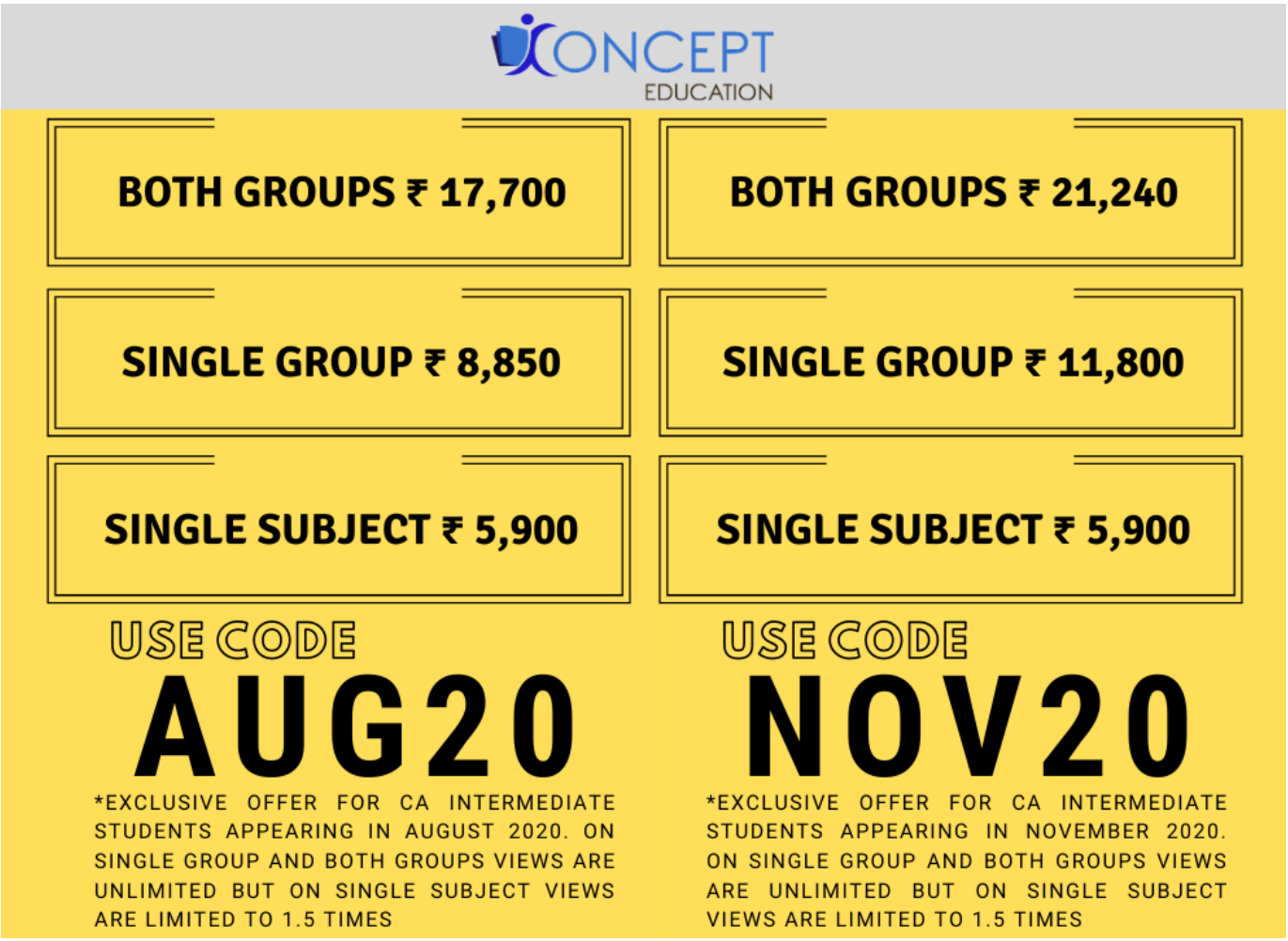


Contact Details

Call: 9228446565

Mail: info@konceptca.com

Test Paper 8 - Solution

National Test Series

Subject: Financial Management & Economics for Finance.

Marks: 100 Marks **Duration:** 3 Hrs.

Section A – Financial Management

Question 1 is compulsory.

Answer any four from remaining five questions.

Question 1.

(A) A project requiring an investment of ₹10,00,000 and it yields profit after tax and depreciation which is as follows:

Years	Profit after tax and depreciation (₹)
1	50,000
2	75,000
3	1,25,000
4	1,30,000
5	80,000
Total	**4,60,000**

Suppose further that at the end of the 5th year, the plant and machinery of the project can be sold for ₹80,000. Determine Average Rate of Return.

(5 Marks)

Solution:

In this case the rate of return can be calculated as follows:

$$\frac{Total\,Profit \div No.of\,Years}{Average\,Investment\,/\,Initial\,Investment} \times 100$$

(a) If Initial Investment is considered then,

$$= \frac{4,60,000 \div 5\,years}{10,00,000} \times 100 = \frac{92,000}{10,00,000} \times 100 = 9.2\%$$

This rate is compared with the rate expected on other projects, had the same funds been invested alternatively in those projects. Sometimes, the management compares this rate with the minimum rate (called-cut off rate) they may have in mind. For example, management may decide that they will not undertake any project which has an average annual yield after tax less than 20%. Any capital expenditure proposal which has an average annual yield of less than 20% will be automatically rejected.

(b) If Average investment is considered, then,

$$= \frac{92,000}{Average\,Investment} \times 100 = \frac{92,000}{5,40,000} \times 100 = 17\%$$

Where,

Average Investment = ½ (Initial investment – Salvage value) + Salvage value

= ½ (10, 00,000 – 80,000) + 80,000

= 4, 60,000 + 80,000 = 5, 40,000

(B) Mr. Mehra had purchased a share of Alpha Limited for ₹ 1,000. He received dividend for a period of five years at the rate of 10 percent. At the end of the fifth year, he sold the share of Alpha Limited for ₹ 1,128. You are required to compute the cost of equity as per realized yield approach.

(5 Marks)

Solution:

We know that as per the realized yield approach, cost of equity is equal to the realized rate of return. Therefore, it is important to compute the internal rate of return by trial and error method. This realized rate of return is the discount rate which equates the present value of the dividends received in the past five years plus the present value of sale price of ₹ 1,128 to the purchase price of ₹1,000. The discount rate which equalizes these two is 12 percent approximately. Let us look at the table given for a better understanding:

Year	Dividend (₹)	Sale Proceeds (₹)	Discount Factor @ 12%	Present Value (₹)
1	100	-	0.893	89.3
2	100	-	0.797	79.7
3	100	-	0.712	71.2
4	100	-	0.636	63.6
5	100	-	0.567	56.7
6	Beginning	1,128	0.567	639.576
				1,000.076

We find that the purchase price of Alpha limited's share was ₹ 1,000 and the present value of the past five years of dividends plus the present value of the sale price at the discount rate of 12 per cent is ₹1,000.076. Therefore, the realized rate of return may be taken as 12 percent. This 12 percent is the cost of equity.

(C) The following figures are collected from the annual report of XYZ Ltd.:

	₹
Net Profit	₹ 30 lakhs
Outstanding 12% preference shares	₹ 100 lakhs
No. of equity shares	3 lakhs
Return on Investment	20%
Cost of capital i.e. (Ke)	16%

Calculate price per share using Gordon's Model when dividend pay-out is (i) 25%; (ii) 50% and (iii) 100%.

(5 Marks)

Solution:

	₹ in lakhs
Net Profit	30
Less: Preference dividend	12
Earning for equity shareholders	18
Therefore earning per share	18/3 = ₹ 6.00

Price per share according to Gordon's Model is calculated as follows:

$$P0 = \frac{E1(1-b)}{Ke-br}$$

Here, E1 = 6, Ke = 16%

(i) When dividend pay-out is 25%

$$P0 = \frac{6\times0.25}{0.16-(0.75\times0.2)} = \frac{3}{0.16-0.15} = 150$$

(ii) When dividend pay-out is 50%

$$P0 = \frac{6\times0.5}{0.16-(0.5\times0.2)} = \frac{3}{0.16-0.10} = 50$$

(iii) When dividend pay-out is 100%

$$P0 = \frac{6\times1}{0.16-(0\times0.2)} = \frac{6}{0.16} = 37.50$$

(D) The accountant of Moon Ltd. has reported the following data:

Gross profit	₹ 60,000
Gross Profit Margin	20 per cent
Total Assets Turnover	0.30:1
Net worth to total assets	0.90:1
Current Ratio	1.5:1
Liquid Assets to Current Liability	1:1
Credit Sales to Total Sales	0.80:1
Average Collection Period	60 days

Assume 360 days in a year

You are required to complete the following:

Balance Sheet of Moon Ltd.

Liabilities	**₹**	**Assets**	**₹**
Net Worth Current Liabilities Total Liabilities		Fixed Assets Stock Debtors Cash Total Assets	

(5 Marks)

Solution

Preparation of Balance Sheet

Working Notes:

Sales = Gross Profit / Gross Profit Margin

= 60,000 / 0.2 = ₹ 3,00,000

Total Assets = Sales / Total Asset Turnover

= 3,00,000 / 0.3 = ₹ 10,00,000

Net Worth = 0.9 X Total Assets

= 0.9 X ₹ 10,00,000 = ₹ 9,00,000

Current Liability = Total Assets – Net Worth

= ₹ 10,00,000 – ₹ 9,00,000

= ₹ 1,00,000

Current Assets = 1.5 x Current Liability

= 1.5 x ₹ 1,00,000 = ₹ 1,50,000

Stock = Current Assets – Liquid Assets

= Current Assets – (Liquid Assets / Current Liabilities =1)

= 1,50,000 – (LA / 1,00,000 = 1) = ₹ 50,000

Debtors = Average Collection Period X Credit Sales / 360

= 60 x 0.8 x 3,00,000 / 360 = ₹ 40,000

Cash = Current Assets – Debtors – Stock

= ₹ 1,50,000 – ₹ 40,000 – ₹ 50,000

= ₹ 60,000

Fixed Assets = Total Assets – Current Assets

= ₹ 10,00,000 – ₹ 1,50,000

= ₹ 8,50,000

Balance Sheet

Liabilities	**₹**	**Assets**	**₹**
Net Worth	9,00,000	Fixed Assets	8,50,000
Current Liabilities	1,00,000	Stock	50,000
		Debtors	40,000
		Cash	60,000
Total liabilities	10,00,000	Total Assets	10,00,000

Question 2.

MT Limited has the following Balance Sheet as on March 31, 2019 and March 31, 2020:

Balance Sheet

	Rs. in lakhs	
	March 31, 2019	**March 31, 2020**
Source of Funds:		
Shareholders' Funds	2,500	2,500
Loan Funds	3,500	3,000
	6,000	**5,500**
Application of Funds:		
Fixed Assets	3,500	3,000
Cash and Bank	450	400
Receivables	1,400	1,100
Inventories	2,500	2,000
Other Current Assets	1,500	1,000
Less: Current Liabilities	(1,850)	(2,000)
	6,000	**5,500**

The Income Statement of the MT Ltd. for the year ended is as follows:

	Rs. in Lakhs	
	March 31,2019	March 31,2020
Sales	22,500	23,800
Less: Cost of Goods sold	(20,850)	(21,100)
Gross Profit	1,640	2,700
Less: Selling, General and Administrative expenses	(1,100)	(1,750)
Earnings before Interest and Tax (EBIT)	540	950
Less: Interest Expense	(350)	(300)
Earnings before Tax (EBT)	190	650
Less: Tax	(57)	(195)
Profits after Tax (PAT)	133	455

Required:

Calculate for the year 2019-20-

(a) Inventory turnover ratio
(b) Financial leverage
(c) Return on Capital Employed (ROCE)
(d) Return on Equity (ROE)
(e) Average Collection Period

(Take 1 year = 365 days)

(10 Marks)

Solution:

Ratios for the year 2019-2020

(a) Inventory coverage ratio

$$= \frac{COGS}{Average\ Inventory} = \frac{21,100}{\frac{2,500+2,000}{2}} = 9.4$$

(b) Financial leverage

$$= \frac{EBIT}{EBT} = \frac{950}{650} = 1.46$$

(c) ROCE

$$= \frac{EBIT\ (1-i)}{Average\ Capital\ Employed} = \frac{950\ (1-0.3)}{(\frac{6,000+5,500}{2})} = \frac{665}{5,750} \times 100 = 11.56\%$$

(d) ROE

$$= \frac{Profits\ after\ tax}{Average\ shareholders' funds} = \frac{455}{2,500} \times 100 = 18.2\%$$

(e) Average Collection Period

Average Sales per day = $\frac{23,800}{365} = Rs.65.20\ lakhs$

$$\text{Average collection period} = \frac{Average\ Receivables}{Average\ Sales\ per\ day}$$

$$= \frac{\frac{1,400+1,100}{2}}{65.2} = \frac{1,250}{65.2} = 19.17\ days$$

Question 3.

Shahji Steels Limited requires ₹ 25, 00,000 for a new plant. This plant is expected to yield earnings before interest and taxes of ₹ 5, 00,000. While deciding about the financial plan, the company considers the objective of maximizing earnings per share. It has three alternatives to finance the project - by raising debt of ₹ 2, 50,000 or ₹ 10, 00,000 or ₹ 15, 00,000 and the balance, in each case, by issuing equity shares. The company's share is currently selling at ₹ 150, but is expected to decline to ₹ 125 in case the funds are borrowed in excess of ₹ 10, 00,000. The funds can be borrowed at the rate of 10 percent upto ₹ 2, 50,000, at 15 percent over ₹ 2, 50,000 and upto ₹ 10, 00,000 and at 20 percent over ₹ 10, 00,000. The tax rate applicable to the company is 50 percent. Which form of financing should the company choose?

(10 Marks)

Solution:

Plan I = Raising Debt of ₹ 2.5 lakh + Equity of ₹ 22.5 lakh.
Plan II = Raising Debt of ₹ 10 lakh + Equity of ₹ 15 lakh.
Plan III = Raising Debt of ₹ 15 lakh + Equity of ₹ 10 lakh.

Calculation of Earnings per share (EPS):

Particulars	Financial Plans		
	PlanI ₹	**Plan II** ₹	**PlanIII** ₹
Expected EBIT	5,00,000	5,00,000	5,00,000
Less: Interest (a)	(25,000)	(1,37,500)	(2,37,500)
Earnings before taxes	4,75,000	3,62,500	2,62,500
Less: Taxes @ 50%	(2,37,500)	(1,81,250)	(1,31,250)
Earnings after taxes (EAT)	2,37,500	1,81,250	1,31,250
Number of shares (b)	15,000	10,000	8,000
Earnings per share (EPS)	15.83	18.13	16.41

Financing Plan II (i.e. Raising debt of ₹10 lakh and issue of equity share capital of ₹15 lakh) is the option which maximizes the earnings per share.

Working Notes:
(a) **Calculation of interest on Debt.**

Plan I	(₹2,50,000x10%)		₹ 25,000
Plan II	(₹2,50,000 x 10%)	₹ 25,000	
	(₹7,50,000 x 15%)	₹1,12,500	₹1,37,500
Plan III	(₹2,50,000 x 10%)	₹ 25,000	

	(₹7,50,000 x 15%)	₹1,12,500	
	(₹5,00,000 x 20%)	₹1,00,000	₹2,37,500

(b) **Number of equity shares to be issued**

Plan I: $\frac{22,50,000}{150(Market\ price\ of\ share)}$ = 15,000 Shares

Plan II: $\frac{15,00,000}{150}$ = 10,000 Shares

Plan III: $\frac{10,00,000}{125}$ = 8,000 Shares

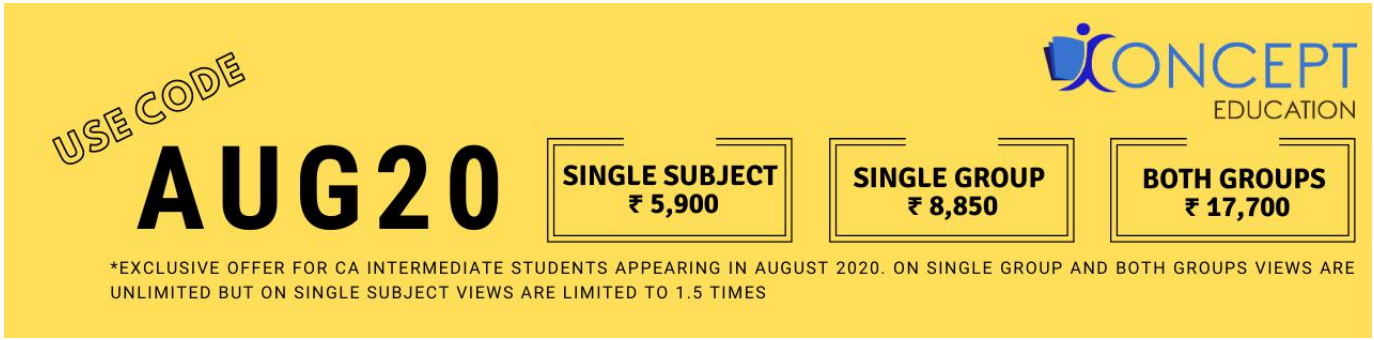
Question 4.

X Ltd is considering its New Product 'with the following details

Sr. No.	Particulars	Figures
1	Initial capital cost	₹ 400 Cr
2	Annual unit sales	₹ 5 Cr
3	Selling price per unit	₹ 100
4	Variable cost per unit	₹ 50
5	Fixed costs per year	₹ 50 Cr
6	Discount Rate	6%

1. Calculate the NPV of the project.
2. Find the impact on the project's NPV of a 2.5 per cent adverse variance in each variable. Which variable is having maximum effect?

(10 Marks)



Solution:-

1. Calculation of Net Cash Inflow per year:

	Particulars	Amount (₹)
A	Selling Price Per Unit (A)	100
B	Variable Cost Per Unit (B)	50
C	Contribution Per Unit (C = A-B)	50
D	Number of Units Sold Per Year	5 Cr.
E	Total Contribution (E = C X D)	₹ 250 Cr.
F	Fixed Cost Per Year	₹ 50 Cr.
G	Net Cash Inflow Per Year (G =E - F)	₹ 200 Cr.

Calculation of Net Present Value (NPV) of the Project:

Year	Year Cash Flow (₹ in Cr.)	Discounting @ 6%	Present Value (PV) (₹ in Cr.)
0	-400	1.000	-400
1	200	0.943	188.60
2	200	0.890	178
3	200	0.840	168
Net Present Value (188.60+178+168)-400=			134.60

Here NPV represent the most likely outcomes and not the actual outcomes. The actual outcome can be lower or higher than the expected outcome.

2. Sensitivity Analysis considering 2.5 % Adverse Variance in each variable

	Changes in variable	Base	Initial Cash Flow increased to ₹410 crore	Selling Price per UnitReduced to₹ 97.5	Variable Cost Per Unitincreased to ₹51.25	Fixed Cost Per Unit increased to ₹51.25	Units sold per year reduced to ₹ 4.875 crore
	Particulars	**Amount₹**	**Amount₹**	**Amount₹**	**Amount₹**	**Amount ₹**	**Amount₹**
A	Selling Price Per Unit (A)	100	100	97.5	100	100	100
B	Variable Cost Per Unit (B)	50	50	50	51.25	50	50

C	Contribution Per Unit (C = A-B)	50	50	47.5	48.75	50	50
D	Number of Units Sold Per Year (in Crores)	5	5	5	5	5	4.875
E	Total Contribution (E = C × D)	250	250	237.5	243.75	250	243.75
F	Fixed Cost Per Year (in Crores)	50	50	50	50	51.25	50
G	Net Cash InflowPer Year (G =E - F)	200	200	187.5	193.75	198.75	193.75
H	(G × 2.673)	534.60	534.60	501.19	517.89	531.26	517.89
I	Initial Cash Flow	400	410	400	400	400	400
J	NPV	134.60	124.60	101.19	117.89	131.26	117.89
K	Percentage Change in NPV		-7.43%	-24.82%	-12.41%	-2.48%	-12.41%

The above table shows that the by varying one variable at a time by 2.5% while keeping the others constant, the impact in percentage terms on the NPV of the project. Thus it can be seen that the change in selling price has the maximum effect on the NPV by 24.82 %.

Question 5.

X Ltd. is considering to select a machine out of two mutually exclusive machines. The company's cost of capital is 15 per cent and corporate tax rate is 30 per cent. Other information relating to both machines is as follows:

	Machine – I	**Machine – II**
Cost of Machine	30,00,000	40,00,000
Expected Life	10 years	10 years
Annual Income(Before Tax and Depreciation)	12,50,000	17,50,000

Depreciation is to be charged on straight line basis:
You are required to CALCULATE:

(i) Discounted Pay Back Period
(ii) Net Present Value
(iii) Profitability Index

The present value factors of Re.1 @ 15% are as follows:

Year	**01**	**02**	**03**	**04**	**05**
PV factor @ 15%	0.870	0.756	0.658	0.572	0.497

(10 Marks)

Solution:-

Working Notes:

Depreciation on Machine – I = $\frac{30,00,000}{10} = 3,00,000$

Depreciation on Machine – II = $\frac{40,00,000}{10} = 4,00,000$

Particulars	Machine-I (Rs.)	Machine – II (Rs.)
Annual Income (before Tax and Depreciation)	12,50,000	17,50,000
Less: Depreciation	3,00,000	4,00,000
Annual Income (before T ax)	9,50,000	13,50,000
Less: Tax @ 30%	(2,85,000)	(4,05,000)
Annual Income (after T ax)	6,65,000	9,45,000
Add: Depreciation	3,00,000	4,00,000
Annual Cash Inflows	9,65,000	13,45,000

	Machine – I				Machine - II		
Year	**PV of Re 1 @ 15%**	**Cash flow**	**PV**	**Cumulative PV**	**Cash flow**	**PV**	**Cumulative PV**
1	0.870	9,65,000	8,39,550	8,39,550	13,45,000	11,70,150	11,70,150
2	0.756	9,65,000	7,29,540	15,69,090	13,45,000	10,16,820	21,86,970
3	0.658	9,65,000	6,34,970	22,04,060	13,45,000	8,85,010	30,71,980
4	0.572	9,65,000	5,51,980	27,56,040	13,45,000	7,69,340	38,41,320
5	0.497	9,65,000	4,79,605	32,35,645	13,45,000	6,68,465	45,09,785

(i) Discounted Payback Period

Machine – I

Discounted Payback Period = $4+\frac{(30,00,000-27,56,040)}{4,79,605} = 4+\frac{2,43,960}{4,79,605} = 4+0.5087$

= 4.5087 years or 4 years 6.10 months

Machine – II

Discounted Payback Period = $4+\frac{(40,00,000-38,41,320)}{6,68,465} = 4+\frac{1,58,680}{6,68,465} = 4+0.2374$

= 4.2374 years or 4 years 2.85 months

(ii) Net Present Value (NPV)

Machine – I

NPV = 32, 35,645 – 30, 00,000 = Rs. 2, 35,645

Machine – II

NPV = 45, 09,785 – 40, 00,000 = Rs. 5, 09,785

(iii) Profitability Index

Machine – I

Profitability Index = $\frac{32,35,645}{30,00,000}$ = 1.08

Machine – II

Profitability Index = $\frac{45,09,785}{40,00,000}$ = 1.13

Conclusion:

Method	Machine - I	Machine - II	Rank
Discounted Payback Period	4.51 years	4.24 years	II
Net Present Value	Rs. .2,35,645	Rs. 5,09,785	II
Profitability Index	1.08	1.13	II

Question 6.

Day Ltd., a newly formed company has applied to the Private Bank for the first time for financing it's Working Capital Requirements. The following information are available about the projections for the current year:

Estimated Level of Activity	Completed Units of Production 31200 plus unit of work in progress 12000
Raw Material Cost	₹ 40 per unit
Direct Wages Cost	₹ 15 per unit
Overhead	₹ 40 per unit (inclusive of Depreciation `10 per unit)
Selling Price	₹ 130 per unit
Raw Material in Stock	Average 30 days consumption
Work in Progress Stock	Material 100% and Conversion Cost 50%
Finished Goods Stock	24000 Units
Credit Allowed by the supplier	30 days
Credit Allowed to Purchasers	60 days
Direct Wages (Lag in payment)	15 days
Expected Cash Balance	₹ 2,00,000

Assume that production is carried on evenly throughout the year (360 days) and wages and overheads accrue similarly. All sales are on the credit basis. You are required to calculate the Net Working Capital Requirement on Cash Cost Basis.

(10 Marks)

Solution:

Calculation of Net Working Capital requirement:

	(₹)	(₹)
A. Current Assets:		
Inventories:		
Stock of Raw material (Refer to Working note (iii)	1,44,000	
Stock of Work in progress (Refer to Working note (ii)	7,50,000	
Stock of Finished goods (Refer to Working note (iv)	20,40,000	
Debtors for Sales(Refer to Working note (v)	1,02,000	
Cash	2,00,000	
Gross Working Capital	32,36,000	32,36,000
B. Current Liabilities:		
Creditors for Purchases	1,56,000	
(Refer to Working note (vi)		
Creditors for wages(Refer to Working note (vii)	23,250	
	1,79,250	1,79,250
Net Working Capital (A - B)		30,56,750

Working Notes:
(i) Annual cost of production

	(₹)
Raw material requirements {(31,200 × ₹40) + (12,000 x ₹40)}	17,28,000
Direct wages {(31,200 × ₹ 15) +(12,000 X ₹15 x 0.5)}	5,58,000
Overheads (exclusive of depreciation) {(31,200 × ₹ 30) + (12,000 x ₹ 30 x 0.5)}	11,16,000
Gross Factory Cost	34,02,000
Less: Closing W.I.P [12,000 (₹ 40 + ₹ 7.5 + ₹ 15)]	(7,50,000)
Cost of Goods Produced	26,52,000
Less: Closing Stock of Finished Goods (₹ 26,52,000 × 24,000/31,200)	(20,40,000)
Total Cash Cost of Sales	6,12,000

(ii) Work in progress stock

	(₹)
Raw material requirements (12,000 units × ₹ 40)	4,80,000
Direct wages (50% × 12,000 units × ₹ 15)	90,000
Overheads (50% × 12,000 units × ₹ 30)	1,80,000
	7,50,000

(iii) Raw material stock

It is given that raw material in stock is average 30 days consumption. Since, the company is newly formed; the raw material requirement for production and work in progress will be issued and consumed during the year. Hence, the raw material consumption for the year (360 days) is as follows:

	(₹)
For Finished goods (31,200 × ₹ 40)	12,48,000
For Work in progress (12,000 × ₹ 40)	4,80,000
	17,28,000

Raw material stock = $\frac{17,28,000}{360 days} \times 30 days = 1,44,000$

(iv) Finished goods stock:

24,000 units @ ₹ (40+15+30) per unit = ₹ 20, 40,000

(v) Debtors for sale: $6,12,000 \times \frac{60 days}{360 days}$ = ₹ 1, 02,000

(vi) Creditors for raw material Purchases [Working Note (iii)]:

Annual Material Consumed (₹ 12,48,000 + ₹ 4,80,000)	₹ 17,28,000
Add: Closing stock of raw material	₹ 1,44,000
	₹ 18,72,000

Credit allowed by suppliers = $\frac{18,72,000}{360 days} \times 30 days = 1,56,000$

(vii) Creditors for wages:

Outstanding wage payment = $\frac{5,58,000}{360 days} \times 15 days = 23,250$

USE CODE
NOV20
CONCEPT EDUCATION
SINGLE SUBJECT ₹ 5,900
SINGLE GROUP ₹ 11,800
BOTH GROUPS ₹ 21,240
*EXCLUSIVE OFFER FOR CA INTERMEDIATE STUDENTS APPEARING IN NOVEMBER 2020. ON SINGLE GROUP AND BOTH GROUPS VIEWS ARE UNLIMITED BUT ON SINGLE SUBJECT VIEWS ARE LIMITED TO 1.5 TIMES

Section B – Economics for Finance

Question 7 is compulsory.

Answer any three from remaining four questions

Question 7.

(A) Explain how decline in interest rates influence economic activity by changing the incentives for households and businesses to save or invest?

(3 Marks)

Solution:

Lower interest rates increases disposable incomes and influence the spending decisions of households and businesses by reducing the amount of interest they pay on debt. Reductions in interest rates which they receive on deposits reduce the incentives for households to save and may encourage them to borrow and spend now rather than later, in particular, on durable goods, such as cars and household appliances, and housing. Lower interest rates are thus associated with higher household consumption and housing investment. Similarly, with lower interest rates the cost of borrowing declines, expected returns on investment projects increase, and these encourage businesses to borrow and increase their spending on investment (in capital assets like new equipment or buildings). Since households and businesses substitute between spending now and in the future, overall, lower interest rates should be associated with an increase in business investment.

(B) Assume a two sector economy. If consumption function is C=1,000+0.6Y, and S = 6,000, compute Equilibrium level of national income. Also compute consumption expenditure and investment at that level.

(2 Marks)

Solution:

In a two-sector economy, at equilibrium level, Y=C+I
Also Saving (S)= Investment (I) = 6,000
So, Y = 1,000+0.6Y+6,000
On solving , Y-0.6Y= 7,000.

So Y = $\frac{7,000}{0.40}$ = 17,500

At this equilibrium level, since investment (I) = 6,000 (same as savings), Consumption (C) = Y-I= 11,500
Also, at equilibrium level, saving (S) = Investment (I) = 6,000

(C) Define the market failure. Why do markets fail?

(3 Marks)

Solution:

Market failure is a situation in which the free market with an unrestricted price system determined by forces of supply and demand leads to misallocation of society's scarce resources in the sense that there is either overproduction or underproduction of particular goods and services leading to a less than optimal outcome. The major reasons for market failure and economic inefficiency include:

(i) Though perfectly competitive markets work efficiently, most often the prerequisites of competition are unlikely to be present in an economy.
(ii) Market power of firms enables them to act as price makers and keep the level of prices and output that give them positive economic profits.
(iii) Externalities hinder the ability of market prices to convey accurate information about how much to produce and how much to buy.
(iv) Public goods are not produced at all or produced less than optimal quantities due to its special characteristics such as indivisibility, non - excludability and non-rivalry.
(v) Free rider problem causing overuse, degradation and depletion of common resources.
(vi) Information failure manifest in asymmetric information, adverse selection and moral hazard.

(D) What is the objective of policies requiring foreign entities to procure local contents?

(2 Marks)

Solution:

Local content policies requiring the purchase or use by a foreign enterprise of domestic products and employment of the local workforce seek to ensure that the maximum benefits from production activities accrue to local economic actors. These are essentially aimed at reducing the volume or value of imports or at restraining the employment of foreign labour.

Question 8.

(A) Suppose in an economy:

Consumption Function	C = 150 + 0.75 Yd
Investment spending	I = 100
Government spending	G= 115
Tax	Tx = 20 + 0.20 Y
Transfer Payments	Tr = 40
Exports	X = 35
Imports	M = 15 + 0.1 Y

Where, Y and Yd are National Income and Personal Disposable Income respectively. All figures are in rupees. Find:

(i) The equilibrium level of National Income
(ii) Consumption at equilibrium level
(iii) Net Exports at equilibrium level

(5 Marks)

Solution:

The consumption function is
C = 150 + 0.75Yd
Level of Disposable income Yd is given by
Yd = Y-Tax + Transfer Payments, Where, Transfer Payment = Tr = 40
= Y – (20+ 0.20 Y) + 40 = Y – 20 – 0.20Y +40
= Y – 0.2Y - 20+40
Yd = 20 + 0.8 Y and C = 150+0.75 Yd
C = 150 + .75 (20 +0.8 Y) where Yd = (20+0.8Y)
C = 150 +15+ 0.6Y
C = 165 + 0.6Y

(i) The equilibrium level of national income
Y = C + I + G + (X-M)
Y = 165 + 0.6Y +100+115+ [35 – (15+0.1Y)]
= 165 +0.6 Y +100+115+ [35 -15 – 0.1Y]
= 165+0.6Y +215+ 35 – 15 - 0.1Y
Y = 400+ 0.5Y
Y-0.5Y = 400; 0.5 Y = 400
Y = 400 / 0.5 = 800
The equilibrium level of national income is ₹ 800

(ii) Consumption at equilibrium level of national income of ₹ 800
C = 165 + 0.6Y
C = 165 + 0.6(800)
C = 165+480 = 645
Consumption at equilibrium level = ₹ 645

(iii) Net Exports at equilibrium level of national income 800
Net exports = Value total exports - Value of total imports
Given, exports X = 35; and imports M = 15+0.1Y
Net exports = [35 - (15+0.1Y)]

= 35 -15 – 0.1Y
= 35 -15 – (0.1X 800) = 35 – 15 – 80 = - 60
Net exports = ₹ (-)60
There is an adverse balance of trade

(B) Describe the different determinants of money supply in a country

(5 Marks)

Solution:

There are two alternate theories in respect of determination of money supply.

According to the first view, money supply is determined exogenously by the central bank. The second view holds that the money supply is determined endogenously by changes in the economic activities which affect people's desire to hold currency relative to deposits, rate of interest, etc. The current practice is to explain the determinants of money supply based on 'money multiplier approach' which focuses on the relation between the money stock and money supply in terms of the monetary base or high-powered money. This approach holds that total supply of nominal money in the economy is determined by the joint behaviour of the central bank, the commercial banks and the public.

The money supply is defined as

M= m X MB

Where M is the money supply, m is money multiplier and MB is the monetary base or high powered money.

Money Multiplier (m) = $\frac{Money\ Supply}{Monetary\ base}$

Money multiplier m is defined as a ratio that relates the change in the money supply to a given change in the monetary base. It denotes by how much the money supply will change for a given change in high-powered money. The multiplier indicates what multiple of the monetary base is transformed into money supply.

If some portion of the increase in high-powered money finds its way into currency, this portion does not undergo multiple deposit expansion. In other words, as a rule, an increase in the monetary base that goes into currency is not multiplied, whereas an increase in monetary base that goes into supporting deposits is multiplied.

Question 9.

(A) Analyze what should be the tax policy during recession and depression?

(5 Marks)

Solution:

A recession is said to occur when overall economic activity declines, or in other words, when the economy 'contracts'. A recession sets in with a period of declining real income, as measured by real GDP, simultaneously with a situation of rising unemployment. If an economy experiences a fall in aggregate demand during a recession, it is said to be in a demand-deficient recession. Economic depression is a condition of the economy resulting from an extended period of negative economic activity as measured by GDP. It is an extremely severe form of recession that leads to extended unemployment, increased credit defaults, extensive decline in output and income and a deflationary economy.

Taxation, though less effective compared to public expenditure, is a powerful instrument of fiscal policy in the hands of governments to combat recession and depression. Reduction in corporate and personal income taxation is a useful measure to overcome contra dictionary tendencies in the economy. A tax cut increases disposable incomes of households. Their inclination to spend a portion of the additional disposable income determined by their marginal propensity to consume and the multiplier effect of spending would set out a chain reaction of spending, increased incomes, and consequent increased output. Reduction in the rates of commodity taxes like excise duties, sales tax and import duty promote consumption and ultimately boost investments. Moreover, tax measures can provide incentives, or reduce disincentives, for firms and households to engage in investment and consumer spending.

(B) Define Foreign Direct Investment (FDI). Mention two arguments made in favor of FDI to developing economies like India?

(5 Marks)

Solution:

Foreign direct investment is defined as a process whereby the resident of one country (i.e. home country) acquires ownership of an asset in another country (i.e. the host country) and such movement of capital involves ownership, control as well as management of the asset in the host country. Direct investments are real investments in factories, assets, land, inventories etc. and have three components, viz., equity capital, reinvested earnings and other direct capital in the form of intra-company loans. Foreign direct investment also includes all subsequent investment transactions between the investor and the enterprise and among affiliated enterprises, both incorporated and unincorporated. FDI involves long term relationship and reflects a lasting interest and control. According to the IMF and OECD definitions, the acquisition of at least ten percent of the ordinary shares or voting power in a public or private enterprise by non-resident investors makes it eligible to be categorized as FDI. FDI may be categorized as horizontal, vertical, conglomerate and two- way direct foreign investments which are reciprocal investments.

Benefits of Foreign Direct Investment

Following are the benefits ascribed to foreign investments:

(i) Entry of foreign enterprises usually fosters competition and generates a competitive environment in the host country.

(ii) International capital allows countries to finance more investment than can be supported by domestic savings resulting in higher productivity and enhanced output.

Question 10.

(A) Fiscal policy plays a significant role in reducing inequality and achieving equity and social justice. Do you agree? Substantiate your answer with examples.

(5 Marks)

Solution:

Many developed and developing economies are facing the challenge of rising inequality in incomes and opportunities. Fiscal policy is a chief instrument available to governments to influence income distribution and plays a significant role in reducing inequality and achieving equity and social justice. The distribution of income in the society is influenced by fiscal policy both directly and indirectly. While current disposable incomes of individuals and corporate are dependent on direct taxes, the potential for future earnings is indirectly influenced by the nation's fiscal policy choices.

Government revenues and expenditure have traditionally been regarded as important instruments for carrying out desired redistribution of income. A progressive direct tax system ensures that those who have greater ability to pay contribute more towards defraying the expenses of government and that the tax burden is distributed fairly among the population.

- Indirect taxes can be differential: for example, the commodities which are primarily consumed by the richer income group, such as luxuries, are taxed heavily and the commodities the expenditure on which form a larger proportion of the income of the lower income group, such as necessities, are taxed light.
- A carefully planned policy of public expenditure helps in redistributing income from the rich to the poorer sections of the society. This is done through spending programmes targeted on welfare measures for the disadvantaged, such as

    1. poverty alleviation programmes
    2. free or subsidized medical care, education, housing, essential commodities etc. to improve the quality of living of poor
    3. infrastructure provision on a selective basis
    4. Various social security schemes under which people are entitled to old-age pensions, unemployment relief, and sickness allowance etc.
    5. subsidized production of products of mass consumption
    6. public production and/ or grant of subsidies to ensure sufficient supply of essential goods, and
    7. Strengthening of human capital for enhancing employability etc.

Choice of a progressive tax system with high marginal taxes may act as a strong deterrent to work save and invest. Therefore, the tax structure has to be carefully framed to mitigate possible adverse impacts on production and efficiency.

Additionally, the redistributive fiscal policy and the extent of spending on redistribution should be consistent with the macroeconomic policy objectives of the nation.

(B) Explain the function of SLR? What are the eligible securities of SLR?

(5 Marks)

Solution:

The Statutory Liquidity ratio (SLR) is an instrument of monetary policy and aims to control liquidity in the domestic market by means of manipulating bank credit. Changes in the SLR chiefly influence the availability of resources in the banking system for lending. A rise in the SLR which is resorted to during periods of high liquidity, tends to lock up a rising fraction of a bank's assets in the form of eligible instruments, and this reduces the credit creation capacity of banks. A reduction in the SLR during periods of economic downturn has the opposite effect. The SLR requirement also facilitates a captive market for government securities.

Following are the eligible securities of SLR;

(i) Cash
(ii) Gold valued at a price not exceeding the current market price,
Or
(iii) Investments in un-encumbered Instruments that include:
   a) Treasury-bills of the Government of India.
   b) Dated securities including those issued by the Government of India from time to time under the market borrowings programme and the Market Stabilization Scheme (MSS).
   c) State Development Loans (SDLs) issued by State Governments under their market borrowings programme.
   d) Other instruments as notified by the RBI.

Question 11.

(A) Define multiplier. What is the range of values it can take?

(5 Marks)

Solution:

Multiplier expresses the relationship between an initial increment in investment and the resulting increase in aggregate income i.e how many times the aggregate income increases as a result of an increase in investment. The ratio of ΔY to ΔI is called the investment multiplier, k. For example, if a change in investment of ₹ 2000 million causes a change in national income of ₹ 6000 million, then the multiplier is 6000/2000 = 3. Thus multiplier indicates the change in national income for each rupee change in the desired investment. The value 3 in the above example tells us that for every Re. 1 increase in desired investment expenditure, there will be ₹ 3 increase in equilibrium national income. The ratio of ΔY to ΔI is called the investment multiplier, k.

$$K = \frac{Change in Income}{Change in Investment} \frac{\Delta Y}{\Delta I}$$

The size of the multiplier effect is given by Δ Y = k ΔI.

The increase in income per rupee increase in investment is:

$$\frac{\Delta Y}{\Delta I} = \frac{1}{1 - MPC} = \frac{1}{MPS}$$

From the above, we find that the marginal propensity to consume (MPC) is the determinant of the value of the multiplier and that there exists a direct relationship between MPC and the value of multiplier. Higher the MPC, more will be the value of the multiplier, and vice-versa. On the contrary, higher the MPS, lower will be the value of multiplier and vice-versa.

Since, $0<MPC<1$; therefore,

if MPC is zero then $K = 1$ and if $MPC = 1$, then $K=\infty$

The maximum value of multiplier is infinity when the value of MPC is 1 i.e. the economy decides to consume the whole of its additional income.

MPS= 1-MPC = 0.25

(B) What are the major functions of the WTO? What do you understand by the term 'Most-favored-nation' (MFN)?

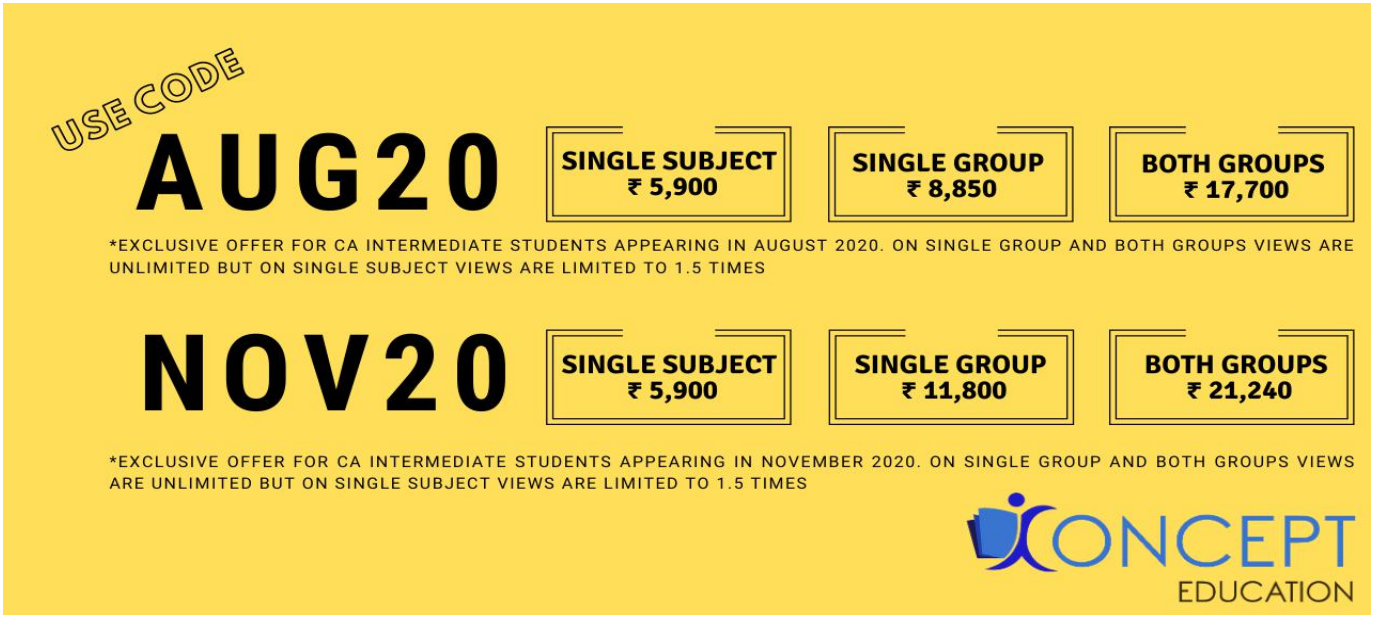
(5 Marks)

Solution:-

The principal objective of the WTO is to facilitate the flow of international trade smoothly, freely, fairly and predictably. To achieve this, the WTO endeavors:

(i) To set and enforce rules for international trade,
(ii) To provide a forum for negotiating and monitoring further trade liberalization
(iii) To resolve trade disputes
(iv) To increase the transparency of decision-making processes
(v) To cooperate with other major international economic institutions involved in global economic management, and
(vi) To help developing countries benefit fully from the global trading system.

When a country enjoys the best trade terms given by its trading partner it is said to enjoy the Most Favored Nation (MFN) status. Originally formulated as Article 1 of GATT, this principle of non discrimination states that any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be extended immediately and unconditionally to the like product originating or destined for the territories of all other contracting parties. Under the WTO agreements, countries cannot normally discriminate between their trading partners. If a country improves the benefits that it gives to one trading partner, (such as a lower a trade barrier, or opens up a market), it has to give the same best treatment to all the other WTO members too in respect of the same goods or services so that they all remain 'most-favoured'. As per the WTO agreements, each member treats all the other members equally as "most-favoured" trading partners.



Contact Details

Call: 9228446565

Mail: info@konceptca.com