LESSON - 3

CAPITAL BUDGETING - AN INTRODUCTION CONCEPTS, CASH FLOWS

3.0 OBJECTIVES

The main objectives of this lesson are to :

- 1) explain the nature and importance of capital budgeting decision.
- 2) discuss the types of capital budgeting decisions.
- 3) impart knowledge about the process of capital budgeting decisions.
- 4) enable you to estimate the cash flows of the investment projects.

STRUCTURE

3.1 :	Introduction
3.2 :	Nature of Capital Budgeting
3.3 :	Significance of Capital Budgeting
3.4 :	Types of Capital Budgeting
3.5 :	Capital Budgeting process
3.6 :	Need for estimation of cash flows
3.7 :	Cash flows Vs. Profit
3.8 :	Components of cash flows
3.9 :	Computation of cash flows
3.10 :	Summary
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3.1 INTRODUCTION

Financial decision making is viewed as an integral part of the overall management of a business concern. The financial manager has to make the financial decision within the framework of overall corporate objectives and policies. The overall development of a firm depends on market development, entry in new product line, termination of a product which is in declining stage, expansion of the plant, change of location, etc. In all ----- Financial Management -

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these issues, study of financial implications is inescapable. According to the modern approach, financial management is concerned with the solution of three major problems relating to the financial operations of the firm, viz., - investment, financing and dividend decisions.

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Of these decisions, the investment decision relates to the selection of assets in which funds will be invested by a firm. The assets that can be acquired with these finds are broadly divided into.

Long-term assets and short term assests.

The decision regarding long-term assets which is known as capital budgeting. Whereas the financial decision with reference to investment on short-term assets is designated as working capital management. This lesson is devoted for capital budgeting its nature, process and cash flows and their computation. After studying this you will be also knowing the basic principles of estimating cashflows assuming certainly and also uncertainly as a last part of this lesson.

3.2 NATURE OF CAPITAL BUDGETING DECISION

Efficient allocation of capital is one of the most important functions of the financial management in modern times. This function involves the firm's decision to commit its funds in long-term assets and other profitable activities. The decision to invest funds in the long-term assets of a firm are quite significant and they will influence the firm's market value, growth and also affect the risk of a business.

Weston and Brigham: "Capital budgeting involves the process of planning expenditures whose returns are expected to extend beyond one year".

Charles T.Horngren: "Capital Budgeting is the long-term planning for making and financing proposed capital outlays".

Robert N.Anthony: "The Capital Budget is essentially a list of what management believes to be worthwhile projects for the acquisition of new capital assets together with the estimated cost of each project."

James C. Van Horne: "Capital Budgeting involves a current investment in which the benefits are expected to be received beyond one year in the future". It suggests that the investment in any asset with a life of less than a year falls into realm of working capital management, whereas any asset with a life of more than one year involves capital budgeting.

Thus, Capital Budgeting decision may be defined as "the firm's decision to invest its current funds most efficiently in long-term assets, in anticipation of an expected flow of benefits over a series of years".

According to these definitions one can draw the following features of a capital budgeting decesion.

i) the exchange of current funds for future benefits.

ii) the funds are invested in long-term assets.

iii) the future benefits will occur to the firm over a series of years.

Generally, the capital budgeting or investment decisions includes addition, disposition, modification and replacement of fixed assets. The capital budgeting decision include, the following proposals:

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1) Expansion: The company may have to expand its production capacities on account of high demand for its products or inadequate production capacity. This will need additional capital equipment.

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- 2) Diversification: A company may intend to reduce its risk by operating in several activities. In such a case, capital investment may become necessary for purchase of new machinery and facilitates to handle the new products.
- 3) **Replacement**: The replacement of fixed assets in place of the existing assets, either being worn out or become out-dated on account of new technology.
- 4) Research and Development: Large sums of money may have to be spent for research and development, in case of those industries where technology is rapidly changing. In such cases, large sums of money are needed for research and development activities. So, these are also included in the proposals of capital budgeting.
- 5) Miscellaneous Proposals: A company may have to invest money in projects, which do not directly help in achieving profit-oriented goals. For example, installation of pollution control equipment may be necessary on account of legal requirements. Therefore, funds are required for such proposals also.

3.3 SIGNIFICANCE OF CAPITAL BUDGETING

Capital budgeting decisions are among the most crucial and critical decisions and they have significant impact on the futrue profitability of the from. A special care should be taken while making capital budgeting decisions, because, it influences all the branches of a company such as production, marketing, personnel, etc. The other reasons for keeping more attention on capital budgeting dicesion include the following:

- 1) Long-Term Implications: The effect of a capital budgeting decision will be felt over a long time period. It has an influence on the rate and direction of the growth of the company. The effects of capital budgeting decision extend into the future and have to be put up with for a longer period than the consequences of current operating expenditures.
- 2) Investment of large funds: Capital budgeting decision requires large amount of capital outlay. Hence, the company should carefully plan its capital budgeting programme, so that it may get the funds at the right time and they must be put to most profitable use. A wise investment can maximize the wealth of the company and an ill-advised and incorrect decision can jeopardise the profitable position and can also be the cause for the closure of the company.
- 3) Irreversible Decisions: The capital budgeting decisions are irreversible in majority of the cases. It is due to the fact that, it is very difficult to find a market for such capital terms once they have required. The only alternative is to treat the entire value of the asset as a scrap. This will result in heavy loss.
- 4) Most difficult to make: Capital budgeting decisions involve forecasting of future benefits which is almost uncertain. It is very difficult to project sales revenue, costs and benefits accurately in quantitative terms because of the influence of economic, political, social and technological factors. Further, the inaccurate forecast of asset needs can result in serious consequences on the companys perfarmance.
- 5) Raising of Funds: There must be a perfect plan to raise the funds systematically. The company, planning for a major capital expenditure, needs to arrange finance in advance, to be sure of having the availability of funds.

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6) Ability to compete: Finally, it has been said that, many firms fail not because of lack of capital equipment but because of lack of ability to compete. The conservative approach of having a small amount of capital equipment may be appropriate. But, some times it may be dangerous if the other competitors install modern and automated equipment that permit them to produce a better product and sell it at a lower price. Hence, the investment in capital assets must help the company to face and meet the competition from the other companies of the same industry.

3.4 TYPES OF CAPITAL BUDGETING

Capital budgeting projects may be classified as:

- Independent Projects: Independent Projects are the projects which do not compete with one another. Based on the profitability of the projects and the availability of funds, a company undertakes any number of projects. In such a case, projects will be taken-up to a level where marginal cost of funds equals to marginal rate of return of the project.
- 2) Mutually Exclusive Projects: In case of mutually exclusive projects, acceptance of one project causes the rejection of another project. For example, if there are two projects X and Y, either X or Y should be accepted by the company.
- 3) Contingent Projects: Acceptance of one project proposal depends on acceptance of one or more projects. A proposal for acquiring new machinery is dependent upon expansion of plant or replacement of old machinery or replacement of labour force.

3.5 CAPITAL BUDGETING PROCESS

The capital budgeting process involves generation of investment proposals, estimation of cash flows for the proposals, evaluation of cash flows, selection of projects based on acceptance criterion and finally the continual revaluation of investment after their acceptance. The steps involved in capital budgeting process are as follows:

- i) Project generation
- ii) Project evaluation
- iii) Project selection
- iv) Project execution

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i) Project Generation

In the project generation stage, the company has to identify the proposals to be undertaken depending upon its future plan of activity. After identification of the proposals, they can be grouped according to the following categories:

- i. **Replacement of Equipment:** In this case, the existing old and out-dated equipment may be replaced by purchasing new and modern equipment.
- **ii. Expansion:** The company can go for increasing capacity in the existing product line by purchasing additional equipment.

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iii. Diversification: The company can diversify its product lines by way of producing various products and entering into different markets. For this purpose, it has to acquire the fixed assets to enable producing new products.

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iv. Research and Development: Where the company can go for installation of research and development wing by incurring heavy expenditure, with a view to innovate new methods of production, new products, new sources, new technology.

ii) **Project Evaluation**:

The process of project evaluation involves two steps:

- i. Estimation of benefits and costs: These must be measured in terms of cash flows. The benefits to be received are measured in terms of cash inflows, and costs to be incurred are measured in terms of cash outflows.
- ii. Selection of an appropriate criterion to judge the desirability of the project.

iii) Project Selection:

There is no standard administrative procedure for approving the investment decisions. The screening and selection procedure would be differ from firm to firm. Due to lot of importance of capital budgeting decision, the final approval of the project may generally rest on the top management of the company. However, the proposals are scrutinized at multiple levels. Sometimes, top management may delegate authority to approve certain types of investment proposals. The top management may do so by limiting the amount of cash outlay, prescribing the selection criteria and holding the lower management levels accountable for the results.

iv) Project Execution:

In the project execution, the top management or the Project Execution Committee is responsible for effective utilization of funds allocated for the projects. It must see that the funds are spent in accordance with the appropriation made in the capital budgeting plan. The funds for the purpose of the project execution must be spent only after obtaining the approval of the Finance Controller.

v) Profit Review :

After the excution, a continous monitoring of the project is imperative so that expected and actual operating results compared. This helps in taking corrective action against the responsible people.

3.6 NEED FOR ESTIMATION OF CASH FLOWS

Capital expenditure decisions are of considerable significance due to their impact on the value of the firm. Thus, the future success and growth of the firm depends heavily on effectiveness of its capital budgeting decisions. To evaluate the effectiveness of the investment opportunities, one has to estimate the cash inflows and outflows of the project. The estimation of inflows and outflows of an investment decision is not a simple task, because, the benefits (inflows) from investments are received in some future period. The future is uncertain. The cost incurred and benefits received from the Capital Budgeting decisions recur in different time periods. These cash flows cannot be compared in straightaway manner, because of time value of money.

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Hence, to evaluate the profitability of investment decision, cash inflows and outflows are to be calculated and compared by taking necessary care.

3.7 CASH FLOWS VS. ACCOUNTING PROFIT

As it is already pointed out, to evaluate any Capital investment proposal, it is necessary to estimate future benefits accruing from the investment proposal. Theoretically, two alternative criteria are available to quantify the future benefits: i) Accounting Profits and ii) Cash Flows. The difference between these two is mainly due to the presence of non-cash expenditure i.e. depreciation. Depreciation is non-cash expenditure, which does not involve any cash outflow. Where as the accounting profit is arrived at after deducting the amount of depreciation from the operating profits of the business, so that the amount of depreciation should be added to the profit after tax to know the actual cash inflow. The cash inflow approach of measuring future benefits of the project is superior to the accounting approach.

While considering the investment proposal, the firm is really interested in estimating its economic value. The economic value can be determined by the economic outflows and inflows related to investment project. The use of cash flows avoids accounting ambiguities. There are various ways to value inventory, allocate costs, calculate depreciation and amortisation of various expenses. Different net incomes will be arrived at under different accounting procedures. But, there is only one set of cash flows associated with the project. Further the cash flow approach considering the time value of money, whereas the accounting approach ignoring it.

Under usual accounting practice, revenue is recognized as being generated when the product is sold, but not when the cash is collected from the sale. Sales revenue may remain a paper figure for months or years before payment of the invoice is received. Expenditure is recognized as being made when incurred and not when the actual payment is made. Depreciation is deducted from the gross revenues to determine the earnings before-tax. Such procedure presents an accurate picture of the true benefits of a particular project. But, it ignores the increased flow of funds available for other use. Thus, accounting profits are quite useful for measuring performance, but less useful as decision criteria. The difference between the cash flow approach and the accounting profit approach is explained with the following example.

Item	Accounting Rs.	Approach	Cash Flor Rs.	w Approach (CFAT)
Net Revenues	nja na stali se	10,00,000	ina ang ang ang ang Na panghabang pan	10,00,000
Less: Expenses: Cash Non-cash (depreciation)	6,00,000 <u>1,50,000</u>	<u>7,50,000</u>	6,00,000	sanstra es se constanto a processo departo a sens en constanto de constanto de filoso
Earnings before tax Less: Taxes @ 50% Net earnings after taxes/ Cash flow	alland a traditional de anti-anti-algorithmatic de l'anti-algorithmatic anti-algorithmatic agus anti-algorithmatic	$2,50,000 \\ \underline{1,25,000} \\ \underline{1,25,000} \\ \underline{1,25,000}$	<u>1.25,000</u>	<u>7,25,000</u> <u>2,75,000</u>

A comparison of Cash Flow (CFAT) and Accounting profit approaches

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The difference between accounting profits (Rs.1,25,000) and cash flows (Rs.2,75,000) attributed to the depreciation charge is Rs.1,50,000. The cash available with the firm is Rs.2,75,000. This can be utilized for further investment. The accounting profit approach indicates that only Rs.1,25,000 is available. Hence, it gives only a partial picture of tangible benefits available. Therefore, in place of earnings, cash flows are used in evaluating capital expenditure alternatives.

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3.8 COMPONENTS OF CASH FLOWS

For evaluating the profitability of investment opportunities, net capital outlays of the project are to be compared with the net cash inflows emerging from the project. Further, anticipated streams of cash benefits available during the lifetime of the project have to be computer into present value, so as to make them comparable with net capital outlay being incurred presently. Thus, the following are the components of an investment analysis.

- 1. Identifying net capital outlay
- 2. estimating streams of net cash inflows after taxes
- 3. computation of cash flows in terms of their time value

1. Identification Net Cash outflows :

The total net cash outflows represents the net amount of capital expenditure in executing a capital project. The net capital outlay of a project includes the cost of purchasing land, building, plant and additional working capital required to carryout the investment proposals. If a project results in the replacement of an existing capital asset, its current book value is a sunk cost *. However, its salvage value is deducted from the capital outlay of the new project in order to arrive at the net investment outlay.

Since payment of income tax results in cash expenditure, tax on profit on sale of an existing asset, in case of a replacement decision, is added to the capital outlay of the new project. Investment allowance, if any is deducted from the capital outlay for arriving at the net capital outlay.

2. Estimation of Net Cash inflows : (CFAT)

Net cash inflows are the estimates of future streams of cash inflows resulting from the implementation of a project. These estimates are based on a number of factors. The forecasts relate to production, market share, sales revenues, profit margin, tax laws, state of the economy, etc. Cash inflows at different points of time have to be estimated on the basis of various forecasts. Though based on systematic forecasts and past experiences about the firm and industry, projections of future cash inflows based on these estimates are not absolute. Net cash inflows are estimates of cash revenues minus cash expenditures.

Since depreciation is a book adjustment and does not involve any cash outflows, it is not deducted from cash inflows for estimating the net cash inflows. But tax-benefit result from depreciation appropriation is included in cash inflows. The scrap value of an asset at the end of its operational life is another component of cash inflow. The removal expenses and capital gain taxes, if any, are deducted from the salvage value of the asset. Thus, net cash inflows are equal to cash revenues minus cash expenses plus tax benefit from depreciation appropriation plus salvage value of asset, net of removal expenses and capital gains tax plus value of current assets released.

^{*} Sunk cost means the cost which cannot be recovered back.

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3. Computation of Cash Flows in terms of their Time Value:

After determining the capital outlay of the project and economic gains which will be derived from the project, Finance manager's next task is to reduce them in present value. The present value of the capital outlay need not be calculated because it has to be incurred in the current year. But, in case of cash earnings which will be received over lifetime of the project, the question of finding out their present value arises. An understanding of the concept of present value is, therefore, imminent.

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Present Value:

The concept of present value provides the underlying relationship between values of series of payments and revenues at different points of time. It is widely recognised that money has a time value. A rupee to be received a year from now is not worth as much today as a rupee to be received now. Atleast three factors contribute to the time value of money.

3.9 COMPUTATION OF CASH FLOWS:

The data required for capital budgeting are about cash flows i.e. outflows and inflows. Their computation depends on the nature of the proposal. The capital projects can be categorised into:

- i. single Proposal
- ii. replacement projects
- iii. mutually exclusive projects

The computation of cash inflows and outflows with reference to these are explained in the following proposals.

i) Cash Flows: Single Proposal

The cash outflows required to carryout the proposed capital expenditure is depicted in the following format.

Format-1:

Cash outflows of a new project (Beginning of the period at zero time, $t = 0$)					
Cost of new project (Land, Building, Plant, Machinery etc.)	х х х				
+ Installation cost of plant and equipments	ххх				
± Working Capital requirements -	<u>X X X</u>				
Net Cash Outflow	<u>x x x</u>				

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Format-2:

Determination of Cash Inflows (CFAT) : Single Investment Proposal, (t = 1 to N years)

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Cash sales revenue	x x x
Less: Cash operating cost	<u>x x x</u>
Cash flows before depreciation and taxes (CFBT)	x x x
Less: Depreciation	<u>x x x</u>
Profit/Earnings Before Tax (PBT)	ххх
Less: Tax liability	<u>x x x</u>
Profit after tax (PAT)	ххх
Add: Depreciation	<u>x x x</u>
Cash flows after tax (CFAT)	x x x
Add: Salvage value (in 'n' th year)	ххх
Add: adjustment of working capital (in 'n' th year)	ххх

Example-1:

The marketing department of a firm estimates that 10,000 units of a product can be sold annually at a selling price of Rs.20/- per unit. The variable expenses are Rs.12/- per unit, towards, manufacturing and selling the product. It also involves a fixed cost of Rs.10,000 per annum.

A machine with a cost of Rs.1,00,000 and has an useful life of 10 years, be purchased to produce the product. The installation cost would amount to Rs.10,000 and additional working capital requirement is Rs.40,000. The firm uses straight line method of depreciation. The firm is in a tax bracket of 50%.

You are required to compute the relevant cash flows (out flows and inflows) associated with the acquisition of the machine, assuming that:

- a) there is no salvage value
- b) the salvage value is Rs.5000 for depreciation purpose
 - i) it is ignored
 - ii) it is considered

Solution:

Cash outflows at the beginning $(t = 0)$	Rs.	
Cost of new machine	1,00,000	
Add: installation charges	10,000	
Add: additional working capital requirement	40,000	
Total cash outflow	1,50,000	

(a) cash inflow during life of Project (t = 1 to n years) No salvage value.

F	inancial Manage	ment		3.10		Capital	Budgeting —
Year	Sales revenue	operating cost	Depreciation	n Taxable Income (2-(3+4))	Taxes @ 50%	Earnings after taxes	Cash Flows After Tax
							$(C_{1}A_{1})$ (7+4)
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	2	3	4	5	6	7	8
1-9	2,00,000	1,20,000	11,000	69,000	34,500	34,500	45,500
10	2,00,000	1,20,000	11,000	69,000	34,500	34,500	45,500
Add: A	dditional work	king capital rea	covery:				40,000
							85,500
1-9 10 Add: a	2,00,000 2,00,000 Iditional work	1,20,000 1,20,000	- 11,000 11,000	69,000 69,000	34,500 34,500	34,500 34,500	<u>45,500</u> 45,500 40,000
Salvage	e Value	ing Capital IC	Rs.5000				85,500
Less: T Represe	ax on salvage ents profit	value	- 2500				<u>2,500</u> 88,000
(b) (ii)	salvage value	considered for	reciation p،	ourpose.	an an ann ann ann ann ann ann ann ann a	in an an stàir Is an stàir an stàir Is an stàir	
1-9	2,00,000	1,20,000	10,500	69,500	34,750	34,750	45,250
10	2,00,000	1,20,000	10,500	69,500	34,750	34,750	45,250
Add: w	orking capital	recovery :		Contraction of the state			40,000
salvage	value (no tax	adjustment)					_5,000
		- See St. marks and St.		그는 것을 가 같			90,250

i) Depreciation (Rs.1,00,000 + 10,000) \div 10 years = Rs.11,000

ii) Depreciation ([Rs.1,00,000+10,000) - 5000] ÷ 10 years = Rs.10,500

ii) Cash Flows : Replacement Projects :

In case of replacement of an existing asset by a new one, the relevant cash outflows are incremental after tax cash flows. The sale proceeds of the existing asset reduce cash out flows required to purchase a new asset. To determine relevant cash outflows not only the cash proceeds of the existing assets but also their tax effects on cash flows must be taken into consideration. Tax effect on cashflows depends on the relationship between the sale proceeds, the initial purchase price and the present book value of an asset being replaced. There are four distinct possibilities.

- i) asset is sold for a price more than its initial purchase price.
- ii) asset is sold for a price more than its book value but less than its initial purchase price.
- iii) asset is sold for a price which is exactly equal to its book value.
- iv) asset is sold for a price less than its book value.

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Format-3:

21 ² 4 194-28 9-18 ¹	Cash outflows in a replacement situation					
		· · · · · · · · · · · · · · · · · · ·				
Cost of new machine		X X X				
Add: Installation charges		XXX				
Add: Working Capital	and a set of the set of The set of the set of t	<u>X X X</u>				
		ххх				
Less: Sale proceeds of the exis	ting asset	XXX				
Add/Less: Taxes paid/saved or	a sale of the asset	<u>X X X</u>				
Net cash outflow		<u>x x x</u>				

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Format-4:

	Determination of Cash Flows After Tax (CFAT) in Replacement investment decision								
			Year 1		2	3	4	5	Smith (1997) ada (1997)
te to	Cash Inflow Before Tax (CFBT): (sales revenue - operating cost)	40,900) 1	le to a						n tag set an i
	proposed/new - existing / old surplus (deficiency)				lignesis) Silversis	· - *	e Sali end		
	Less: Taxes					-		·	
a)	Incremental CFAT depreciation (proposed/new-existi excess depreciation	ng/old)			200 200 100		n <u>-</u> Sine i i Malian		
b) [.]	tax savings on excess depreciation (a+b) Incremental CFAT Add/Less: working capital recover	ı .y			- Nora 1945 - 1945 1945 - 1945	ite <u>r</u> tise 1804 - A 1905 - A	ari <u>1</u> 005 Co 2500 2011 - 1	na (1991) 9 ⁸ - Hir 1994 - A	

Example-2:

ABC Ltd., is currently using a machine which was purchased two years ago for Rs.1,40,000/- and has a remaining useful life of 5 years. The company is considering to replace the existing machine with a new one which will cost Rs.2,80,000. The installation cost will be Rs.20,000. The increase in working capital will be Rs.50,000. The expected cash inflows before depreciation and tax are as follows:

Years	Existing Machine	New Machine
1	60,000	1,00,000
2	60,000	1,20,000
3	60,000	1,50,000
4	60,000	2,00,000
5	60,000	2,20,000

The company uses straight-line method of depreciation. The average tax on income is 50% and the capital gain tax is 30%.

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calculate incremental cash f	lows assuming sale value of existi	ing machine.
i) $R_{s} = 1.60,000$ ii) $R_{s} = 1.20$	20000 iii) Rs 1 00 000 and	$iv) R_{s} 60,000$

50,000 II) KS.1,20,000 III) KS.1,00,000

Solution:

Incremental cash outflows at t = 0

	> 0 ⁴			(RS.)			
	Different sit	Different situations					
	(i)	(ii)	(iii)	(iv)			
	Rs.	Rs.	Rs.	Rs.			
Cost of new machine	2,80,000	2,80,000	2,80,000	2,80,000			
Add: Installation cost	20,000	20,000	20,000	20,000			
Add: Working capital (additional)	<u>50,000</u>	50,000	50,000	50,000			
	3,50,000	3,50,000	3,50,000	3,50,000			
Less: Sale proceeds of the existing machine	1,60,000	1,20,000	1,00,000	60,000			
	1,90,000	2,30,000	2,50,000	2,90,000			
Add: Taxes paid/less taxes saved	+ 26,000	+ 10,000	a - Carlor - Carlor An Tanana - Anna Anga	_20,000			
Net cash outflow	2,16,000	2,40,000	2,50,000	2,70,000			

Determination of tax liability/saved.

			(Rs.)	and the strength	
	(i)	(ii)	(iii)	(iv)	
	Rs.	Rs.	Rs.	Rs.	1.6
Current book value of plant	1,00,000	1,00,000	1,00,000	1,00,000	
(Original cost Rs.1,40,000 - accumulated depreciation @ Rs.20,000 each year for 2 years)					
Less: Sale value	1,60,000	1,20,000	1,00,000	60,000	
Profit/Loss	60,000	20,000		20,000	
Tax (payable on profits/savings or losses)	** 26,000	10,000		10,000	

** Capital gain Rs.20,000 (Rs.1,60,000 - Rs.1,40,000) and ordinary gain Rs.40,000 (Rs. 1,40,000 - Rs.1,00,000) Taxes are (Rs.20,000 x 30%) + (40,000 x 50%) = Rs.26,000

Flow Years		1	2	3	4	5	
Cash before taxes (CFBT)				Paggar.			~
New Machine		1,00,000	1,20,000	1,50,000	2,00,000	2,20,000	
Old Machine	•	60,000	_60,000	60,000	60,000	60,000	
		40,000	60,000	90,000	1,40,000	1,60,000	÷ .
Less tax @ 50%		20,000	30,000	45,000	70,000	80,000	
(a) Incremental CFAT		20,000	30,000	45,000	70,000	80,000	

Incremental cash Inflows After Taxes (t = 1-5)

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Depreciation:			indaje fizi			
New machine (Rs.3,00,000 + 5 years)	60,000	60,000	60,000	60,000	60,000	
Old machine	20,000	20,000	20,000	20,000	20,000	
Excess depreciation	40,000	40,000	40,000	40,000	40,000	
(b) Tax saving on excess depreciation	20,000	20,000	20,000	20,000	20,000	
Incremental Cash Flows after Tax (a+b)	40,000	50,000	65,000	90,000	1,00,000	
Add: working capital recovery				1	50,000	
					1,50,000	
ALTERNATIVELY						
Incremental	Cash Inflows	After Taxes	s (t = 1-5)		2019-14	
				Station and	(Rs.)	<u>}</u>
Years	an a		- 100 US			
Incremental Cash Flow Before Tax		1 .				
(New-Old)	40,000	60.000	90.000	1.40.000	1.60.000	
Less: Excess depreciation	40,000	40,000	40,000	40,000	40,000	
Taxable income (incremental)		20,000	50,000	1,00,000	1,20,000	
Less: Tax @ 50%		10,000	25,000	50,000	60,000	
Earnings after tax (incremental)		10,000	25,000	50,000	60,000	
Add: Excess depreciation	40,000	40,000	40,000	40,000	40,000	
Cash Flow After Tax (incremental)	10 000		(5 000	00.000	1 00 000	
	40,000	50,000	65,000	90,000	1,00,000	
Add: recovery of working capital	40,000	50,000	65,000	90,000	1,00,000 50,000	12

iii) Cash Flows : Mutually Exclusive projects :

Mutually exclusive projects are the Projects which compete with one another. Acceptance of one will cause the rejection of other projects. Alternatives are mutually exclusive and only one may be chosen. The best alternative automatically eliminates the other alternatives.

Example:

Year 5

The ABC Ltd., has under consideration two mu	itually exclusive pr	oposals with the followin	g information:
	Alpha	Beta	
Net cash outlay $(t = 0)$	Rs.4,00,000	Rs.3,00,000	
Net cash savings in operating expenses			
Before depreciation and taxes			
a statist inner groß Promoteer, er	inne sich lateid	e settado e la	
Year 1	1,00,000	72,000	
Year 2	1,20,000	80,000	
Year 3	1,40,000	88,000	
Year 4	1,00,000	80,000	

80,000

64,000

Financial Management	and the second	3.14	(Capital Budgeting ——
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You are required to calculate cashflows assuming that the firm is following straight line method of depreciation and its tax rate is 50% and the asset has no salvage value.

Relevant cash flows, mutually exclusive projects

a) Cash outflow of Proposal Alpha Rs.4,00,000 b) Beta Rs.3,00,000

Year	Savings in operating Expenses (Rs.)	Depreciation (Rs.)	PBT (Rs.)	Tax @ 50% (Rs.)	PAT (Rs.)	CFAT (Rs.)
		()				LDV/TLC/S/1
a) Ca	sh flow of Proposal Alj	pha:				
1	1,00,000	80,000	20,000	10,000	10,000	90,000
2	1,20,000	80,000	40,000	20,000	20,000	1,00,000
3	1,40,000	80,000	60,000	30,000	30,000	1,10,000
4	1,00,000	80,000	20,000	10,000	10,000	90,000
5	80,000	80,000		- NOLON :		80,000
	- 00 200 (J.) - 002 00 	1 000.08	20116			्रियम् विषये योग व्यस्ति केल्प्स
b) Ca	ash flow of Proposal Be	eta:				
		an a				
1	72,000	60,000	12,000	6,000	6,000	66,000
2	80,000	60,000	20,000	10,000	10,000	70,000
3	88,000	60,000	28,000	14,000	14,000	70,000
4	80,000	60,000	20,000	10,000	10,000	70,000
5	64,000	60,000	4,000	2,000	2,000	62,000

3.11 SUMMARY:

The ultimate objective of the financial management is to maximise the satisfaction of all stakeholders in general and wealth of shareholders in particular. To achieve these objectives the firm has to allocate its resources in an effective manner. Allocation of current funds with an anticipation of future returns may be known as Capital Budgeting. Capital Budgeting decision is one of the most important decisions of a business concern. It involves the estimation of cash outflows and inflows of a project. It has an impact over the future profitability and survival of the firm. Moreover, they are irreversible and may be difficult.

3.12 KEY WORDSCapital Budget:It is the firm's formal plan for the investment of long-term funds in
purchase of fixed assets.Accept-Reject:criterionEvaluation of Capital Budgeting proposals to determine whether
the project under consideration satisfies the minimum acceptance
standard and should be accepted.

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Capital Budgeting:	The process of generating, evaluating, selecting and following up on capital expenditure projects. The methods employed to
	evaluate the worth of the capital expenditure proposals are known as Capital Budgeting techniques.
Cash Outflows / : Outlay	Investment to be made for acquiring an asset from which benefits would be available beyond one year.
Cash Inflows :	Expected benefits over a project during its life time.

3.13 SELF ASSESSMENT QUESTIONS:

- 1. Define the concept of Capital Budgeting and explain its significance.
- 2. What do you mean by Capital Budgeting Process? Explain the various steps in this process.

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- 3. Differentiate between Cash flow and Accounting Profit.
- 4. Discuss the various components of Cash flows.
- 5. Describe the procedure of computation of Cash flows.

3.14 FURTHER READINGS :

Khan & Jain	 Financial Management, Tata McGraw Hill Co., New Delhi
Pondey, IM	Financial Management, Vikas Publications, New Delhi
Hampton	Financial Decision Making, Prentice Hall of India, New Delhi