

# Scanner Appendix

CMA Inter Group - II  
Solutions of June - 2024

Paper - 11 : Financial Management and Business Data Analytics

## Chapter - 2A : Financial Institutions

2024 - June [2] (a)

The primary functions (also known as banking functions) of commercial banks in India are:

1. **Acceptance of Deposits from Public:** Bank accepts following deposits from publics:
  - (a) Demand deposits can be in the form of current account or savings account. These deposits are withdrawable any time by depositors by cheques. Current deposits have no interest or nominal interest. Such accounts are maintained by commercial firms and business man. Interest rate of saving deposits varies with time period. Savings accounts are maintained for encouraging savings of households.
  - (b) Fixed deposits are those deposits which are withdrawable only after a specific period. It earns a higher rate of interest.
  - (c) In recurring deposits, people deposit a fixed sum every month for a fixed period of time.
2. **Advancing Loans:** It extends loans and advances out of money deposited by public to various business units and to consumers against some approved. Usually, banks grant short-term or medium-term loans to meet requirements of working capital of industrial units and trading units. Banks discourage loans for consumption purposes. Loans may be secured or unsecured. Banks do not give loan in form of cash. They make the customer open account and transfer loan amount in the customer's account.

**Banks grant loan in following ways:**

- (a) Overdraft
  - (b) Cash Credit
  - (c) Discounting Trade Bills
  - (d) Term Loan
  - (e) Consumer Credit
  - (f) Money at Call or Short-term Advances
3. **Credit Creation:** Credit creation is another banking function of commercial bank. i.e., it manufactures money.
  4. **Use of Cheque System:** Banks have introduced the cheque system for withdrawal of deposits. There are two types of cheques – bearer and cross cheque.
  5. **Remittance of Funds:** Banks provides facilities to remit funds from one place to another for their customers by issuing bank drafts, mail transfer etc.

**Chapter - 3 : Tools for Financial Analyses****2024 - June [3] (a)**

$$1. \text{ Gross Profit Ratio} = \frac{\text{G.P.}}{\text{Sales}} \times 100$$

$$25 = \frac{3,00,000}{\text{Sales}} \times 100$$

$$\boxed{\text{Sales} = ₹ 12,00,000}$$

$$2. \text{ Average collection period} = \frac{\text{Average Debtors}}{\text{Credit Sales}} \times 12$$

$$2 = \frac{\text{Average Debtor}}{12,00,000} \times 12$$

$$\boxed{\text{S. Debtor /Avg. Debtor} = ₹ 2,00,000}$$

$$3. \text{ Cost of Good Sold (COGS)} = \text{Sales} - \text{G.D.}$$

$$= 12,00,000 - 3,00,000$$

$$= ₹ 9,00,000$$

$$4. \text{ Inventory Turnover Ratio} = \frac{\text{COGS}}{\text{Average Inventory}}$$

$$8 = \frac{9,00,000}{\text{Average Inventory}}$$

$$\text{Avg. Inventory} = ₹ 1,12,500$$

$$\text{Avg. Inventory} = \frac{\text{OP. Inventory} + \text{Cl. Inventory}}{2}$$

$$1,12,500 = \frac{1,05,000 + \text{Cl. Inventory}}{2}$$

Closing Inventory = ₹ 1,20,000
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$$5. \text{ Credit Payment Period} = \frac{\text{Avg. Creditor}}{\text{Creditor Purchase}} \times 12$$

$$1 = \frac{\text{Avg. - Creditor}}{9,15,000} \times 12$$

S. Creditors / Avg. Creditor = ₹ 76,250
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$$\text{COGS} = \text{Opening Inventory} + \text{Purchases} - \text{Closing Inventory}$$

$$9,00,000 = 1,05,000 + \text{Purchases} - 1,20,000$$

$$\text{Purchase} = ₹ 9,15,000$$

So,

- (a) Sales = ₹ 12,00,000
- (b) Sundry Debtors = ₹ 2,00,000
- (c) Closing Inventory = ₹ 1,20,000
- (d) Sundry Creditors = ₹ 76,250

2024 - June [3] (b)

**Cash Flow Statement for the year ended on 31.03.2024**

Particulars	₹	₹
<b>I. Cash flow from operating activities:</b>		
Sales (all in cash)	96,00,000	
Less: Payment to suppliers	71,00,000	
	25,00,000	
Less: Operating expenses	7,20,000	
Cash generated from operation	17,80,000	
Less: Taxes paid	3,00,000	14,80,000
<b>II. Cash flow from investing activities:</b>		
Purchase of land	(8,00,000)	
Purchase of Machinery	(4,00,000)	
Interest received on investment	20,000	(11,80,000)
<b>III. Cash flow from financing activities:</b>		
Equity Dividend paid	(2,40,000)	(2,40,000)
Net increase in cash and cash equivalent		60,000
Add: Opening cash and cash equivalent		80,000
Closing cash and cash equivalent		1,40,000

2024 - June [4] (a)

**Comparative Income Statement for the year ended on 31.03.2023 and 31.03.2024**

Particulars	2022-23 ₹ ('000)	2023-24 ₹ ('000)	Absolute Change ₹ ('000)	Percentage Change (%)
Net Sales	1,890	2,500	610	32.28

Less: Cost of Goods Sold	1,240	1,570	330	26.61
Gross Profit	650	930	280	43.07
Less: Operating Expenses:				
O&A and Selling expenses	270	314	44	16.30
Operating Profit	380	616	236	62.10
Less: Non-operating Exp- enses:				
Interest on Loan	50	70	20	40.00
PBT	330	546	216	65.45
Less: Income Tax	110	120	10	9.09
PAT	220	426	206	93.64

**Chapter - 4B : Cost of Capital**

2024 - June [4] (b)

(i) **Book Value****Statement of WACC**

(₹ in cr.)

Source	₹	Weight	CoC	WxCoc
Equity Share Capital	15.00	0.2564	0.1600	0.04100
11% Preference Share Capital	1.00	0.0171	0.1543	0.00260
Retained Earnings	20.00	0.3419	0.1600	0.05470
13.5% Debenture	10.00	0.1709	0.1270	0.02170
15% Term Loans	12.50	0.2137	0.0900	0.01923
	58.50			0.13923

WACC = 0.13923 or 13.923%
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**Working:**

$$1. \quad K_e = \frac{D_1}{P_0} + g = \frac{3.6}{40} + 0.07 = 0.16 \text{ or } 16\%$$

$$2. \quad K_p = \frac{PD + \left[ \frac{Rv - NP}{n} \right]}{\frac{Rv + NP}{2}}$$

$$= \frac{11 + \left[ \frac{100 - 75}{10} \right]}{\frac{100 + 75}{2}} = \frac{11 + 2.5}{87.5} = 15.43\%$$

$$3. \quad K_d = \frac{\text{Int.} \times (1-T) + \left[ \frac{Rv - NP}{n} \right]}{\frac{Rv + NP}{2}}$$

$$= \frac{[(100 \times 13.5\%) \times (1 - 0.4)] + \left[ \frac{100 - 80}{6} \right]}{\frac{100 + 80}{2}}$$

$$= \frac{8.1 + 3.33}{90} = 0.127 \text{ or } 12.70\%$$

$$4. \quad K_d (\text{Term loan}) = \text{Interest Rate} \times (1 - T)$$

$$= 0.150 \times (1 - 0.4)$$

$$= 0.09 \text{ or } 9\%$$

**(ii) Market Value:****Statement of WACC**

Source	₹	Weight	Coc	WxCoc
Equity Share Capital	60.00	0.7385	0.1600	0.1182
11% Preference Share Capital	0.75	0.0092	0.1543	0.0014
13.5% Debentures	8.00	0.0985	0.1270	0.0125
15% Term Loan	12.50	0.1538	0.0900	0.0138
	81.25	1.0000		0.1459

$$\text{WACC} = 0.1459 \text{ or } 14.59\%$$

**Calculation of Market value:**

1. Equity Share Capital =  $\frac{15}{10} \times 40 = 60$
2. 11% Preference Share Capital =  $\frac{1}{100} \times 75 = 0.75$
3. 13.5 % Debentures =  $\frac{10}{100} \times 80 = 8$

So,

1. Book value = 13.923%
2. Market value = 14.59%

**Chapter - 5 : Capital Budgeting****2024 - June [5] (a)**

The initial selling price of new product is ₹ 399.20 per unit.

**2024 - June [5] (b)**

Year	CFAT (₹)	Cumulative CFAT (₹)
1	3,96,000	3,96,000
2	4,41,500	8,37,500
3	3,57,000	11,94,500
4	3,18,000	15,12,500
5	4,52,000	19,64,500

**Pay back (PB) period:**

The recovery of investment (₹ 13,60,000) falls between the third and fourth years.

Therefore, the PB is 3 years plus a fraction of 4<sup>th</sup> year.

The fractional value is = 0.52.

Thus, the PB period is 3.52 years.

**Advice:** Since, the target PBP is higher, the project is acceptable.

Year	CFAT (₹)	Total PV (₹)	Cumulative PV (₹)
1	3,96,000	3,53,628	3,53,628
2	4,41,500	3,51,876	7,05,504
3	3,57,000	2,54,184	9,59,688
4	3,18,000	2,02,248	11,61,936
5	4,52,000	2,56,284	14,18,220

**Discounted Pay back (DPB) period:**

Discounted PB period is 4 years plus a fraction of 5<sup>th</sup> year.

The fractional value is = 0.77

Thus, the discounted PB period is 4.77 years.

**Advice:** Since, the target DPBP is lower, the project is not acceptable.

**Chapter - 6 : Working Capital Management**

2024 - June [6] (a)

**MJK LTD.****Statement Showing Working Capital Requirement**

	₹	₹
<b>Current Assets:</b>		
Stock of Raw Material	1,00,000	
Work in Progress	37,500	
Stock of Finished Goods	1,00,000	
Debtors	1,75,000	
Cash	25,000	
Total Current Assets		4,37,500
<b>Less: Current Liabilities:</b>		
Creditors		50,000
Estimated Working Capital Requirement		3,87,500



2024 - June [6] (b)

**MJ Ltd.**  
**Table Indicating Lot Size**

Annual requirement of cash (₹)	10,00,000	10,00,000	10,00,000	10,00,000	10,00,000
Lot size of securities (₹)	50,000	1,00,000	2,00,000	2,50,000	5,00,000
Number of transaction	20	10	5	4	2
Average holding of cash (₹)	25,000	50,000	1,00,000	1,25,000	2,50,000
Opportunity holding cost of cash	1,250	2,500	5,000	6,250	12,500
Fixed conversion cost per transaction (₹)	1,000	1,000	1,000	1,000	1,000
Total conversion cost (₹)	20,000	10,000	5,000	4,000	2,000
Total cost (₹)	21,250	12,500	10,000	10,250	14,500

From the above table it is clear that the total cost is minimum at ₹ 10,000 when the lot size of securities is ₹ 2,00,000 and thus it is Economic Lot Size of selling securities.

**Economic Lot Size (Baumol Model)**

$$C = \sqrt{\frac{10,00,000 \times 1,000}{0.025}} = ₹ 2,00,000$$

**Chapter - 7B : Leverage and EBIT-EPS Analysis**  
**2024 - June [7] (b)**

**Jai Ltd.**  
**EPS and Financial Leverage**

	Financial Plan - A	Financial Plan - B	Financial Plan - C	Financial Plan - D
Earnings per shares (EPS)	₹ 10.71	₹ 12.55	₹ 13.20	₹ 12.27
Degree of Financial Leverage	1.00	1.087	1.136	1.11

**Comment:**

From the above analysis we find that EPS as well as degree of financial leverage (DFL) is highest in Financial Plan C. So, Plan C should be accepted. The company should raise ₹ 10 lakhs in equity shares and the balance of ₹ 20 lakhs through long-term borrowing at 9% interest p.a.

**Chapter - 7C : Dividend Decisions and Dividend Theories**

**2024 - June [7] (a)**

As per Gordon's Model, value per share = ₹ 20.00

If pay-out ratio = 10% i.e. 0.10, then, retention ratio = 90% = 0.90

Value per share = (-) ₹ 6.67

Now, if pay-out ratio = 90% i.e. 0.90, then, retention ratio = 10% = 0.10

Value per share = ₹ 13.85

In this case  $r > k$ , so the firm is a growth firm. Hence, according to Gordon Model as the retention ratio increases the value per share also increases. Therefore, the optimal policy for the firm is to retain as much as possible. However, according to Gordon, maximum retention ratio should be lower than 0.75.

**Chapter - 8 : Introduction to Data Science for Business Decision - Making**

**2024 - June [8] (a)**

**There are different ways data can be classified. These are:**

1. **Quantitative financial data:** By the term 'quantitative data', we mean the data expressed in numbers. The stock price data, financial statements etc. are examples of quantitative data.

2. **Qualitative financial data:** However, some data in financial studies may appear in a qualitative format e.g. text, videos, audio etc. These types of data may be very useful for financial analysis. For example, the 'management discussion and analysis' presented as part of annual report of a company is mostly presented in the form of text.

There is another way of classifying the types of data. The data may be classified also as:

- (a) Nominal
- (b) Ordinal
- (c) Interval
- (d) Ratio

The differentiation between the four scale types is based on three basic characteristics:

- (a) Whether the sequence of answers matters or not
- (b) Whether the gap between observations is significant or interpretable, and
- (c) The existence or presence of a genuine zero.

**These types are discussed below:**

1. **Nominal Scale:** Nominal scale is being used for categorizing data. The category labels may contain numbers but have no numerical value. Examples could be, classifying equities into small-cap, mid-cap, and large-cap categories or classifying funds as equity funds, debt funds, and balanced funds etc.
2. **Ordinal Scale:** Ordinal scale is being used for classifying and put it in order. The numbers just indicate an order. They do not specify how much better or worse a stock is at a specific price compared to one with a lower price. For example, the top 10 stocks by P/E ratio.
3. **Interval scale:** Interval scale is used for categorizing and ranking using an equal interval scale. Equal intervals separate neighbouring scale values. The temperature of 40 degrees is 5 degrees higher than that of 35 degrees. The issue is that a temperature of 0 degrees Celsius does not indicate the absence of temperature.

4. **Ratio scale:** The ratio scale possesses all characteristics of the nominal, ordinal, and interval scales. The acquired data can not only be classified and rated on a ratio scale, but also have equal intervals. A ratio scale has a true zero. For example, length, time, mass, money, age, etc. are typical examples of ratio scales.

### **Chapter - 10 : Data Presentation: Visualisation and Graphical Presentation**

**2024 - June [8] (b)**

**There are few strategic steps to include Data Visualisation in report design, as mentioned below:**

1. **Find a story in the data:** Data-driven storytelling is a powerful tool. Finding a story that connects with the reader can help to create an effective report. It's also not that hard as it looks. In order to locate the story, one must arrange the data, identify any missing numbers, and then check for outliers. One may then view the data and examine the link between factors.
2. **Create a narrative:** When some individuals hear the term "data storytelling," they believe that it consists of a few statistics and that the task is complete. This is a frequent misconception that is false. Strong data storytelling comprises an engaging narrative that takes the audience through the facts and aids in their comprehension. Moreover, an explanation of the significance of these ideas is essential. To compose an excellent story, one must:
  - (a) Engage the viewer with a catchy title and subheadings.
  - (b) Incorporate context into the data.
  - (c) Create a consistent and logical flow.
  - (d) Highlight significant discoveries and insights from the data.
3. **Choose the most suitable data Visualisation:** Data Visualisation is not limited to the creation of charts and graphs. It involves presenting the facts in the most comprehensible chart possible. Applying basic design principles and utilising features like as form, size, colour, and labelling may have a significant impact on how people comprehend the data. For instance, deciding the optimal number of slices for a pie chart or the

space between bars in a bar graph. Knowing these tips may greatly improve the data visualisations.

4. **Follow the visual language:** The report design may be for internal or external consumption. Despite this, one should develop material consistent with the company's style guide. It is essential to adhere to data visualisation principles in order to achieve both uniformity and comprehension. A strategic methodology assists in implementation.
5. **Publicize the report:** Some reports are not intended for public consumption. However, since they include so much essential information, they may contain knowledge that is of interest to individuals or media outside of the business.

### **Chapter - 11 : Data Analysis and Modelling**

#### **2024 - June [2] (b)**

Utilizing data mining techniques, hidden patterns and future trends and behaviours in financial markets may be predicted. Typically, sophisticated statistical, mathematical, and artificial intelligence approaches are necessary for data mining, particularly for high-frequency financial data.

#### **Among the data mining applications are:**

1. **Detecting money laundering and other financial crimes:** Money laundering is the illegal conversion of black money to white money. In today's society, data mining techniques have advanced to the point where they are deemed suitable for detecting money laundering. The data mining methodology provides a mechanism for bank customers to detect or verify the detection of the anti-money laundering impact.
2. **Prediction of loan repayment and customer credit policy analysis:** Loan Distribution is the core business function of every bank. The loan Prediction system automatically computes the size of the characteristics it employs and examines data pertaining to its size. Consequently, data mining aids in the management of all critical data and massive databases by utilising its models.
3. **Target marketing:** Together, data mining and marketing work to target a certain market, and they also assist and determine market decisions. With data mining, it is possible to keep earnings, margins, etc. and determine which product is optimal for various types of customers.

4. **Design and construction of data warehouses:** The business is able to retrieve or move the data into several huge data warehouses, allowing a vast volume of data to be correctly and reliably evaluated with the aid of various data mining methodologies and techniques. It also examines a vast number of transactions.

**Chapter -12 : Objective Questions:**

**2024 - June [1] {C}**

- (i) (d)
- (ii) (b)
- (iii) (d)
- (iv) (b)
- (v) (a)
- (vi) (b)
- (vii) (d)
- (viii) (b)
- (ix) (b)
- (x) (d)
- (xi) (d)
- (xii) (c)
- (xiii) (b)
- (xiv) (a)
- (xv) (a)

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