher the competition, higher would be the requirement of working capital.

iv. Production Cycle Time: The production cycle time refers to the time required for converting the raw materials into finished goods. Higher, this time, higher would be the time of blocking funds in the working capital.

v. Credit Policy: Liberal credit policy demands a higher level of working capital and tight credit policy reduces it.

vi. Growth and Expansion: Some industries are static and others are growing. Obviously, growing industry grows the requirement of working capital also as compared to static industry.

vii. Shortage of supply of Raw Material: If the raw material supply is not smooth for any reason, companies tend to store more of raw materials than needed and that increased requirement of working capital.

viii. Taxes: Taxes are often paid in advance. This also blocks a part of working capital. Depending on the tax environment of the industry, working capital needs are also affected.

ix. Dividend Policy: Dividend policy determines the level of retained profits with the business and retained profits are also used for working capital. This is how; dividend policy affects the need for working capital.

x. Price Levels: The price levels of inventory and other expenses such as labor rates e.t.c increase the working capital requirement. If the company also is able to increase the price of their finished goods, it reduces this impact.

b) Changes from 2019 to 2020 for all items:

i.

	2020	**2019**	**Change**	**Source/Use of cash**
Assets	Frw 'millions'	Frw 'millions'		
Non-Current Assets				
Net plant and equipment	6,527	6,085	442	Use
Current Assets				
Cash	215	210		
Accounts receivable	310	355	(45)	Source
Inventory	328	507	(179)	Source
Total	**853**	**1,072**		
Total assets	**7,380**	**7,157**		
Liabilities and Owners' Equity				
Owners' equity				
Common stock and paid-in surplus	1,000	1,000		
Retained earnings	2,347	2,248		
Total	**3,347**	**3,248**		
Long-term debt	2,308	1,987	321	Use
Current liabilities				
Accounts payable	298	207		
Notes payable	1,427	1,715	(288)	Source
Total	**1,725**	**1,922**		
Total liabilities and owners' equity	**7,380**	**7,157**		

ii. Ratios:

Question	Ratio (Amounts in million)
a	Current ratio = Frw853/Frw1,725 = 0.49 times
b	Cash ratio = Frw215/Frw1,725 = 0.12 times
c	Inventory turnover = Frw2,780/Frw328 = 8.48 times
d	Days' sales in receivables = 365/13.07 = 27.92 days
e	Cash coverage ratio = (723+550)/502 =Frw1,273/Frw502 = 2.54 times

iii. 2020 Return on Equity (ROE) for Nyarugunga Company Ltd and then break down your answer into its component parts using the Du Pont identity

The return on equity is the ratio of net income to total equity. For Nyarugunga Company Ltd, this
is (in millions) Frw146/Frw3,347 = 4.4%, which is not outstanding. Given the Du Pont identity, ROE can be written as:

ROE = Profit margin x Total asset turnover x Equity multiplier = Frw146/Frw4,053x Frw4,053/Frw7,380x Frw7,380/Frw3,347 [in millions]

= 3.6% x 0.549% x 2.20% = 4.4%

QUESTION THREE:

Marking guide	**Marks**
a) Two types of share capital indicating 2 advantages of each	
Ordinary share capital (1 mark for explanation)	1
Advantages (1 mark each, max 2)	2
Preference share (1 mark for explanation)	1
Advantages (1 mark each, max 2)	2
Maximum marks	**6**
b) Venture Capital	
Stages of investment by a venture capitalist (1 mark each, max 5)	5
Risks associated with venture capital financing (1 mark each, max 4)	4
Maximum marks	**9**
Total marks	**15**

Detailed Answer

a) TWO types of share capital clearly indicating TWO advantages of each

i. **Ordinary share capital:** This is raised from the public from the sale of ordinary shares to the shareholders. This finance is available to limited companies. It is a permanent finance as the owner/shareholder cannot recall this money except under liquidation. It is thus a base on which other finances are raised. Ordinary share capital carries a return that is variable (ordinary dividends). These shares carry voting rights and can influence the company's decision making process at the AGM.

Advantages:

• They facilitate projects especially long-term projects because they are permanent.

• Its cost is not a legal obligation.
• It lowers gearing level – reduces chances of receivership/liquidation.
• Used with flexibility – without preconditions.
• Such finances boost the company's credibility and credit rating.
• Owners contribute valuable ideas to the company's operations (during AGM by professionals).

ii. Preference Shares:

The main features are:

• Holders are entitled to a fixed maximum dividend.

• Dividends are only paid if sufficient profits are available.

• Rank prior to ordinary shares (both dividends and capital on a winding-up).

• Cumulative Preference Shares the right to any arrears of dividend carried forward and they must be paid before any dividend is paid to the ordinary shareholders. Preference Shares are cumulative, unless expressly stated to be non-cumulative.

• Restricted voting rights - usually only available in a situation where the rights attaching to the shares are being amended or if dividends are in arrears.

Advantages to the Company

• A fixed percentage dividend per year is payable no matter how well the company performs, but only at the discretion of the company's directors.
• Do not normally give full voting rights to holders.
• Preference shares are mostly irredeemable.

b) Venture Capital

i. FIVE stages of investment by a venture capitalist

- Seed Capital – finance provided to enable a business concept to be developed, perhaps involving production of prototypes and additional research, prior to bringing the product to market.
- Start-Up – finance for product development and initial marketing. Companies may be in the process of being set up or may have been in business for a short time but have not sold their product commercially.
- Expansion – capital provided for the growth of a company which is breaking even or possibly, trading profitably. Funds may be used to finance increased production capacity, market or product development and/or provide additional working capital. Capital for "turnaround" situations is also included in this category.

- Management Buy Out (MBO) – funds provided to enable current operating management and investors to acquire an existing business.
- Management Buy In (MBI) – funds provided to enable a manager or group of managers from outside the company to buy into the company.

ii. FOUR risks associated with venture capital financing

- Management Team: Much of a company's success or failure depends on the management team. Venture capitalists ideally look for a company that's run by managers with a track record of success, either within the company they are giving the money to or in previous positions. Venture capitalists, or VCs, take a huge risk in the human side of the equation because they can't always predict how human beings will behave. They can't guarantee that the talented management team they are supporting will stay on board or that they really will produce as promised.
- Market Trends: VCs look for companies with high growth potential. The risk factor lies in the word "potential." Market trends can impact the growth of a company once poised for success. VCs seek business investments with companies that offer a competitive advantage often is based on projections and assumptions about the future of a product or service, the market's acceptance of the new entry and the movement of the competition. While they may do their due diligence in depth before providing the funds, outside market factors can ultimately decide the fate of a new company.
- Barriers to Success: While entrepreneurs seeking venture capital funding may have covered all the bases they need to get their product or service on the market, every company still has barriers that must be overcome. VCs are acutely aware of those barriers and consider them risks when they are outside the company's control. Government regulations are barriers that may or may not be predictable. Economic factors such as government shutdowns or a recession are unforeseen barriers that VCs risk facing. Corporate theft of intellectual property and patent infringements are other barriers to success that create risk in the investment.
- Timely Exits: Ultimately, venture capitalists must be able to see an end to the risk and enjoy their profits. The two most common ways of paying off angel investors are through an initial public offering and a buyout. VCs face the risks that the company managers won't be able to pull off the planned exit strategy. They may not produce enough revenue to offer the company to the public and sell shares. Smaller companies looking for a big buyer may not be successful enough to make the grade, leaving VCs stuck. When exit strategies fail, venture capitalists either cut their losses or stick around and try to turn the company around by taking a more active role in its management.

SECTION B

QUESTION FOUR

Marking guide	**Marks**
a) Practical considerations for setting dividend policy Considerations (1 mark each, maximum of 8)	8
b) Dividend-Irrelevance Theory	
The concept of dividend irrelevance theory	3
Limitations of dividend irrelevance theory (1 mark each, maximum of 4)	4
c) Factors affecting dividend payouts (1 mark each, maximum of 5)	5
Total marks	**20**

Detailed Answer

a) Practical considerations which Gashumba Ltd must take into account in setting its particular dividend policy

There are a number of practical considerations which a company must take into account in setting its particular dividend policy. Chief among these are:

• Taxation – Income Tax v Capital Gains Tax. If shareholders pay high marginal rates of Income Tax they may prefer low dividends. If subject to low tax rate or zero tax, they may prefer high dividends.

• Investment Opportunities – *"Residual Theory"* => retain sufficient funds until all profitable investments (those with a positive NPV) have been funded. Balance to be paid as dividends. Drawback is that dividends may vary dramatically from year to year. Also, consider the timing of
the cash flows from the investments as these will be required to pay future dividends.

• Availability of Finance – If the company is highly geared it may have little option but to retain. Retentions will build up the equity base, thus reducing gearing and assisting future borrowing. Certain types of company (e.g. small/unquoted) may not have access to external funds and may need to retain.

• Liquidity – Profits do not equal cash. Adequate cash must be available to pay dividends. Also, for growth companies, sufficient liquidity must be available for reinvestment in fixed assets.

• Cost of New Finance – The costs associated with raising new equity/debt can be quite high. If debt is raised interest rates may be high at that particular point in time.

• Transaction Costs – Some shareholders may depend on dividends. If earnings are retained they can create "home-made" dividends by selling some shares (capital). However, this may be inconvenient and costly (brokerage fees etc.).

• Control – If high dividends are paid the company may subsequently require capital and this may be obtained by issuing shares to new shareholders. This may result in a dilution of control for existing shareholders.

• Inflation – In periods of high inflation companies may have to retain funds in order to maintain their existing operating capability. On the other hand, shareholders require increased dividends in order to maintain their purchasing power.

• Information Content – The declared dividend provides information to the market about the company's current performance and expected future prospects. An increase or a reduction will be reflected in the share price.

• Existing Debt – Restrictive covenants in existing loan agreements may limit the dividend payout or prohibit the company from arranging further borrowing. Existing debt which may be due for repayment will require funds and may cause a reduction in the level of dividend.

• Legal Restrictions – Dividends can only be paid out of realized profits. Past losses must first be made good.

• Perceived Risk – The earnings from retained dividends may be perceived as being a more risky return than actual cash dividends, thereby causing their perceived value to be lower (the "Bird in the Hand Theory").

• Stable Dividends – Generally, shareholders require a stable dividend policy and hopefully, steady dividend growth.

b) The concept of Dividend-Irrelevance Theory

Was advanced by Modiglian and Miller in 1961. The theory asserts that a firm's dividend policy

has no effect on its market value and cost of capital.

They argued that the firm's value is primarily determined by:

• Ability to generate earnings from investments

• Level of business and financial risk

According to MM dividend policy is a passive residue determined by the firm's need for investment funds.

It does not matter how the earnings are divided between dividend payment to shareholders and

retention. Therefore, optimal dividend policy does not exist. Since when investment decisions of

the firms are given, dividend decision is a mere detail without any effect on the value of the firm.

Limitations of M&M dividend irrelevancy theory

The arguments against M&M's view that dividend policy is irrelevant as a means of affecting shareholders' wealth reflect the unrealistic nature of the assumptions made:

- It assumes No taxes exist. Differing rates of taxation on dividends and capital gains can create a preference for either a high dividend or high earnings retention. This is one of the key reasons why different clientele are attracted by different dividend policies.
- It assumes Capital markets are perfectly efficient. Companies may find that funds are not always available to finance attractive investments. Where capital rationing is an issue, dividend retention may be preferred by companies.
- It assumes No transactions costs. Because of transaction costs on the sale of shares, investors who want some cash from their investments will prefer to receive dividends rather than to sell some of their shares to get the cash they want.
- It assumes Information is fully and freely available. Shareholders are often not fully aware of the future investment plans and expected profits of their company. Even if management were to provide them with profit forecasts, these forecasts would not necessarily be accurate or believable unless backed up with a signal of confidence in the form of a rising dividend. So, shareholders may prefer a current dividend to future capital gains (or deferred dividends) because the future is more uncertain. This is known as the bird-in-the-hand theory.

c) Factors affecting dividend payouts

1. Legal rules

• Net purchase rule States that dividend may be paid from company's profit either past or present.

• Capital impairment rule: prohibits payment of dividends from capital i.e. from sale of assets. This is liquidating the firm.

• Insolvency rule: prohibits payment of dividend when company is insolvent. Insolvent company is one where assets are less than liabilities. Insolvent company is one where assets are less than liabilities. In such a case all earnings and assets of company belong to debt holders and no dividends are paid.

2. Profitability and liquidity

A company's capacity to pay dividend will be determined primarily by its ability to generate adequate and stable profits and cash flow. If the company has liquidity problem, it may be unable to pay cash dividend and result to paying stock dividend.

3. Taxation position of shareholders Dividend payment is influenced by tax regime of a country e.g in Kenya cash dividend are taxable at source, while capital are tax exempt**.** The effect of tax differential is to discourage shareholders from wanting high dividends. (This is explained by tax differential theory).

4. Investment opportunity

Lack of appropriate investment opportunities i.e. those with positive returns (N.P.V.), may encourage a firm to increase its dividend distribution. If a firm has many investment opportunities, it will pay low dividends and have high retention.

5. Capital Structure

A company's management may wish to achieve or restore an optimal capital structure i.e. if they consider gearing to be too high, they may pay low dividends and allow reserves to accumulate until a more optimal/appropriate capital structure is restored/achieved.

6. Industrial Practice

Companies will be resistant to deviation from accepted dividend or payment norms within the industry.

7. Growth Stage

Dividend policy is likely to be influenced by firm's growth stage e.g a young rapidly growing firm is likely to have high demand for development finance and therefore may pay low dividend or a defer dividend payment until company reaches maturity. It will retain high amount.

8. Ownership Structure

A dividend policy may be driven by Time Ownership Structure e.g in small firms where owners and managers are same, dividend payout are usually low. However, in a large quoted public company dividend payout are significant because the owners are not the managers. However, the values and preferences of small group of owner managers would exert more direct influence on dividend policy.

9. Shareholders expectation

Shareholder clientele that have become accustomed to receiving stable and increasing dividendwill expect a similar pattern to continue in the future. Any sudden reduction or reversal of such a policy is likely to dissatisfy the shareholders and may result in a fail in share prices.

10. Access to capital markets

Large, well established firms have access to capital markets hence can get funds easily. They pay high dividends thus, unlike small firms which pay low dividends (high retention) due to limited borrowing capacity.

11. Contractual obligations on debt covenants

They limit the flexibility and amount of dividends to pay e.g. no payment of dividends from retained earnings.

QUESTION FIVE

Marking guide	**Marks**
a) Calculations	
Project cash flows	
(Initial investment, Working Capital, Operating cash flow,Total cash flows)	4
Project Present values (Computation)	3
Maximum marks	**7**
b) Advantages and Disadvantages of using Discounted Cash Flow	
Advantages (1 mark each, Maximum 3)	3
Disadvantages (1 mark each, Maximum 2)	2
Maximum marks	**5**
c) Ganza Ltd	
i.Reasons for manager's conflict of interest with shareholders	
Reasons (1 mark on each, Maximum 4)	4
ii.Solutions to shareholders and management conflict of interest	
Solutions (1 mark on each, Maximum 4)	4
Maximum marks	**8**
Total marks	**20**

Detailed Answer

a) Using the information provided in the table and additional information, calculate the:

Project cash flows & Present values

PROJECT CASH FLOWS							
Year:	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Capital investment	(10,000)	-	-	-	-	-	-
Investment in working capital	(1,500)	(2,575)	(204)	(214)	(225)	1,678	3,039
Cash flow from operations		4,100	4,275	4,459	4,652	4,855	

(Depreciation of mining equipment + Profit after tax)							
Total cash flow	**(11,500)**	**1,525**	**4,071**	**4,245**	**4,427**	**6,533**	**3,039**
Discount factor (12%)	1.0000	0.8929	0.7972	0.7118	0.6355	0.5674	0.5066
Present value	**(11,500)**	**1,362**	**3,245**	**3,022**	**2,813**	**3,707**	**1,540**
Total marks							

b) THREE advantages and TWO disadvantages of using Discounted Cash Flow (DCF) analysis to making investment decisions

Advantages

- DCF Valuation truly captures the underlying fundamental drivers of a business (cost of equity, weighted average cost of capital, growth rate, re-investment rate, etc.). Consequently, this comes closest to estimating intrinsic value of the asset/business.
- Unlike other valuations, DCF relies on Free Cash Flows. To a larger extent, Free Cash Flows (FCF) are a reliable measure that eliminate the subjective accounting policies and window dressing involved in reported earnings. Irrespective of whether a cash outlay is categorized as an operating expense in P&L, or capitalized into an asset on balance sheet, FCF is a true measure of the money left over for investors.
- Besides explicitly considering the business drivers involved, DCF allows investors to incorporate key changes in the business strategy in the valuation model, which otherwise will go un reflected in other valuation models (like relative, APV, etc.)
- While other methods like relative valuation are fairly easier to calculate, their reliability becomes questionable when the entire sector or market is over-valued or under-valued. DCF cuts across through this quandary and predicts the best possible intrinsic value.
- Most importantly, DCF model can be used as a sanity check. Instead of estimating the fair intrinsic value, the current share price of the company can be plugged into the model, and working backwards, DCF model will tell how much the company's stock is over-valued or under-valued, and also whether the current stock price is justified or not.

Disadvantages

- DCF Valuation is extremely sensitive to assumptions related to perpetual growth rate and discount rate. Any minor tweaking here and there, and the DCF Valuation will fluctuate wildly and the fair value so generated won't be accurate.
- It works best only when there is a high degree of confidence about future cash flows. But if the company's operations lack visibility, it becomes difficult to predict sales, operating expenses and capital investment with certainty. While forecasting cash flows for the next few

years is difficult, pushing them out perpetually (mandatory for DCF Valuation) becomes almost impossible. As such, DCF method is susceptible to error if not properly accounted for these inputs.

- One major criticism of DCF is that the terminal value comprises far too much of the total value (65-75%). Even a minor variation in the assumptions on terminal year can have a significant impact on the final valuation.
- DCF Valuation is an ever-changing target that demands constant vigilance and modification. If any expectations about the company change, the fair value will change accordingly.
- DCF Model is not suited for short-term investing. Instead, it focuses on long-term value creation.
-

c) Ganza Ltd

i. FOUR reasons why actions of the managers are in conflict with the interest of shareholders

- Incentive Problem: Managers may have fixed salary and they may have no incentive to work hard and maximize shareholders wealth. This is because irrespective of the profits they make, their reward is fixed. They will therefore maximize leisure and work less which is against the interest of the shareholders.
- Consumption of "Perquisites": Prerequisites refer to the high salaries and generous fringe benefits which the directors might award themselves. This will constitute directors remuneration which will reduce the dividends paid to the ordinary shareholders. Therefore the consumption of perquisites is against the interest of shareholders since it reduces their wealth.
- Different Risk-profile: Shareholders will usually prefer high-risk-high return investments since they are diversified i.e they have many investments and the collapse of one firm may have insignificant effects on their overall wealth. Managers on the other hand, will prefer low risk-low return investment since they have a personal fear of losing their jobs if the projects collapse. (Human capital is not diversifiable). This difference in risk profile is a source of conflict of interest since shareholders will forego some profits when low return projects are undertaken.
- Different Evaluation Horizons: Managers might undertake projects which are profitable in short-run. Shareholders on the other hand evaluate investments in long-run horizon which is consistent with the going concern aspect of the firm. The conflict will therefore occur where management pursue short-term profitability while shareholders prefer long term profitability.
- Management Buy Out (MBO): The board of directors may attempt to acquire the business of the principal. This is equivalent to the agent buying the firm which belongs to the shareholders. This is inconsistent with the agency relationship and contract between the shareholders and the managers.

- Pursuing power and self-esteem goals: This is called "empire building" to enlarge the firm through mergers and acquisitions hence increase in the rewards of managers.
- Creative Accounting: This involves the use of accounting policies to report high profits e.g stock valuation methods, depreciation methods recognizing profits immediately in long term construction contracts etc.

ii. FOUR solutions to shareholders and management conflict of interest

- Pegging/attaching managerial compensation to performance: This will involve restructuring the remuneration scheme of the firm in order to enhance the alignments/harmonization of the interest of the shareholders with those of the management e.g. managers may be given commissions, bonus etc. for superior performance of the firm.
- Threat of firing: This is where there is a possibility of firing the entire management team by the shareholders due to poor performance. Management of companies have been fired by the shareholders who have the right to hire and fire the top executive officers e.g the entire management team of Unga Group, IBM, G.M. have been fired by shareholders.
- The Threat of Hostile Takeover: If the shares of the firm are undervalued due to poor performance and mismanagement. Shareholders can threatened to sell their shares to competitors. In this case the management team is fired and those who stay on can loose their control and influence in the new firm. This threat is adequate to give incentive to management to avoid conflict of interest.
- Direct Intervention by the Shareholders: Shareholders may intervene as follows:
    - Insist on a more independent board of directors.
    - By sponsoring a proposal to be voted at the AGM
    - Making recommendations to the management on how the firm should be run.
- Managers should have voluntary code of practice, which would guide them in the performance of their duties.
- Executive Share Options Plans: In a share option scheme, selected employees can be given a number of share options, each of which gives the holder the right after a certain date to subscribe for shares in the company at a fixed price.

QUESTION SIX

Marking guide	**Marks**
(a) Calculations	
(i) Expected return for each asset (1 mark for the formula, 1 mark for each asset- max 3)	4
(ii) Expected return for each of two portfolios (1 mark for each year-max 3, 1 mark for each portfolio- max 2)	5
(iii) Correlations of the returns (1 mark each, Max 2)	2
(iv) Standard deviations of the portfolios (1 mark each, Max 2)	2
(v) Recommendation of the portfolio	2
Maximum marks	**15**
(b) Portfolio Diversification	
(i) Non-diversifiable risk (explanation)	2
(ii) Diversifiable risk (explanation)	2
(iii) Importance of selecting assets	1
Maximum marks	**5**
Total marks	**20**

Detailed Answer

a) Shora Wunguke Ltd

i.

Question	**Calculation**
I	Expected return, $r = \frac{\sum Returns}{3}$
	$r_A = \frac{12\%+14\%+16\%}{3} = 14\%$
	$r_B = \frac{16\%+14\%+12\%}{3} = 14\%$
	$r_C = \frac{12\%+14\%+16\%}{3} = 14\%$
Total marks	

ii.

Question	**Year**	**Portfolio AB**	**Portfolio AC**
Ii	2018	(0.50 * 12%) + (0.50 * 16%) = 14%	(0.50 * 12%) + (0.50 * 12%) = 12%
	2019	(0.50 * 14%) + (0.50 * 14%) = 14%	(0.50 * 14%) + (0.50 * 14%) = 14%
	2020	(0.50 * 16%) + (0.50 * 12%) = 14%	(0.50 * 16%) + (0.50 * 16%) = 16%

	$r_{AB} = \frac{14\%+14\%+14\%}{3} = 14\%$
	$r_{AC} = \frac{12\%+14\%+16\%}{3} = 14\%$
Total marks	

iii.

AB is perfectly negatively correlated.

AC is perfectly positively correlated.

iv. Standard deviation of the portfolios:

Computation	
$\sigma rAB = \sqrt{\frac{(14\% - 14\%)^2 + (14\% - 14\%)^2 + (14\% - 14\%)^2}{3-1}} = 0\%$	
$\sigma rAC = \sqrt{\frac{(12\% - 14\%)^2 + (14\% - 14\%)^2 + (16\% - 14\%)^2}{3-1}} = 2\%$	
Total marks	

v. Portfolio AB is preferred because it provides the same return (14%) as AC but with less risk [(σrAB = 0%) 6 (σrAC = 2%)].

b) Portfolio Diversification:

i. **Non-diversifiable risk** (also called systematic risk) is attributable to market factors that affect all firms; it cannot be eliminated through diversification. Factors such as war, inflation, the overall state of the economy, international incidents, and political events account for non-diversifiable risk.

ii. **Diversifiable risk** (sometimes called unsystematic risk) represents the portion of an asset's risk that is associated with random causes that can be eliminated through diversification. It is attributable to firm-specific events, such as strikes, lawsuits, regulatory actions, or the loss of key accounts.

iii. The primary importance in selecting assets with the most desired risk–return characteristics: Because any investor can easily create a portfolio of assets that will eliminate virtually all diversifiable risk, the only relevant risk is non-diversifiable risk. Any investor or firm therefore must be concerned solely with non-diversifiable risk. The measurement of non-diversifiable risk is thus of primary importance in selecting assets with the most desired risk–return characteristics.

End of Model Answers and Marking guide