Biyani's Think Tank

Concept based notes

Business Budgeting

(B.Com. Part-III)

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Preface

I am glad to present this book, especially designed to serve the needs of the students. The book has been written keeping in mind the general weakness in understanding the fundamental concepts of the topics. The book is self-explanatory and adopts the "Teach Yourself" style. It is based on question-answer pattern. The language of book is quite easy and understandable based on scientific approach.

This book covers basic concepts related to the microbial understandings about diversity, structure, economic aspects, bacterial and viral reproduction etc.

Any further improvement in the contents of the book by making corrections, omission and inclusion is keen to be achieved based on suggestions from the readers for which the author shall be obliged.

I acknowledge special thanks to Mr. Rajeev Biyani, *Chairman* & Dr. Sanjay Biyani, *Director* (*Acad.*) Biyani Group of Colleges, who are the backbones and main concept provider and also have been constant source of motivation throughout this Endeavour. They played an active role in coordinating the various stages of this Endeavour and spearheaded the publishing work.

I look forward to receiving valuable suggestions from professors of various educational institutions, other faculty members and students for improvement of the quality of the book. The reader may feel free to send in their comments and suggestions to the under mentioned address.

Author

Syllabus

Business Budgeting

SECTION-A

Business Budgets and Budgeting : Meaning, Nature, Objectives, Advantages and Limitations of Budgets and Budgeting, Budget Terminology. Preparation of Budgets, Budget Co-ordination. Essientials of an Effective Budgeting.

Types of Budgets : Fixed and Flexible Budget, Financial Budget, Master Budget, Sales Budget, Production Budget, Cost of Production Budget, Direct Material Budget, Direct Labour Budget and Overhead Budget. Performance Budgeting. Zero Base Budgeting.

Business Forecasting : Meaning, Theories, Techniques of Business Forecasting. Essentials of Business Forecasting.

SECTION-B

Cash Budgeting : Meaning, Importance and Forms of Cash Budget. Preparation of Cash Budget. Methods of (preparing) Cash Budget.

Budgetary Control : Meaning, Characteristics, Objects and Benefits of Budgerary Control. Budgetary Control Vs. Standard Costing, Sales Variances, Material Variances, Labour Variances.

Project Planning and Feasibility Study : Types of Projects, Appraisal of Projects, Profitability Estimates of Projects, Feasibility : Economic, Financial and Technical.

SECTION-C

Product and Production Decisions : Meaning, Product, Product Decision Areas : Use of Alternative Production Facilities. Determination of profitable level of production, Utilisation of full production capacity. Starting a new product in place of old. Determination of product mix on the basis of key factor.

Cost of Capital : Computation of Cost of Debt Fund, Preference Share Capital, Equity Share Capital, Retained Earnings and Weighted Average Cost of Capital.

Analysis of Risk and Uncertainty : Introduction, Description of basic risk concept, Risk evaluation approaches.

Value Analysis : Meaning of Value Analysis, Objectives of Value Analysis: A Fresh look.

N.B. : The question paper will be evenly divided between theoritical and numerical questions.

Chapter-1

Budget

Q.1. What is Business Budget

Ans. It is a detailed plan of various business activities based on future forecasts and are to be carried on in a budget period for the attainment of certain predetermined busi objective. Busi budget are prepared to eliminate the future risks of business and to ensure successful completion of various tasks.

Q.2. What are characteristics of budget.

Ans. (a) Definite future period of time.

(b) Detailed Plan

(c) Attainment of Pre-determined objectives of Busi

(d) Co-operate

(e) In monetary units

(f) Integral part of Business

(g) It is standard

(h) It is conclusion of Budgeting

(I) Instrument of achieving Busi objective.

(j) Written Document

Q.3. What is Nature of Budget

Ans. (a) It is continuous managerial Process.

(b) It is a tool of mgmt.

(c) It is a technique.

(d) It is a standard.

(e) It is a specific proforma.

(f) It is a integrated plan.

(g) Financial budget are more important.

(h) It is a means of communication.

Q.4. What are the objective of Budget

Ans. (1) Max. of the Busi profit

(2) Optimal Utilization of Resources

(3) Help to fix the responsibilities

(4) Increase Busi efficiency

(5) Co-operate in managerial skills.

(6) To protect the Busi from future risks & uncertainty.

(7) To use as a source of Busi communication.

(8) To use as a standard for measuring performance.

(9) To establish co-ordination between various deptt.

(10) To increase the competitive strength of a Busi.

Q.5. What are the limitation of Budget.

Ans. (1) Personal Bias

(2) Success depend on the efficiency of employee.

(3) It is instrument, not an end.

(4) Create hurdle in place of guidance.

(5) Freedom of work restricted by it.

(6) Govt. policy affect it.

Q.6. What is Budgeting

Ans. Budgeting is a managerial process. It is a technique to formulate a budget and to implement and evaluate it.

Characteristics:

(1) Continuous managerial process.

(2) Related to definite period of future time.

(3) Based on certain objectives.

(4) Future forecasting

(5) Standard for measuring performance.

(6) Technique for formulating plan.

(7) Means to prepare Budget.

(8) Success of Budget depend on it.

Objectives: (1) Helpful in planning.

(2) Helpful in co-ordination.

(3) Helpful in controlling.

(4) Helpful in communication.

(5) Helpful in performance evaluation.

(6) Helpful in comparison.

(7) Helpful in fixing standard.

(8) Helpful in cost control.

(9) Helpful in removing complexities.

(10) Helpful in raising competitive strength.

Q.7. Explain the process of Budgeting.

Ans. Budgeting process having following steps –

(1) Formulation of Busi Policies:

Busi policy for various activities such as sale policy, purchase policy, production policy, cash & inventory policy are determined in advance.

(2) Preparation of Budget Forecasts:

All the heads of different deptt prepare budget estimate for certain period of time, e.g. Sales forecast, purchase forecast, etc.

(3) Comparison of alternative, co-ordination and Review:

Budget committee studied different Department Budget & alternative analyse it & suggest the deptt head to best one & they can suggest the change in budget by their own.

(4) Formation of master budget, final approval & budget execution

After the co-ordination all deptt. budget prepare the master budget and send to approval of Board of directors. After approval sent it to different deptt for execution.

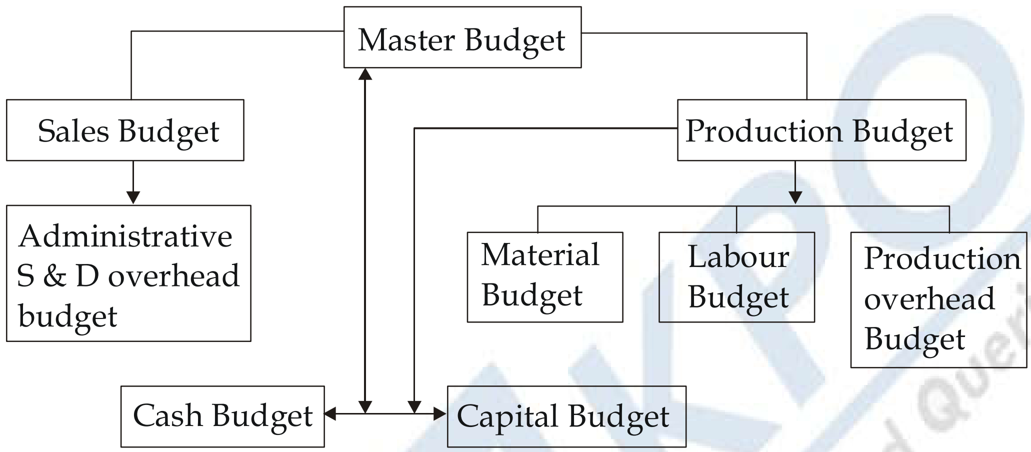
Q.8. What are the limitation and advantages of Budget.

Ans.

Advantages	Limitation
1. Helpful in managerial function.	1. Budget are only estimates.
2. Profitability analysis.	2. Lack of full knowledge.
3. Cost analysis.	3. Personal Bias
4. Helpful in comparison.	4. Ineffective
5. Participation	5. Non-cooperation
6. Determination of functions.	6. Highly Burden
7. Determination of responsibilities.	7. Budget Decision taken by Higher authority.
8. Regular accounting.	8. Only tool for management.
9. Optimum use of Busi resources	
10. Motivation	
11. Accountability & efficiency	
12. Development of co-operative spirits.	

Q.9. Budget Co-ordination as a tool of mgmt.

Ans.



Q.10. How can we make the Budget effective.

Ans. When we process following qualities we can be called Budget is effective:-

1. Fixed period of time.
2. Sound forecasts.
3. Planned accounting system.
4. Planned cost accounting system.
5. Efficient organisation.
6. Authority & responsibility.
7. Well-defined business policies.
8. Budget organisation/committee
9. Flexible
10. Economical
11. Formulation of master budget.

Q.11. Explain facts regarding Budget Committee.

Ans. Usually one member is appointed as Budget officer and others as member of the budget committee. Budget officer has his own authority and responsibilities. All other member work under his supervision and leadership.

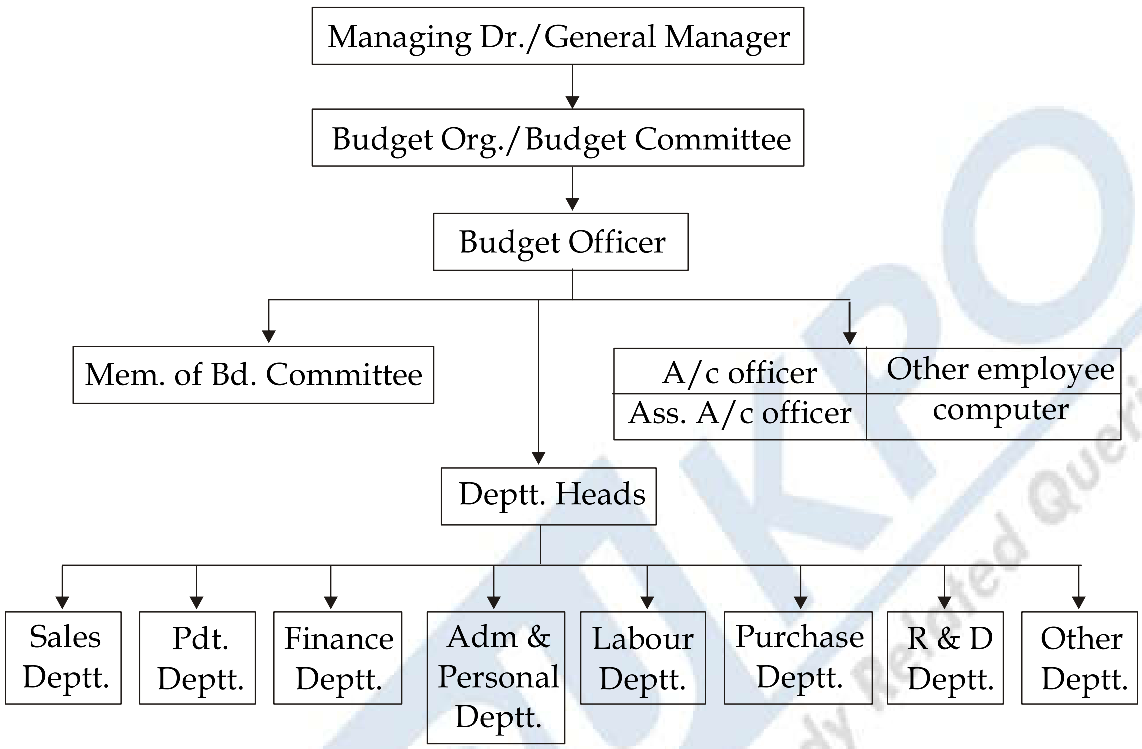
Function of Budget Officer

1. Get guidance & advice from top management.
2. Studies policies formulated by top management.
3. Decision on the basis of past present and future business condition.
4. Issue instruction to various department regarding budget.
5. Prepares master budget.
6. Taking approval of Budget.
7. Esta. Co-ordinator between various department
8. Prepare performance report and interpretation.

Rights of Budget officers

1. Right to get information
2. Co-operation form various heads.
3. Fixing responsibility of member of the Budget committee.
4. To get necessary finance for budget.
5. Get salary for his services.

Budget Organisation Chart



Q.12. What is Budget Manual

Ans. It is a book which contain all those rules, sub-rules, procedures, principles, which are essential for Budget implementation and appraisal.

Following things are incorporated in budget –

1. Techniques, method, process of budget formulation.
2. Objective of budgeting
3. Name of Important Budget to be prepared.
4. Format of various Budget.
5. Budget schedules
6. Bd. Org. for formulation of a budget

7. Right & Responsibility of Bd. Committee
8. Pay & allowances of Bd. Officer
9. Information about co-operation

Advantages	Disadvantages
1. Provide proper guidance.	1. Restrict the freedom of members.
2. Describe function & responsibilities.	2. Create hurdle in the spot decision.
3. Help in Bd. Formation	3. Undue delay in Bd. Formulation.
4. Co-ord. the budget committee activities.	4. Hurdle in utilization of specialised officers.
5. Useful in Budget formation implementation & appraisal.	

Q.13. Importance of Budget Period.

Ans. Bd. Period is the period for which bd is prepared. It varies from Busi to Busi and from firm to firm. Usually bd period is one year but for proper implementation these are divided in quarterly or monthly bd. Long term bd are prepared for five or more yr.

Generally it depend on –

(1) Nature of the Busi

(2) Size of Busi

(3) Time taken in production

(4) Budget of competitors.

(5) Internal & external factor

(6) Busi Risks

(7) Availability of money

(8) Govt. policies

Q.14. What is Budget Format ?

Ans. Budget format is a format in which important point of Bd should be arranged in a systematic manner so that bd can be prepared easily and quickly.

Advantage:

1. Preparation of Bd become easy.
2. Time saving
3. Useful at all levels of mgmt.

Q.15. Importance of Key Budget Factors?

Ans. Key Bd. Factor are those factor which are fixed in advance for business. They can be stable or instable.

Key Bd. Factor

In the Area of production

1. Raw material supply
2. Specific Techn.
3. Govt. policy
4. Plant size
5. Labour supply

In the area of sales

1. Shortage of Demand
2. Lack of efficient seller
3. Advtg.
4. Consumer specific
5. Price cycle
6. Pd. Quality
7. Packaging
8. Competition

In the area of finance

1. Money & capital mkt
2. Investors
3. ROI

Effect of these factor can be minimised by

(1) Improving managerial efficiency

(2) Selecting efficient seller

(3) Effective advertising

(4) Specific packaging

(5) Improve quality of the product, etc.

Q.16. What is Responsibility centre.

Ans. Responsibility centre is a deptt. or sub-deptt of an org. who work under the mgmt to the controlling point whose responsible to the higher mgmt. For all operational activities. eg. mktg, Finance, pdt,

Q.17. Explain the time Based Budgets

Ans.

On the Basis of Time

Long term Budget | Short term Budget | Very short term Budget

(1) Long term Budget: Generally it is prepared for more than 5 yr. It is related to fixed investment like extension, development, re-org & research for the enlargement of economic activities, who make enables the mgmt to arrange the required capital well in time reducing cost of capital and to maintain the speed of operation activities in busi without any obstacles.

(2) Short Term Budget: It is generally prepared for the period of 1 yr. Main obj of this bd is to maintain the existing speed of operating cycle continuously and regularly. The capital required for a yr. is known as working capital, find the sources of it and arrange them.

(3) Very short term (Current Bd): It is prepared for very short period, like monthly, quarterly or half-yearly object is to achieve the goal of short-term Bd. It is detail list of work related to production & supply which

Q.18. What is the classification of type of Budget?

Ans.

are to be carried out during the year. It is useful only for big busi houses not for small busi.

Q.19. Explain the Budgets on the Basis of limitation?

Ans.

Limitation Basis → Perfect
→ Partial

(1) Perfect (Full) Budget : (Master Budget) : It includes all the activities of the Busi related to the production, marketing, dist., & other economic activities. It is summary of all the economic activities of the Busi.

(2) Partial Budget : When the budget is prepared only for a part/area/deptt of the busi. It is prepared at the time when the capacity of some deptt. of the busi is not definite or certain.

Q.20. Explain the Budgets on the basis of Flexibility.

Ans.

Flexibility Basis → Fixed
→ Flexible

(1) Fixed Bd (Static): In this objective and target are fixed. It is feasible to prepare only when estimation regarding production and sales can be made accurately and there is perfect certainty in the busi activities and envt. In following condition this is suitable:-

(1) Busi is not seasonal.

(2) No impact of external factors.

(3) Product demand is certain.

(4) No Need of special labour or material.

Merits	**Demerits**
1. Simple to prepare	1. Other factors do not constant.
2. Less time consuming	2. Impact of other on production
3. Advantage of economy.	3. Very difficult to change.
4. Easy to control	4. Accurate estimate not possible.

5. Easy to follow-up 5. Not feasible.

6. Easy to forecast.

(2) Flexible Budget: It is prepared for various capacity. It shows the volume of sales, cost and profit or loss which is possible at various level of production capacity. It also adjust the change which is essential due to change in busi condition international external factors or busi circumstances main object to know the impact on profit at actual level of production capacity.

Characteristics:

1. Adjustable
2. Prepared in advance for any level.
3. Dynamic
4. Unfavourable impact can be controled.
5. Cost classified in fixed, semi-variable and variable.
6. Related to particular period.

Change on the following ground

1. Seasonal nature
2. Instability in input mkt.
3. Adjustable acc to habit interest of consumers.
4. Demonstration effect.
5. Competition with substitute
6. Govt. policies varies
7. Natural circumstances varies
8. Limitation of infra-structure.

Generally flexible Bd more useful coz of all dynamic factor can be adjustable.	
Advantages	**Disadvantages**
1. Easy calculation.	1. Possible only when proper A/cg. System.
2. Easy adjustment of change.	2. Requires standard costing system.
3. Knowledge about the impact of cost.	3. Depend on cost experts.
4. Comparable	4. Depend on perfect knowledge of envt.
5. Cost control	5. Very expensive & labour oriented.
6. Determine production level.	

Steps of Formulation of Flexible Budget

1. Specified the time.
2. Classify all the cost into fixed, variable & semi-variable.
3. Determine type of standard.
4. Analyse cost Behaviour pattern in past.
5. Select the proper method.
6. Build-up the appropriate Bd.

Q.21. Classify all type of cost? How

Ans. **(1) Fixed cost (Period Cost) (Capacity Cost) (Supplementary Cost)**

It includes all cost that are not affected by the increase or decrease in the volume of production. It is constant up to installed capacity but avg. fixed cost per unit decrease acc to increase in the volume of production.

(2) Variable Cost (Marginal Cost)

It include those cost which are affected by the volume of pdt means increase or decrease acc to output. Total variable cost up to the volume of output but avg. Variable cost is constant per unit.

(3) Semi-variable cost (Semi-Fixed Cost)

It remain constant upto a certain level of pdt and change after the specified level with uneven proportion. It include both fixed & variable components.

Method of Segregation of semi variable cost

(A) Comparison by level of activity method.

(B) Degrees of variability method.

(C) Method of least square.

(D) Graphic method

Most commonly used method is as follows –

(A) Comparison by level of activity method - (Range method)

Steps as follows-

(I) Per unit V.C. = Change in variable cost/Changes in output level

(II) Total V.C. = Per Unit V.C. x Total pdt units

(III) Total F.C. = Total semi variable cost – Total variable cost

e.g.

Output	500	600	700	940	740
Semi V. Cost	2000	2200	2400	2880	2480

(I) 2880 – 2000/940-500 = 2 Rs

(II) T.V.C. = 2 x 500 = 1000

(III) T.F.V. = 2000 – 1000 = 1000

Q.22. Explain the different method of preparing flexible Budget?

Ans.

Methods →
- Multi-Activity Method
- Formula Method
- Graphic Method

(1) Multi Activity Method:

(A) Cost divided into fixed, variable semi-variable.

(B) Each production activity level is shown in separate column.

(c) Enable the mgmt to select the level of activity that provide max. profit.

Flexible Budget

(Normal Level of Activity : 80%)

Period ending............

Particulars	Capacity 50%	80%	100%
1. Prime Cost :			
Direct Material	.....	.....	.....
Direct Labour	.....	.....	.....
Direct Expenses (if any)	.....	.....	.....
2. Variable Overheads :			
Maintenance and Repairs	.....	.....	.....
Indirect Labour	.....	.....	.....
Indirect Material	.....	.....	.....
3. Marginal Cost (1+2)	.....	.....	.....
4. Sales	.....	.....	.....
5. Contribution (4-3)	.....	.....	.....
6. Fixed Cost :			
Production	.....	.....	.....
Administration	.....	.....	.....
Selling & Distribution	.....	.....	.....
7. Profit/Loss (5-6)	.....	.....	.....

(2) Formula Method: (Bd. Cost allowance method)

(I) Fixed and variable cost at normal level is used.

(II) Determine per unit v.c. by dividing v.c. by output volume.

(III) Multiply any level of output quantity with per unit v.c. & adding fixed cost to find total cost.

Profit margin can also be found when sales is given.

(3) Graphic Method:

(I) Fixed, Variable, Total cost at OY-axis pdt unit at OX-axis.

(II) Classify the pdt cost

(III) Plot all cost on graph.

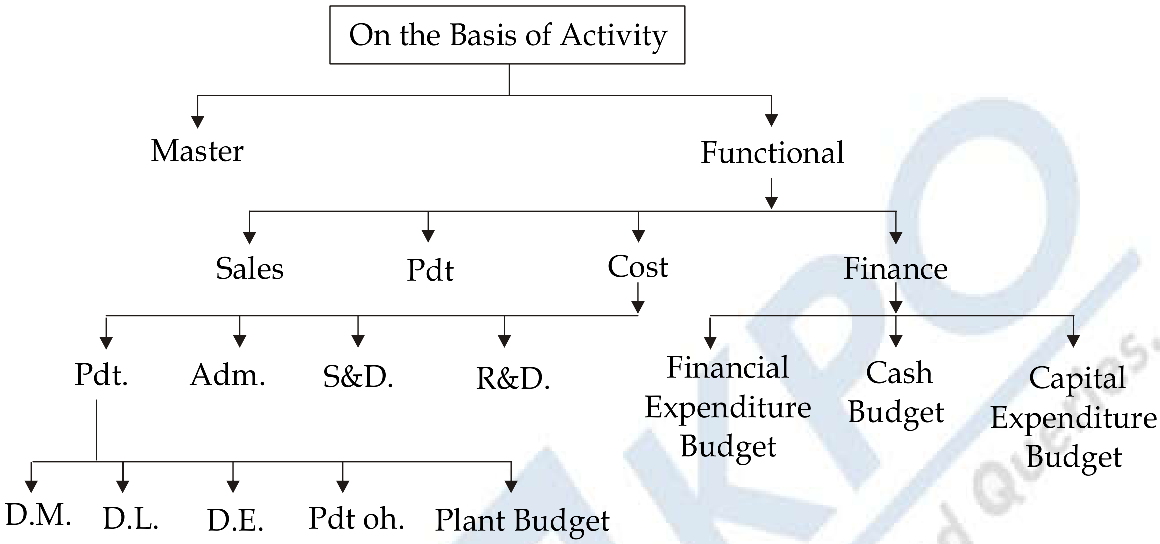
Q.23. Difference Fixed & Flexible Budget

Ans.

Fixed Budget	Flexible Budget
1. **Nature :** This budget remains unchanged and is the same without considering any change in business activity.	This budget is changed in the light of changed level of activity.
2. **Assumption :** This budget is prepared with the assumption that level of activity will remain unchanged.	This budget is prepared at various levels of activity.
3. **Cost Classification :** Costs are not classified according to their nature or behaviour.	Costs are classified according to their their nature i.e. fixed, variable and semi-variable.
4. **Comparison :** When actual output is different, the comparison between actual and budgeted performance is not possible.	Comparison is made as actual figures are compared with the same budgeted level.
5. **Forecast :** Forecast of the results is difficult.	Forecast is easy as budget is prepared for various levels of activity.
6. **Determination of Costs :** It is difficult to determine the cost when actual level of performance differs from bugeted level.	Costs at various levels of activity can easily be determined.

Q.24. Explain the activity Based Budget –

Ans.



(1) Master Budget

Acc to C.I.M.A. – The Master Budget is the summary budget incorporating its component functional budget.

Acc to Traditional Approach: P&L A/c and Balance Sheet both are known as Master Budget that is prepared on the basis of financial statement of the previous year and future estimates.

Acc to Modern Approach: Master Budget all the functional bd in a summarised form. It include all the key figure related to org.

Advantages	Disadvantages
1. Detailed knowledge about the Busi	1. Not useful for small org.
2. Co-ordination among the deptt.	2. More expensive & time consuming.
3. Ease to execute & control.	3. Impartiality is not possible.
4. Basis of valuation.	4. Very technical & difficult.
5. Co-operation of all deptt.	5. Responsible for unnecessary delay.
6. Contivulation in pdt process	
7. Knowledge about Busi profit	
8. Helpful in Decision making	
9. Helpful for mgmt.	
10. Useful for large org.	

Master Budget

Period *Normal Capacity* *Budgeted Capacity*

	Product A Rs.	*Product B* Rs.	*Total* Rs.
Sales			
Less : Cost of Sales			
Direct Materials			
Direct Labour			
Factory Overheads			
Add : Opening Stock			
Less : Closing Stock			
Gross Profit			
Administrative Cost			
Selling & Distribution Cost			
Net Profit			
Assets :			
Fixed			
Currect (Net)			
Total Capital Employed			
Ratios :			
Profit/Capital Employed			
Sales/Capital Employed			
Profit/Turnover			
Current Ratio			
Liquidity Ratio			
Appropriations from Profit			
Dividends			
Reserves			
Taxes			
Balance of Profit or Loss			

Q.25. Explain Functional Budget and its different type?

Ans. Acc to ICMA: It is a budget of income or expenditure appropriate to, or the responsibility of a particular function.

Form of functional Budget → 1. Programme Bd.
→ 2. Responsibility Bd.

(1) Programme Budget: This programme focuses much on functional activities to completed by a deptt in bd period.

(2) Responsibility Bd: It is a complete scheme of duties and responsibilities regarding the bd formulation, execution and controls of each person of the concerned deptt.

Advantage of Functional Bd.	Disadvantages of Functional Bd.
1. Helpful in preparing master budget.	1. Not possible to get complete knowledge about Busi.
2. Determine deptt activities.	2. Not useful for small busi.
3. Determine of duties of each person decide.	3. Expensive, time & labour consuming.
4. Helpful in measuring performance & efficiency.	

Q.26. Give brief explanation about Sales Budget

Ans. Sales Budget- Bd which shows the volume and value of sales of a busi during the bd period.

Sales Budged include following factors:-

(1) Data, information, trend of past years sales.

(2) Production capacity

(3) Forecast target for salesmen.

(4) Determine order of G&S produced.

(5) Study regarding busi cycle.

(6) Study seasonal change and its impact.

(7) Available factor of pdt & infrastructure.

(8) Pdt tech.
(9) Study about mkt.
(10) Mktg process
(11) Impact of different govt & International policies.
(12) Area of sales

Objectives

(1) Earn desired profit.
(2) Increase in mkt share
(3) Sell whole lot of pdt.
(4) Satisfying customers.
(5) Generate sufficient revenue.
(6) Conduct mkt research.

Process of preparing sales Budget

(1) Sales Forecasts of grass root level.
(2) Study of sales forecasts by branch manager.
(3) Preparation of consolidated sales forecast by the regional manager.
(4) Preparation of sales budget by the sales manager.
(5) Final approval.

Merit	Demerit
1. Permanent & regular source of revenue.	1. Difficult to prepare
2. Basis of master budget.	2. Expensive
3. Basis for other functional bd.	3. Labourious
4. Enlargement of possible mkt.	4. Time-consuming
5. Desired profit can be earned.	5. Impact of external & internal factor can't ascertained.
6. Basis of managerial success.	6. Not useful for small busi
7. Optimum use of resources.	7. All other functional Bd depend on it so if it not properly prepare it affects adversely.
8. Safety from busi fluctuation.	

Sales Budget-Proforma

Year ending : Area :

Analysis	*Budget Current Year*			*Actual Budget Current Year*			*Expected Budget Next Year*		
	Units	Price Rs.	Value Rs.	Units	Price Rs.	Value Rs.	Units	Price Rs.	Value Rs.
By Outlets :									
1. Wholesalers									
2. Jobbers									
3. Retailers									
4. Salesmen									
Total Sales									
By Products :									
1. Cinthol									
2. Marvell									
3. Hamam									
4. Palmolive									
5. Lux									
Total Sales									
By Customers :									
1. Men									
2. Women									
3. Boys									
4. Girls									
5. Children									
Total Sales									

Q.27. What is Production Budget

Ans. In this mgmt decide, when and how much units of various pd are to be produced to fulfill the requirement of sales budget means it present no. of units of various products are to be produced periodically.

Objectives:

(1) Fulfill requirement of sales Budget.

(2) Reduce pdt cost

(3) Optimum utilization of factors.

(4) Maintain continuity of pdt process.

(5) Timely & regularly supply.

(6) Maintain sufficient stock.

Merits

(1) Basis of master budget

(2) Basis of other functional budget

(3) Timely supply of order possible.

(4) Decrease in production cost.

(5) Optimum utilization of factors.

(6) Earning of desired profit.

Formula = Sales + Closing stock – Opening Stock

Q.28. Explain different Cost Budgets.

Ans. Production budget is a physical budget only where as cost budget is a financial budget regarding production.

It specifies all the costs which are to be incurred from the pdt to sales processes during the budget period.

Production Cost Budget :

It specifies all those costs to be incurred on the production of various pd during the bd period.

Firstly cost is classified according to various costs than mgmt prepare a separate budget in detail and then summarised in pdt. budget.

Hence it is a summary of material budget, labour budget, factory overhead Bd and plant budget. In large companies, it may also be further classified acc to pd, process and time.

Particular	**Amt.**
Direct Material	xxx
Direct Labour	xxx
Direct Expenses	xxx
Factory Expenses – Variable Fixed	xxx
	xxx

(A) Direct Material Budget (Material Budget)

It specifies the budgeted qualities and cost of all kinds of raw-material required for the production. It provide basis for fixing optimum level of inventory stocks, establishment of control over material usage. Indirect material is not be included in it because it is a part of factory overheads and not co-related directly with production.

It is of two type-

(A) Material Physical Budget

(B) Material Financial Budget

(I) Material Physical Budget

It includes only the quantities of all type of materials which are essential to the production point of view during the plan period.

Formula = Required material as per volume of pdt + Cl. Stock of R.M.– Op. Stock of R.M.

(II) Material Financial Budget

It specifies the expenditure incurred on the purchase of required material quantities for production during the plan period.

Formula

Cost of material required = Units of material required x Standard price of R.M. per unit

Objectives:

(1) Determine the quantities of Raw material.

(2) Determine cost of material

(3) Helpful in preparing functional budget

(4) Helpful in control over wastages.

(5) Minimise cost of pdt.

(6) To continue pdt process

Merits

(1) Pre-determine require material.

(2) Pre-determine require cost of material.

(3) Helpful in preparing other secondary budget

(4) Timely order for requisite.

(5) Control on carrying cost.

(6) Continuation in production process.

(7) Advantage of cost min.

Factor to be look after while preparing material

(1) Budget period

(2) Determine nature and kind of material.

(3) Seasonal nature of pdt and R.M.

(4) Available material mkt and prices.

(5) Cr. Period allowed by supplier.

(6) Store mgmt and cl. Stock.

(7) Nature of Business cycle.

(8) Time-lag between order placed.

Format for material Budget :

Units of R.M. Required as per pdt Budget	x x
Add = Desired cl stock of R.M.	x x
Less = Available op. stock of R.M.	x x
	mat req in units
Multiply Standard price of R.M. per unit (Rs)	x x
	mat financial requisite

(B) Direct Labour Budget :

It signifies the req of various kinds of labour for budgeted pdt of desired pd and the total cost incurred on them.

After the labour requirements relating to different kind are finalised, estimated rate per hr and labour cost per unit is arrived at.

Direct Labour hr required = Labour hr required for one unit of output x Quantity of output.

Direct Labour Cost = Direct labour hr required x Std. labour rate per unit.

Objectives

1. Determine labour hr require.
2. Determine kind of labour hr require.
3. Determine standard labour hr rate.
4. To increase in profitability, efficiency and performance of the company minimising labour cost.

Importance

1. Determine labour hr.
2. Determine labour cost.
3. Cost minimisation.
4. Minimise Idle hr.
5. Determine labour trug and incentives.
6. Increase in performance of co.

7. Continue pdt process.
8. Co-ordination among various deptt.

Format fore Direct Labour Budget

Labour budget is usually prepared in the following format :

Direct Labour Budget

Budget Centre Period.........................

Output.............Units A Standard Hours........

.............Units B

.............Units C

Workers	*Number*	*Hours*	*Standard Rate* Rs.	*Total Labour Cost* Rs.
Male :				
Skilled				
Semi-skilled				
Unskilled				
Female :				
Skilled				
Semi-skilled				
Unskilled				

Factor to be considered

(1) No. of quality of Labour.
(2) Labour Rate
(3) Availability of different kind of labour
(4) Desired labour hr.
(5) Est total labour cost
(6) Labour training
(7) Labour Incentives
(8) Govt. Labour policies.

(c) Direct Expenses Budget

It includes all direct expenses with pdt and change as per proportionate change in the output, e.g. carriage inward, octori, power etc.

(D) Production overhead Budget:

It includes those expenses which are essential for manufacturing good and in directly related with production. These expenses do not increase proportionally as per proportionate change in output. Fixed part these expenses will not vary with the change in the level of activity. Basically there are two elements of factory-

(A) Fixed production overhead

(B) Variable production overhead

It is essential to prepare to control over production overheads and to increase the performance of the company.

Q.29. What is Plant Utilization Budget.

Ans. It prepared for the estimation of plant capacity to meet the budgeted pdt during the plan period. If plant utilization > plant capacity mgmt think for new extra shift and machinery.

If plant utilization < plant capacity mgmt consider the plans for increase in sales.

Factor Consider

1. No. of machine available.
2. Plant capacity
3. Production quantity
4. Economic life of machine.
5. Available funds.

Importance

(1) Detail knowledge about plant capacity.

(2) Knowledge about unused machine.

(3) Best utilization of plant.

(4) Helpful in preparing product.

(5) Timely financial arrangement.

(I) Plant Requisition Budget

= Per unit machine hr. required x Budgeted Production

(II) Plant Cost Budget

= Per unit operating cost of plant x Budgeted output

Plant utilisation budget is prepared in the format as given below :

Plant Utilization Budget

Period..........

Deptt.	Machine Number	No. of Hours available	Normal lost time	Standard Capacity in hours	Output per Std. hour	Standard Quantity
A	1	....	....	....	....	....
	2	....	....	....	....	....
	3	....	....	....	....	....
B	4	....	....	....	....	....
	5	....	....	....	....	....
	6	....	....	....	....	....
Total						

Q.30. What is Administration Cost Budget.

Ans. It include all the expenses which are incurred to run administration whether expenses are of fixed or variable nature.

These expenses related to – (A) Formulation of busi policies

(B) Directing the organisation

(c) Controlling the operation of an organisation etc.

Generally expenses include –

Staff salary, office rent, furniture, stationery etc.

A format of administration cost budget may be as follows :

Administration Cost Budget

Period..........

Expenditure	*Total*	*Administrative Departments*			*Gen.*
		Accounts	*Costing*	*Purchase*	*Admn.*
	Rs.	Rs.	Rs.	Rs.	Rs.
Rent and Taxes					
Salaries					
Supplies					
Postage & Telegrams					
Telephone					
Travelling Expenses					
Audit Fee					
Bank Charges					
Total					

Q.31. Explain Sales & Distribution Budget

Ans. It include all those expenses which are to be incurred on the activities regarding S & D during the budget period. All of these are based on sales forecasts.

S & D Budget
- Direct Selling Exp.
- Sales office Exp.
- Advt. Exp.
- Dist. Exp.

Q.32. What is R & D Budget.

Ans. It include those expenses which are to be incurred on the works undertaken for further research and development searching new techniques and methods for the enlargement of the business.

It covers materials, equipments and suppliers salaries and other expenses relating to design developments & technical research projects.

Advantages

(1) Helpful reaching near to customer.

(2) Possible use of new machine.

(3) Extension of sales area.

(4) Long term benefits.

(5) Useful for Big Companies.

Disadvantages

(1) Not useful for small busi concerns.

(2) Unnecessary increase in the cost of production and selling price.

(3) Anger of consumer due to increase in price of commodity.

(4) Loss in short-term.

Q.33. What is Finance Budget

Ans. It estimate revenue to be received or earned from various sources and expenses incurred on the operation of pdt process during the Bd period so that Instt forecasts and determine the working capital for the desired period.

Includes
- → Financial expenses Bd
- → Cash Bd
- → Capital Expenditure Bd

Q.34. What is Surplus Budget

Ans. Budget shows greater revenue to received or generated than the expenses to be incurred during budgeted period that is known as Surplus Budget. It enables the firm to settle the Busi liabilities well in time and dependence on other sources becomes lesser.

It is not good for govt Bd because surplus restrict the developmental activites which are essential for the welfare and economic development point of view.

Merits	Demerits
1. Shows adequate working capital.	1. Not good for developing countries.
2. Safety from future uncertainties.	2. Possibility of misuse of fund.
3. Less dependence on external capital position to pay all the current liabilities.	3. Increase in cost of capital and cost of pdt.
4. Suitable for Busi.	4. Increase in price due to increase in cost.
5. Helpful for the extension	5. Demand of the product may be decrease due to increase price.
6. Increase in goodwill.	

Q.35. Give brief Explanation about Deficit Budget

Ans. It highlights that the expenditure to be incurred in Budget period will be greater than the revenue to be received during the same period. It is good for govt budget to meet the development requirements but not for Busi Bd.

Merits	Demerits
1. Possible to earn super normal profit in long term.	1. Decrease in own capital due to net loss.
2. Control over the mkt in long term.	2. More dependence on external capital.
3. Govt devt & welfare state can execute.	3. Capital in long term fixed liabilities.
	4. Not be in position to clear all the short term liabilities due to term in W.C.

Q.36. Give brief Explanation about Balance Bd.

Ans. It signifies that total revenue to be generated will be equal to the total expenditure to be incurred during the Budget Period.

It is not good for Busi Instt because it will not increase the busi goodwill in mkt and new investors will not be attracted to purchase the co's share & dibenture in the absence of busi profit. The mkt price of co share and debenture may be decreased.

Q.37. Give Brief explination about Human Resources Budget

Ans. It take total estimated expenses that are to be incurred for man power at various level of mgmt during the Budget Period.

Labour Bd include only direct labour expense but Human Resources Budget include various types of labour expenses at various level of mgmt whether related to output directly or indirectly.

Expenses are as follows –

(1) Salary related to top mgmt, middle mgmt & lower level.

(2) Welfare exp, legal exp.

(3) Bonus, additional reward.

Merits	Demerits
1. Optimum planning for manpower	1. Very expensive.
2. Control over unproductive exp	2. Labour & time oriented
3. Control over surplus labour.	3. Not useful for small Busi org
4. Appointment of efficient employee.	4. Difficult task to prepare it.
5. Division of work acc to ability.	
6. Increase in the moral of employee	
7. Increase in managerial efficiency.	

Q.38. What is Progressive Budget

Ans. It is prepared for one year and revised after a definite period like quarterly and prepared for one year adding next period equal to revised period. e.g. Bd. Period is Jan 08 to Dec 08. Revalued After Jan, Feb, March 08. Next Budget period will be April 2008 to March 2009 then revalued after April, May, June 2008 Next Budget period will be July 2008 to June 2009.

Q.39. What is Supplementary Budget.

Ans. It is prepared to meet out the expenses which could not meet out due to shortage of funds in original budget when original bd. is not appropriate to achieve the desired targets, it is prepared.

Busi whose activities highly affected by external factor then requirement are not meet out by original budget so they have this type of budget.

Merits:

(1) Arrangement of additional funds to meet out shortage of expenses.

(2) Continuation in pdt process in unfavourable condition.

(3) Achieving the targets of original Bd is possible.

(4) Safety from unavoidable busi conditions.

Q.40. What is Financial Budget?

Ans. F.B. are concerned with the financial implication of the functional or operating. It is made up of five individual bd:

(i) Cash Budget.

(ii) Budgeted P&L A/c

(iii) Budgeted B/S

(iv) Budgeted Fund statement

(v) Capital Budgeting

Q.41. What is Cash Budget.

Ans. It is an estimate of cash receipts and cash disbursements for future period of time.

Characteristics:

(1) It is a formal statement.

(2) It shows cash income & cash expenditure.

(3) It is time-phased schedule.

(4) It has three parts:

(A) Cash Inflow forecasting.

(B) Cash Outflow forecasting.

(C) Cash Balance forecasting.

Q.42. Give some important objective? Importance of Cash Budget?

Ans.

Objective	Importance
1. Estimate saving or deficit of cash during the month.	1. Forecasting future need of cash.
2. Estimate financial require.	2. Selection of proper source of finance.
3. Select proper source of finance.	3. To maintain liquidity.
4. How to best utilize the surplus cash.	4. Knowledge of factors affecting cash position.
5. Establish co-ord between cash and working capital.	5. Testing the productivity of expansion prog.
6. Ensure availability of cash for obligations.	6. Max. use of cash
7. Helpful in co-ordination.	

Q.43. Give brief discussion about different method of preparing cash Budget?

Ans. Majorily 3 methods used for it:

(1) Receipt and Payments Method- Generally used

(2) Adjusted P&L Method

(3) Balance Sheet Method

(1) Receipt & Payment Method:

The first part contains amt of cash received & its timing and in the second part, amt of cash paid and its timing.

The necessary information for preparing cash budget is obtained from the following budgets:

(i) Sales Budget (ii) Purchase Budget (iii) Labour Budget (iv) Expenditure Budget (v) Pt & Equip Budget (vi) Financial Budget.

(A) Estimating Cash Receipts:

(1) Most Important source of cash receipt from sales. In case of cash sales, cash received at the time of sales. On the other hand in case of cr sales cash is realised after some time depending upon the cr term when ever it is collected from debtors entry is passed it may be reduced by the amt of sales discount, return allowance and bad debt.

(2) Cash Receipts from non-operating sources:

It includes interest, dividend, commission, rent royalty and sale of scrap etc.

(3) Cash Receipts from Capital transactions

It includes sale of fixed assets and investments, issue of share and debenture or loans from financial instt.

(B) Estimating Payments or Cash Outflows:

(1) Cash Purchases and A/c Payable-Advance payment to suppliers for purchase of raw material, cash payment for cash purchase and payment to creditors regarding cr purchase payment of cash purchase is ascertained after deducting cash discount.

(2) Labour: Payment made to worker engaged in pdt time-lag in payment of wages is to be considered.

(3) Overheads: Overhead payment regarding Adm, factory, S&D expenses. Time-lag in payment of these is considered.

(4) Cash Payment for non-operating expenses: Payment for interest dividend, bonus donation, income tax etc.

(5) Cash Payments for Capital transactions:-Payment for purchasing Fixed Assets like L & B, Pt & mach, securities etc same as liabilities reduced such as debenture, bonds, redeemable pref. share.

Adjustments accruals and non-cash expenses are excluded.

When the balance is Negative this can be convert in positive by taking bank borrowing.

When the balance is in surplus we can make fixed deposit with bank & remain with min balance in cash.

2. Adjusted P&L Method

(Adjusted Net income method)

Cash increases due to	Cash decreases due to
• Income from operations (After adjusting non-cash)	• Increase in current assets.
• Reduction in current asset	• Decrease in liability
• Sale of fixed assets	• Purchase of fixed assets.
• Increase in liabilities	• Payment of dividend, tax etc.
• Sale of share and debenture	

Forecasts of the budget period are converted into cash by adjusting the items which do not affect cash inflow and outflow.

(3) Balance Sheet Method:

A Budgeted Balance sheet is prepared showing all items of assets and liabilities except cash balance. The Balancing figure is considered to represent cash Balance.

When Assets > Liabilities = Bal is Bank O.D.

When Assets < Liabilities = Bal is normal.

Q.44. Explain the Capital Expenditure Budget with its objectives?

Ans. It forecast for required capital exp on acquiring fixed assets.

It covers long period of 5-10 yr.

It based on following information.

(A) Overloading of particular assets.

(B) Future develop & new tech for pdt.

(C) Requirement of replacement.

Objectives: (A) To know capital devt. Prog.

(B) Est. system priorities on exp.

(C) Provide tool for controlling exp.

(D) Prevent over-expansion.

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Chapter-2

Cost of Capital

Def- COC is that min rate of return which a firm must earn on its investments so that cost of the funds obtained can be paid off.

There are three parts of COC

$C = r_o + b + f$

C = COC

r_o = Return at zero level risk

b = Premium for Business Risk

f = Premium for Financial risk

Significance of COC

(1) Helpful in capital expenditure decision.

(2) Helpful in capital structure decision.

(3) Helpful in comparative evaluation of various sources of finance.

(4) Helpful in evaluation of financial efficiency of top mgmt.

Classification of COC

(1) Explicit Cost & Implicit Cost : Explicit cost of a source of finance is that discount rate which equalise the present value of funds obtained with present value of expected cash out flow.

Implicit cost is the rate of return associated with the best investment opportunity for the firm & its shareholders that will be forgone if the project presently under consideration by the firm were accepted.

(2) Future Cost & Historical Cost : Future cost means the expected cost of funds to be invested in a project in future.

Historical cost means that cost which has been paid by the firm for the funds invested in a project in the past.

(3) Specific Cost & Combined Cost : Specific cost is a cost of particular source of capital.

Combine cost is aggregate of all cost of capital of different sources.

(4) Average Cost and Marginal Cost : Wtd. Average of specific cost of various sources of funds invested by a firm at a particular time is known as Average Cost.

Marginal Cost means Wtd. Average Cost of new funds being obtained by a concern.

Q.1. What is Cost of Debt Capital?

Ans. Cost of debt capital is the rate of interest payable on it but the amt of int. payable should be considered in relation the net proceeds obtained by the issue of debt-capital.

Net Proceeds
- → At par = Face value – Floation charge
- → At premium = Face value + premium charge floation charge
- → At discount = Face value – Discount charge floation charge

(A) When debentures are irredeemable:

$$K_d = \frac{R}{NP} \times 100$$

Kd = cost of debt capital

R = Annual Int.

NP = Net proceeds

(B) When debentures are redeemable:

$$K_d \text{ (Before tax)} = \frac{R + \left(\frac{MV - NP}{n}\right)}{\frac{MV + NP}{2}} \text{ X } 100$$

$$K_d \text{ (Before tax)} = Kd \text{ Before Tax X } (1 - T)$$

K_d = Cost of Debt

R = Annual Int.

MV = Maturity Value

NP = Net Proceed

N = No. of Year

T = Tax Rate

Q.2. What is Cost of Pref. Share Capital?

Ans. Cost of pref. shares capital is depend on the amt of dividend paid on it.

(A) When pref. share are irredeemable-

$$K_p \text{ (After tax)} = \frac{DPS}{NP} \text{ X } 100$$

K_p = Cost of Pref. Share

DPS = Dividend Per Share

NP = Net Proceeds

(B) When pref. share are redeemable

$$K_p \text{ (After tax)} = \frac{D + \left(\frac{MV - NP}{n}\right)}{\left(\frac{MV + NP}{2}\right)} \text{ X } 100$$

$$K_p \text{ (Before tax)} = \frac{Kp \text{ (After Tax)}}{1 - T}$$

D = Dividend

MV = Maturity value

NP = Net proceeds

T = Tax Rate

Q.3. What is Cost of Equity Share Capital?

Ans. Each equity share holder does expect some return while investing his capital in the co. This very expected return is the cost of equity share capital.

(A) Dividend Yield Method :

Acc to this method co. assure that each shareholder expect at least the rate of return prevalent in the mkt.

$$K_e \text{ (After tax)} = \frac{DPS}{MP} \times 100$$

DPS = Dividend per share

MP = Market price per share

(B) Earning Yield Method :

Acc to this method co. assume that after paying off all the expenses and preferences dividend, the balance income is available to equity shareholders though they may immediately get only a part of it.

$$K_e \text{ (After tax)} = \frac{EPS}{MP} \times 100$$

EPS = Earning Per Share

MP = Market Price

(C) Dividend yield + Growth or

Earning yield + Growth Method

Acc to this method co assumes the equity shareholder do not remain satisfied with the current rate of dividend but they also expect annual growth in it.

$$K_e = \frac{DPS}{MP} X\,100 + G$$

$$K_e = \frac{EPS}{MP} X\,100 + G$$

(D) Cost of Newly Issued Equity Share

$$K_e = \frac{DPS}{NP} X\,100 \qquad K_e = \frac{EPS}{NP} X\,100$$

$$K_e = \frac{DPS}{NP} X\,100 + G \qquad K_e = \frac{EPS}{NP} X\,100 + G$$

DPS = Dividend per share

EPS = Earning per share

NP = Net proceeds

G = Growth Rate

Q.4. What is Cost of Retained Earning.

Ans. Generally co. a part of its after tax profit distribute among shareholder and balance keep with itself.

Had the co. not built up these funds and distributed whole of the profit in cash, shareholder would have invested the amt. received in some other project and thereby earned some profit. Therefore, each shareholder expects from the co. that amt. of income on these retained earning which he is deprived off to receive from the alternative investment. This income which has to be deprived off or sacrificed is the cost of retained earning.

$$K_r = \frac{D(1 - T_p)\,(1 - B)}{MP\,(1 - T_c)} X\,100$$

D = Dividend

T_p = Personal tax rate of shareholder

B = Brokerage

MP = Market Price

T_c = Capital grain tax rate of shareholder

When personal tax and capital gain tax is not applicable

$$K_r = \frac{D\,(1 - B)}{MP} \text{ X } 100$$

Generally

$$K_r = \frac{K_e(1 - T_p)\,(1 - B)}{(1 - T_c)}$$

Q.5. What is wtd. Average Cost of Capital

Ans. All projects in the org can be accepted or rejected on the basis of wtd. Avg. Coc. When rate of return on capital employed is more than COC, the project is accepted otherwise rejected.

$$K_{\omega} = \frac{\Sigma X\omega}{\varepsilon\omega}$$

The following procedure is adopted to ascertain the wtd. Average COC.

(A) First of all, after tax COC is calculated for each sources.

(B) Wt. are decided for each source on the mkt values of capital.

(C) Wt. of each source is multiply its cost.

Aggregate of Wtd. Cost of different sources is called Wtd. Average COC.

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Chapter-3

Performance Budgeting

Q.1. What is Performance budgeting?

Ans. Pref. budgeting is a tech. of presenting budgets for cost and revenue in term of functions, prog, activities or projects and correlating the physical and financial aspects of the individual items comprising the budgets.

It is a method employed by any agency for

- To decline what its goals or objective should be
- To decide on a set of prog.
- To implements the prog.
- To evaluate the prog.
- To perform its function effectively.

Characteristics of Performance Budgeting

- Emphasis on objective and Goals.
- Functional classification
- Financial & physical Plan
- Long term planning.
- Cost-Benefits analysis
- Allocation of Resources

Q.2. Objective of Performance Budgeting Given?

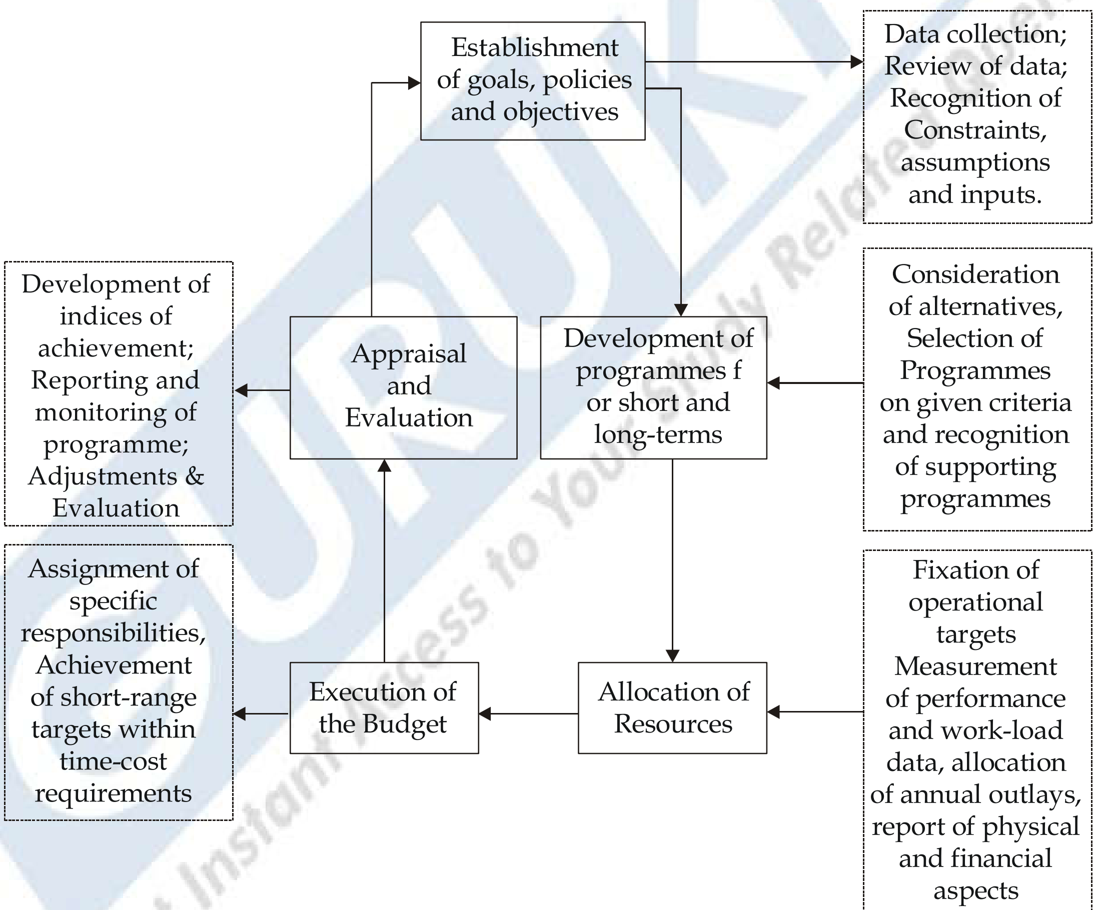
Ans. Performance Budgeting Seeks to achieve the following obj-

- Clear presentation of objects and targets.
- Better budget review
- Helps in Decision making
- Accountability & control
- Effective Audit

Q.3. Give process for preparing Performance Budgeting?

Ans.

PERFORMANCE BUDGETING PROCESS



(Source: A Prem Chand, Performance Budgeting: An Introductory Analysis)

Perf Bdt is prepared in four parts

- Introduction
- Overall Performance
- Financial Requirements
- Explanation of Financial requirements.

Q.3. Give some advantage and Limitation of Performance Budgeting.

Ans.

Advantages	Limitations
1. Better Decision	1. Difficulties in classification
2. Meaningful plng process	2. Inadequacy of Accounting system
3. Facilitates managerial function	3. Problem in perf evaluation
4. Accomplishment of long term objectives	4. Inadequate information system
5. Shortcomings of traditional Bdtg removed	5. Lack of organisational capabilities.
6. Determination of priority	
7. Improvement in financial control	

Q.4. Differentiate traditional & Performance Budgeting.

Ans.

	Traditional Budgeting	Performance Budgeting
Subject Matter	Statement of various kind of expenditure to accomplish the responsibilities by the mgmt.	Plan of action regarding any function with specific instruction.

Traditional Budgeting		Performance Budgeting
Method	Classification is done acc to nature or type or object of exp.	A kind of classification which is followed acc to function, prog. Activities or projects.
Object	Prepare to ensure control & Akg scrutiny.	Emphasis upon that economy and efficiency.
Flow of	Upward	Downward
Decision	Retrospective means what	Prospective approach means future
Relation to time	was done with current means in estimating for the next budgets.	impacts of current decision.

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Chapter-4

Budgetary Control and Standard Costing

Q.1. What is Budgetary Control?

Ans. It is system of controlling costs which includes the preparation of budgets, co-ordinating the deptt and establishing responsibilities, comparing actual performance with the budgeted and acting upon results to achieve max efficiency.

Characteristics of Budgetary Control :

(a) Establishment of budget

(b) Measurement of actual performance

(c) Continuous comparison or appraisal.

(d) Remedial action

(e) Follow up and revision

Objective of Budgetary Control :

(a) Planning for future

(b) Establishing co-ordination

(c) To Exercise control

(d) To motivate employees.

Requirement for an efficient Budgetary Control

(a) Realistic Budget.

(b) Qualitative and Trend Reporting.

(c) Attitude of the management.

(d) Co-ordination in operating and financial budgets.

Process of Budgetary Control

(a) Determination of objective and mgmt policy.

(b) Establishment of budget centre.

(c) Maintenance of Adequate A/cg record.

(d) Preparation of org. chart.

(e) Establishment of Budget committee.

(f) Preparation of Budget manual.

(g) Determination of key factor.

(h) Determination of the level of activity.

(i) Fixation of budget period.

(j) Preparation of estimates and budget.

(k) Comparison with actual performance.

(l) Preparation of Budget Report.

(m) Budget Revision.

Importance/Benefits of Budgetary Control

(A) Improvement in Planning Regarding

(i) Habit of thinking ahead.

(ii) Realistic goal and policies.

(iii) Rational use of resources.

(iv) Reduces uncertainty.

(v) Delegation of authority and responsibility.

(B) Aid in Co-ordination

(i) Establishes co-ord.

(ii) Encourages co-operation

(iii) Mutual Exchange of information

(iv) Improves labour relations

(c) Help in Control

(i) Indicates weaknesses

(ii) Prevents waste

(iii) Motivates people

(iv) Mgmt by exception

Limitations of Budgetary Control

(a) Accuracy is doubtful.

(b) Prohibitive cost

(c) Inflexibility

(d) Opposition by employee

(e) Hurdle in the accountant's independence

(f) To conceal variation

Q.2. What is Budget, Budgeting & Budgetary Control

Ans. Budget = Express the planning of activities in monetary term for future.

Budgeting = Process of preparing budget.

Budgetary control = Result from the administration of financial plan.

Budget	Budgetary Control
1. Act of planning.	Act of controlling
2. Concern with future	Concern with present
3. Fixes the target	Arrive at the target
4. Actual performance is not measured.	Actual performance is measured.

Q.3. What is Standard Costing

Ans. Standard = It is a measure of desire performance, it is a predetermined criterion for evaluating the actual performance.

Std. Cost = It is a measure of acceptable cost performance based on scientifically pre-determined cost.

Std. Costing = It is a mgmt tech. of using std. costs for evaluating performance and controlling costs.

Process Involved in Std. Costing-

(a) Determination of standards

(b) Cost comparison

(c) Variance analysis

(d) Corrective Actions

Advantages of Std. Costing

(a) Performance evaluation & cost control.

(b) Valuable managerial tool.

(c) Motivation for better performance

(d) Optimal use of resources

(e) Mgmt by exception

(f) Inventory valuation

(g) Economical

Q.4. Differentiate between Budgetary Control and Standard Costing

Ans.

	Budgetary Control	**Standard Costing**
Nature of cost	Based on expected or estimated cost.	Based on planned cost.
Scope	Relate to all aspect of business	Relate manufacturing cost of Busi
Emphasis	On the level of costs which should not be exceeded.	On cost reduction

	Budgetary Control	Standard Costing
Basis	Based on past experience.	On scientific and technical estimates.
Accounting	Not in corporated into Accounting system.	Variances are made through the different A/c
Action	No action is take place if the exp. is below the budget limit.	Variances whether + or– are always analysed and remedial action is taken.
Cost	More expensive system.	Not much expensive system.

Q.5. What is Budget Variances

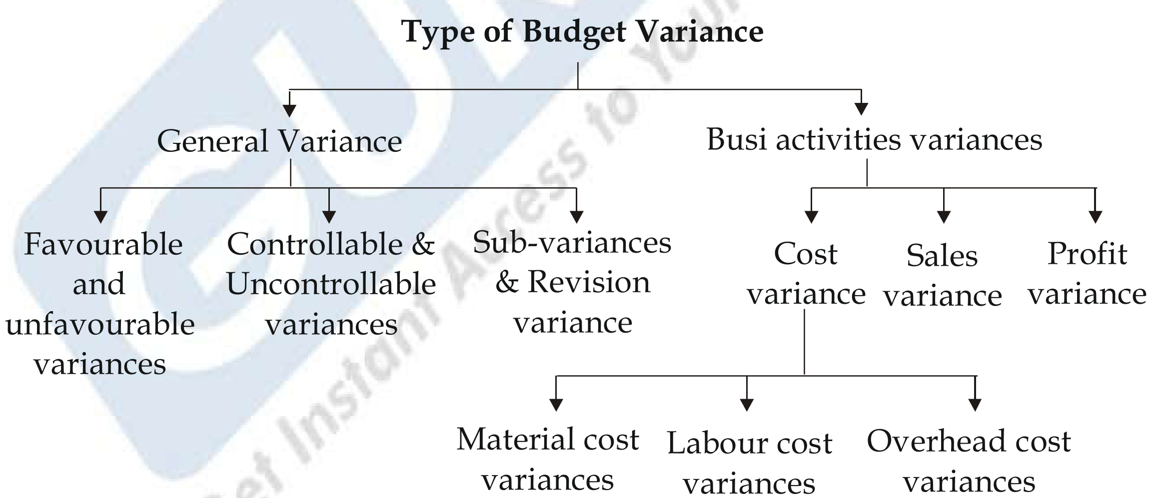
Ans. The difference between actual results and budget targets is budget variance and the examination of these variance and their explanation is the analysis of Budget Variances.

Utility or Objective of Variances Analysis-

(a) Performance Evaluation

(b) Cost control and cost reduction

(c) Mgmt by exception



Q.6. What are the General Variances?

Ans. **(1) Favourable Bariances :** It occurs when the difference between actual results and budget targets is in the interest of the firm.

(2) Unfavourable Variance : Arises when the difference between actual results and budgeted targets is against the interest for the firm.

(3) Zero Variances : The actual result and budget target are equal and differences is zero.

(4) Controllable Variances : Those variances which can be corrected by taking suitable action.

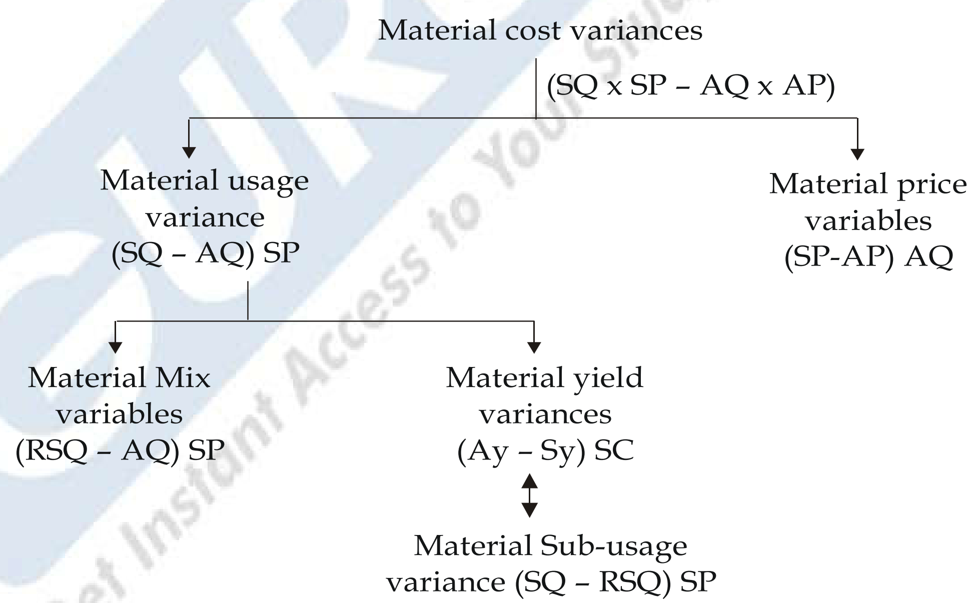
(5) Uncontrollable Variances : Those variances is due to extraneous causes and the responsibility to correct them can't be assigned to particular deptt or person.

(6) Sub-variance : The reason with which the variance arise.

(7) Revision Variance : Variances occur due to the difference between pre-determined budget target or std and revised budget target or std.

Q.7. How to calculate Business activities variances.

Ans.



SQ = Std Quantity for actual output means it can find when output in actual and standard are different

Means when AO $\neq$ SO

$$SQ = \frac{AO}{SO} \times SQ_{(given)}$$

RSQ = Revised Std Quantity for actual input mixture it can be find total of input mixture are different in actual and std means when AI $\neq$ SI

$$RSQ = \frac{AI}{SI} \times SQ_{(given)}$$

Sy = Std yield for actual input mixture it can be find when

AI $\neq$ SI

$$SY = \frac{AI}{SI} \times SO_{(given)}$$

SC = Std cost always find out

$$SC = \frac{TSC}{TSO}$$

TSC = Total Standard

TSO = Total Std output (given)

SP = Std price (given)

AQ = Actual quantity (given)

AP = Actual price (given)

Ay = Actual yield/output (given)

Verification

MCV = MUV + MPV

MUV = MMV + MYV

MYV = MSUV

MCV = MPV + MMV + MYV

MCV = MPV + MMV + MSUV

Sales Variances

- Sales value variance ($BQ \times SP - AQ \times AP$)
  - Sales Volume V ($BQ - AQ$) SP
    - Sales mix variance ($RBQ - AQ$) SP
    - Sales sub volume V ($BQ - RBQ$) SP
  - Sales Price V ($SP - AP$) AQ
- Sales margin value V ($BQ \times SP_t - AQ \times Ap_t$)
  - Sales margin Volume V ($BQ - AQ$) Sp_t
    - Sales margin sub- volume V ($BQ - RBQ$) Sp_t
    - Sales margin mix V ($RBQ - AQ$) Sp_t
  - Sales margin price V ($SP_t - Ap_t$) AQ

BQ = Budgeted quantity for sale

SP = Std price quantity for sale

AQ = Actual quantity for sale

AP = Actual price quantity for sale

SP_t = Std profit (Std price – Std. cost)

AP_t = Act profit (Actual price – Act. Cost)

Sometime only one cost is given then in this situation profit for both will be calculated by same cost figures.

RBQ = Revised Budgeted Quantity

$$RBQ = \frac{\text{Total Actual Sales Unit}}{\text{Total Bdtd. Sales Units}} \times \text{Budgeted sales unit of a particular pd.}$$

Labour Cost Variance

(SH X SR – AH x AR)

Labour efficiency variance
(SH-NAH) SR

Labour Idle time variance
(IT x SR)
(Negative always)

Labour Rate variance
(SR-AR) AH

Labour Mix variance
(RSH – NAH) SP

Labour Yield variance
(Ay – Sy) SC

Labour sub-efficiency variance
(SH – RSH) SP

SH = Std hr.
AH = Actual hr.
SR = Std. Rate
AR = Actual Rate
NAH = Net actual hr (Actual hr – Idle hr)
At every place when Idel hr is not given AH is used in place of NAH.
RSH = Revised std hr
Sy = Std yield/output
Ay = Actual yield/output
SC = Std. cost
TSH = Total Std hr
TNAH = Total Net Act. hr
SH = Find When AO $\neq$ SO
= AO/SO X SH (given)
RSH = Find when TNAH $\neq$ TSH
= TNAH / TSH x SH (given)
Sy = Find when TNAH $\neq$ TSH
= TNAH/TSH x SO (given)
SC = always find TSC/TSO
IT = Idle time

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Chapter-5

Analysis of Risk and Uncertainty

Q.1. Define Risk?

Ans. Risk is the variability which may likely be occurred in the future return from the project.

It may be define as the variability which may likely to accrue in future between the estimated/expected return and actual return.

Risk is that which is predictable and to which probabilities can be assigned and it can be insured.

Q.2. What do you mean by Uncertainty.

Ans. Uncertainty is that event which can't be predicted and therefore there is no question of assigning probability to it and it can't be insured.

Element of uncertainty have to be taken into a/c in the form of forcible risk while taking decision on investment proposals.

Q.3. Explain the type of Risk?

Ans. **(A) Busi Risk** = is the variability in earning due to normal business operations.

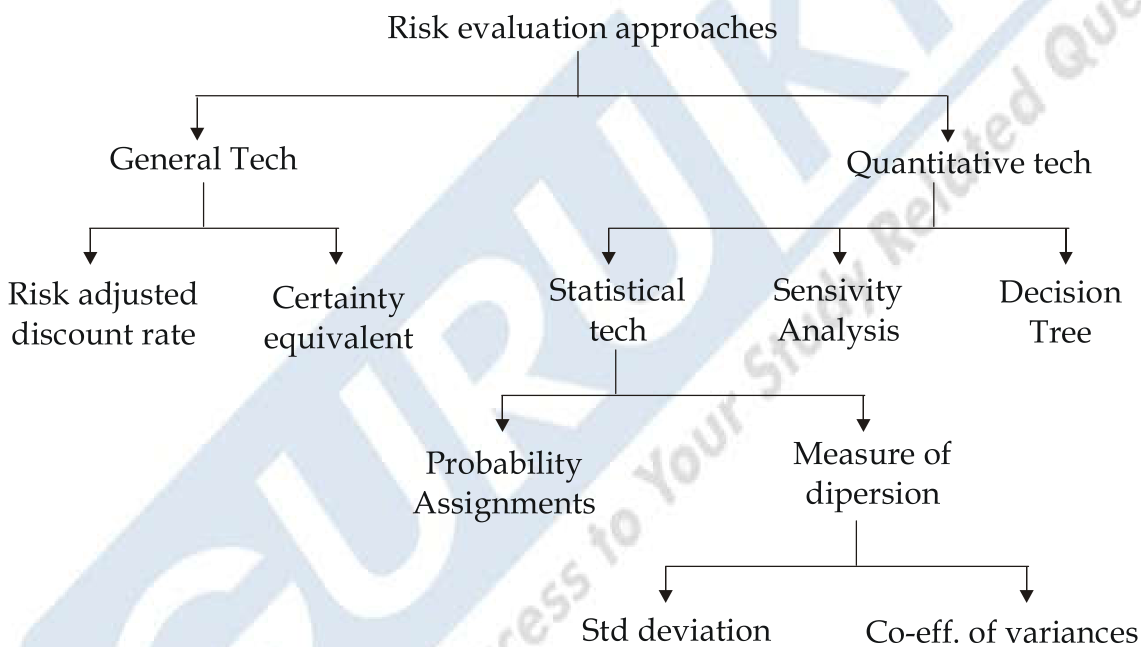
(B) Financial Risk = is the variability in earning due to change in capital structure.

(c) Investment Risk = is the variability in earned due to variations in cash inflows and outflows on a/c of forecasting errors technological changes etc.

(d) Porfolio risk = is the variability in earning due to degree of efficient diversification achieved by the firm in its operations & its overall portfolio of assets.

Q.4. How many approaches for evaluating risk.

Ans.



Q.5. Explain Risk Adjusted Discount Rate (RADR).
(Varying discount Rate method).

Ans. Risk adjusted discount rate = Risk Free Rate + Risk Premium Rate

Risk Free rate of return = rate of return at which cash flow should be discounted had there be in no risk.

It generally equally to rate of interest in mkt on govt securities.

Risk Premium Rate – The extra return over and above the risk free rate on a/c of perceived risk on investment.

Accept the proposal if risk adjusted N.P.V. is positive or even zero and reject the proposal if it is negative.

Q.6. What is Certainty Equivalent approach?

Ans. Cash flow are corrected and reduced to conservative level by multiplying them by certainty equivalent co-efficient.

$$\text{Certaiuty equivalent co-eft.} = \frac{\text{Riskless cash flows}}{\text{Risky cash flows}}$$

When NPV is positive, proposal should be accepted otherwise rejected.

Q.7. How we use the probability approach?

Ans. Probability means the likely hood of the happening of an events. When the even is bound to happen it may be said that it has a probability of 1 and if it is certain that the even will not occur at all it will have a zero probability thus probability will always like between 0 and 1.

The cash flow estimates should then be multipled by the probabilities assigned to them and the resultant figure are known as expected monetary values these expected monetary values are then discounted at a give rate to provide present values and NPV calculated.

Project which having + NPV is accepted otherwise rejected.

Q.8. What is meant by std. deviation in capital budgeting decision?

Ans. Std. devi is the measure of variability of cash flows from the expected cash flow. A project having larger std devi will be more risky as compared to the one having smaller std. devi.

So we selected that project who having less std. devi coz it less risky.

Std. deviation (σ) = $\sqrt{\rho d^2}$

ρ = Probability assigned

D = deviation (value – Avg. value)

Q.9. Give the formula of coff of variation & how we use it?

Ans. Std. deviation is a relative measure and the COV is a absolute measure. COV is the ratio of the std deviation to the expected or mean cash flows.

$$COV = \frac{\sigma}{Avg.} \times 100$$

The greater the co-efficient of variation, the greater is its variability and smaller is its consistency. The smaller the co-efficient and the greater is its consistency. So we select the proposal who having less COV means gives more consistant results.

Q.10. Explain the sensitivity analysis. What are its objects?

Ans. Sensitivity analysis is a tech to analyse change in the project's net present value (or internal rate of return) corresponding to a given change in one of the underlying factor or variable such as sales volume, selling price, variable cost etc.

Cash in flow estimates on
- Pessimistic
- Most likely
- Optimistic

Outcome associated with the project and the corresponding NPV are calculated. The larger is the differences between pessimistic and optimistic cash inflow, the more risky will be the project and vice versa.

Which project will be accepted will solely depend upon the attitude of the investor or decision maker toward risk. The sensitivity analysis will disclose only the degree of risk associated with a particular project.

Q.11. Describe the decision tree approach with the help of an example. How is this technique is useful in capital budgeting?

Ans. The investment decision involve a sequence of decision over time.

The sequence of events mapped out in a format resulting to branches of a tree.

The decision the reveals the sequential cash flow and the NPV of proposed projects under different circumstances.

Construction of Decision tree –

(a) Definition of the proposal.

(b) Identification of alternatives

(c) Graphing the decision tree

(e) Forecasting cash flow

(f) Evaluating results.

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Chapter-6

Zero Base Budgeting

Q.1. Explain in brief about Zero Base Budgeting (ZBB).

Ans. ZBB means formulated each time a new budget.

Acc to ICMA = "ZBB is a method of Budgeting where by all activities are re-evaluated each time a budget is formulated. Each functional budget starts with the Assumption that the function does not exist and is at zero costs. Increments of cost are compared with increments of benefits culminating in the planned max. benefits the given budgeted cost".

Process through which ZBB is prepared-

(a) Determination of the objective of budgeting.

(b) Identification of decision units.

(c) Development of Decision packages.

(d) Ranking of decision packages.

(e) Preparation of budget and allocation of resources.

(A) The objective may be to effect cost reduction or analyse and drop the projects which are not beneficial or which do not help in achieving the firms's objectives.

(B) Identification of decision units which is a tangible activity or group of activities for which a single manager has the responsibility for successful performance.

(c) A decision package is a budget request which should contain the following :

- A description of the function or activity.
- The goals or objectives of the function or activity.
- Specific measures of performance.
- Benefits to be derived from financing the activity.
- Consequences of its non-funding.
- The projected costs of the package.
- Alternative ways of performing the same activity.

(D) A decision package is ranked keeping the following point in view-

- Necessity of introducing programme
- Technical competence of the firm for attempting the prog.
- Economic benefit analysis relating to the prog.
- Operational feasibility of introducing the prog.
- Study of risks involved in abandoning the prog.

Q.2. Give advantages and limitation of ZBB

Ans.

Advantages	Limitations
1. Effective allocation resources	1. Implementation problems
2. Objective Budgeting	2. Decision packages formulation problems
3. Quick budget adjustments	3. Ranking problem
4. Cost control	4. Cost problem
5. Flexibility	
6. Better planning & comm.	
7. Use of responsibility A/cg	
8. Prompt corrective action	

Q.3. Differentiate Traditional Bdtg and ZBB

Ans.

Basis	**T.B.**	**ZBB**
Nature	Mainly lays its emphasis on previous yr exp	Decision oriented & make all projects to compete for scarce resources.
Basis	Past experience	Decision unit broken down into decision package which are ranked on priority basis.
Analysis	Deliberate manipulation is possible	Rational analysis
Decisive officer	Top mgmt take decision	Related to specified managers.
Approach	Routine approach	Straight forward approach.

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Chapter-7

Value Analysis

Q.1. Explain in brief regarding Value Analysis.

Ans. Value refers to economic value which itself can be sub-divided into

(A) Cost value

(B) Exchange value

(c) Use value

(i) Primary use value

(ii) Secondary use value

(iii) Ancillary use value

(d) Esteem Value

Value analysis is a technique that is used to avoid unnecessary cost and improve the utility of the existing product.

Value engineering is the application of the concepts of value analysis at the design or pre-manufacture stage of the component part with a view to cut down the unnecessary costs without improving the function or utility of the product.

Objective of Value analysis :

(a) Simplifying the product.

(b) Use of alternative cheaper material for manufacturing.

(c) Use of efficient and easier method of manufacturing.

(d) Reduction of production cost.

(e) Increase the utility of the product.

(f) Save money or increase in profits.

Different phases of value analysis-

(i) Origination phase – team & project selected.

(ii) Information phase – product studied & value index formed.

(iii) Innovative phase – generating new alternative

(iv) Evaluation phase – alternative are examine and best is selected.

(v) Choice phase – Report is prepared and presented.

(vi) Review phase – Followed up the whole changes.

Advantages of Value analysis :

- Improvement in product design.
- Elimination of wastage.
- Savings in costs
- Encourage team-spirits and morale.
- Wide spectrum of application.
- Building and improving co-image.

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Chapter-8

Product and Production Decision

Q.1. What is product?

Ans. Product means any object or service that is produced for the satisfaction of a customer needs.

(a) Consumer Goods : That goods which is produced for the use of end consumer such as bread.

(b) Industrial Product : That goods which is usually produced for the use in production or use in services.

Q.2. What do you mean by pdt decision?

Ans. Production means creation of utility.

Production decision means to come to some conclusion regarding quality, design, attributes, measurements, packing etc of finished goods produced or manufactured.

Areas of Product and Production Decision :

- Use of alternative production facilities.
- Determination of profitable level of production.
- Utilisation of full production capacity.

- Starting a new product in place of old.
- Determination of product mix based on key factor.

Q.3. Explain the basic approach in making the choice of alternative production facilities?

Ans. We have to select the most profitable alternative out of all the available alternatives. Implication of this choice can be

(a) Whether to adopt a technology which involves larger fixed cost but smaller per unit variable cost resulting in higher per unit contribution.	(b) Whether to adopt a technology which involves smaller fixed cost but higher per unit variable cost resulting in lower per unit contribution.
It involve higher risk but also prospects are of high profit if there is high margin of safety.	It involve lower risk but also low profit prospects.

Factors Influencing Choice of Technology-

- Extent of difference between fixed cost under the two alternatives.
- The extent of differences per unit contribution under the two alternatives.
- Capacity of the producer to arrange finance.
- Capacity of the producer to take risk.
- Degree of competition.

Basic approach is the plant which has higher fixed cost and lower per unit contribution is always inferior to a plant with lower fixed cost and higher per unit contribution and vice-versa.

Q.4. What is the most profitable level of production.

Ans. Max. profitable level for firm can be decided through differential cost analysis.

We form a table showing incremental revenue and differential cost are calculated by deducting the revenue and cost of previous level from the revenue and cost of succeeding level.

The level of production where this incremental revenue equals to incremental cost is the most optimum level of production.

The production could be continue till incremental revenue is equal or more than differential cost.

By producing more than this level the firm will suffer a loss.

Q.5. What factor should be considered while deciding about utilisation of full capacity?

Ans. The demand of a product goes on increasing in the market then the producer have to be used its unutilised production capacity if remain.

For this it has to think about-

- Additional fixed cost may or may not.
- Expected reduction in selling price may not.
- Adequacy of demand for increased production.

Decision take place on the basis of marginal cost or differential cost analysis by this if production getting profit than it will used the unutilised capacity otherwise not.

Q.6. How we take a decision of new product in place of old product in our production mix.

Ans. Generally when producer think to change of production of any product because of lots of market forces it studied profitability under both alternative that means existing and proposed alternative it should be studied by preparing marginal profit and loss a/c and that alternative should be selected which gives max. profit.

Q.7. What is Key factor

Ans. Any such factor which limits or restricts production or sale of firm and thus prevent it from making unlimited profit.

It is also know as 'limiting factors' 'principal factors' 'governing factors'.

Q.8. What do you mean by Product mix.

Ans. A combination of two or more products or services which a manufacturing firm present in the market.

The product mix is the ratio of various products to total production.

Q.9. How to determine the best product mix?

Ans. Best Product mix decided on the basis of max profitability through which combination of products.

When key factor is in operation, the contribution per unit of key factor should be the criterion to judge the profitability of a product, unavoidable fixed costs are irrelevant for decision making and the entire focus is on maximising total contribution.

$$\text{Profitability} = \frac{\text{Contribution per unit}}{\text{Key factor usage}}$$

I preference acc to yield highest contribution per unit by key factor and in the end that product should be produced which earns least contribution per unit of key factor and to the extent of availability of the key factor.

When in case there are a no. of key factor simultaneously than in this situation we used simultaneous equation method.

Even if one or more products could not be produced due to limiting factor, fixed cost relating to these products will be incurred and will be deducted from total contribution for ascertaining profit.

When sales is the key factor priority is determined on the basis of P/V ratio.

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Chapter-9

Project Planning & Feasibility Study

Q.1. Explain meaning of project.

Ans. A project is a specific activity on which money is spent in the expectation of returns.

A project can be considered as a proposal involving capital investment for the purpose of developing facilities to provide goods & services in a community during certain period of time.

Characteristics

(1) Pre-determined objective

(2) Time Perspective

(3) Single entity

(4) Resources

(5) Advance plng

(6) Life cycle

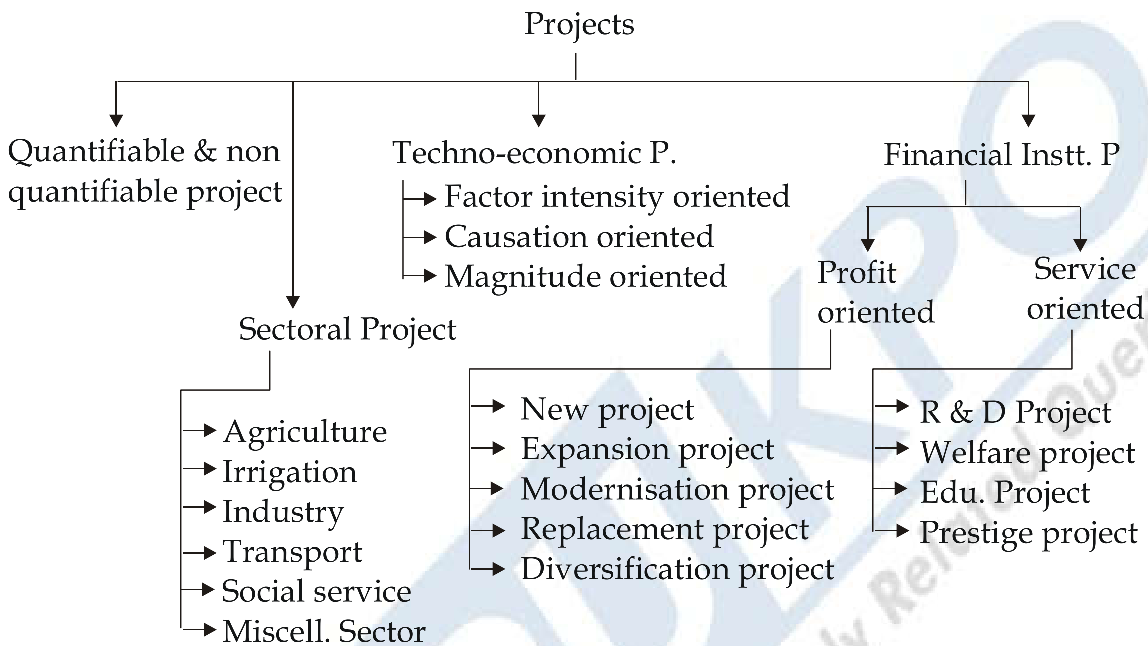
(7) Location

(8) Package of risk & uncertainty

(9) Performance measurement.

Q.2. Classify the type of Projects

Ans.



Q.3. Explain Project Appraisal?

Ans. It is a process of detailed examination of several aspects of a given projects before recommending the same.

The appraisal is done by different agencies at different stages.

- Promoters
- Financial Instt.
- Investors
- Regulatory bodies

Project appraisal on the following aspect of project.

- Apprasial
  - Technical appraisal
    - Location
    - Site
    - Tech
    - Layout
    - Process
    - Pd. Mix
    - Pt. capacity
    - Consultant
  - Mkt appraisal
    - Present demand
    - Future demand
    - Future price
    - Sales & dist
    - Competition
    - Socio-eco ground
    - Govt policy
  - Overall Social Cost Benefit Appraisal
  - Org. Appraisal
    - Type of org.
    - Strength
    - Personal policies
    - Org set up
  - Economic appraisal
    - Mkt revenue
    - Cost of pdt
    - Return or surplus
    - Risk & uncertainty
    - Tax factor
    - Expected cash flow
  - Financial Appraisal
    - Proper project cost
    - Capital structure
    - Identify source of fund
    - Invest. Decision
    - Max. return

Q.4. What is feasibility study?

Ans. Feasibility study is the process of investigating a problem and developing a solution in depth to determines its economic viability and worth of development.

Q.5. What is Technical feasibility study.

Ans. Tech. feasibility or analysis encompasses the tech. and eng. Aspect of the project.

The object of tech. feasibility is to assess the tech. soundness of the project in terms of the availability of all the required inputs.

- Material

- Tech.
- Tech. arrangement
- Pd. Mix
- Pt. capacity
- Pt. location & site
- Mach & equip
- Pt. layout
- Structure & civil works
- Environmental aspects
- Project scheduling.

Q.6. What is Financial Feasibility Study?

Ans. It is the detailed financial analysis of the project based on the mkt and technical feasibility studies regarding-

- cost of project
- means of finance
- Estimate of sales & cost of pdt.
- Working capital needs and its financing.
- Profitability projections
- Break-even point
- Projected cash flow statement
- Projected Balance sheet

Q.7. What is Economic Feasibility Study.

Ans. Eco. Feasibility is the analysis of cost of funds and return on investments over the life of the project to known whether the project should be able to give adequate return on the investment or not.

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Chapter-10

Business Forecasting

Q.1. What is Forecasting ?

Ans. A forecast is nothing more than an estimate of future condition.

Busi. Forecasting is a tech. to analyse the economic social and financial forces affecting the Busi. with an object of predicting future events on the basis of past and present information.

Characteristics :

1. Relates to Future Events.
2. Basis of Forecasts.
3. Use of Statistical Techniques.
4. Period of Forecast.
5. Knowledge of Future Expectation.

Assumption :

1. Regularity in Information.
2. Repetition of Past Events.
3. Adjustment in Present Context.

Objectives : The purpose of Forecasting is to provide urgnet with information on which it can base planning decision :

1. Indication of Future Events.
2. Formulation of Plans.
3. Basis of Busi. Decisions.
4. Safety from Fluctisation.
5. Profit Making.
6. Control on Trade Cycle.

Q.2. Differentiate Forecast from Budget. acc. to I.C.M.A.

Ans. Forecasting precedes the preparation of a Budget, it relates to probable events, whereas a budget is based on the implication of a forecast and relates to planned events.

Basis	Forecast	Budget
Nature	It is an statement of probable future events.	It is a target for future plan of action.
Tool of Control	Forecasts, being statement of future events, do not can note any seuse of control.	It is definite and precise and is an imp. tool of control.
Period	It is prepared for long period.	It is usually prepared for each A/Cg. period.
Scope	It deals with only a ltd. activity of busi.	It deals with the entire units.
Basis	It is prelivivary step for budgeting.	It begins when forecasting ends. Forecasts are converted into Budget.

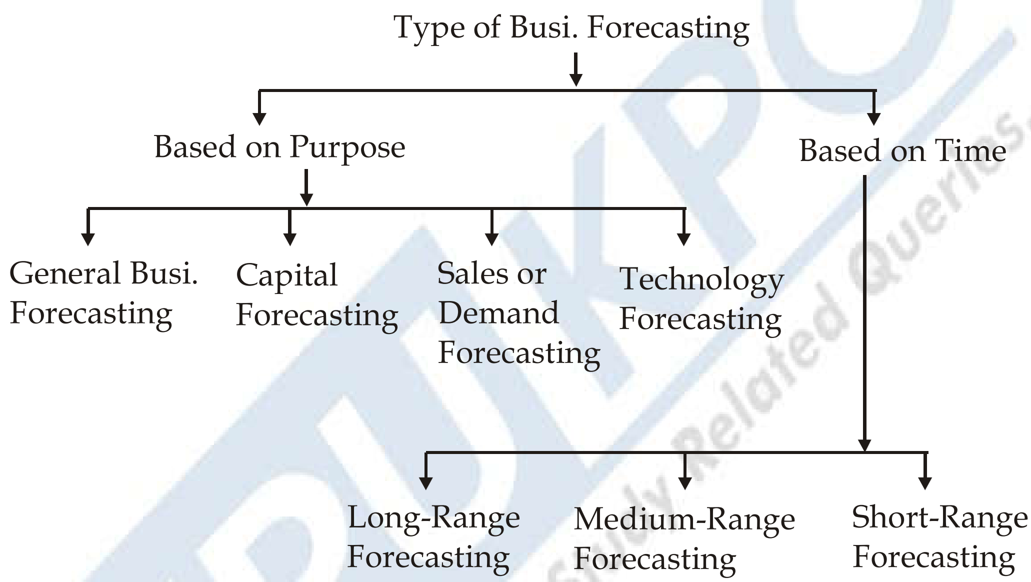
Q.3. Name all essential element for Busi. Forecasting.

Ans. 1. Knowledge of Economic Principle.
2. Adequate and Reliable Information.
3. Up-to-Date Information.

4. Accuracy in Forecasting.
5. Knowledge to Managers.
6. Period of Forecasts.

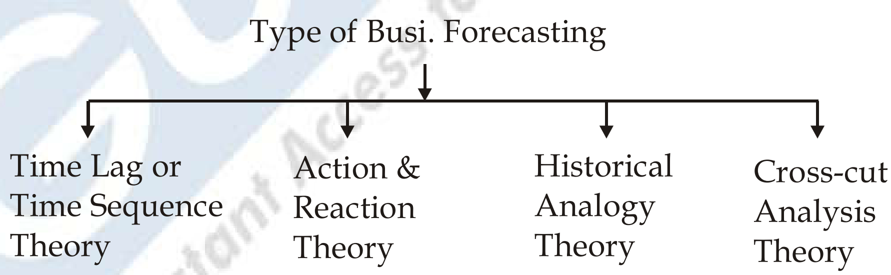
Q.4. Discuss various type of Busi. Forecasting.

Ans.



Q.5. Discuss Theories of Busi. Forecasting.

Ans.



(A) Time Lag or Time Sequence Theory : Acc. to this theory all changes occuring in busi. phenomena do not take place at the same time i.e. there is some time lag because and effect. In a time series, the long term variation do not take place at one time but they occur in a certain sequence i.e. there is certain time lag except irregular and seasonal variation. All these changes do not occur simubteneously but take some time that is known as time lag. This time lag can be determined with the help of graphic method and co-efficient of correlation.

Merits	Demerits
1. Simple	1. Only show time aualogy.
2. Acc. to time lag future action take place.	2. Does not explain the reaction.
3. Helpful to Govt. in controlling eco. & Fin. situation.	3. Complete accuracy is a myth.

(B) Action & Reaction Theory : "For every action there is always equal and opposite reaction."

The order of action & reaction continues and forecasts are made on this basis the time lag between action & reaction of business events and normal level of activity caube determined on the basis of past experience & current changes.

Merits	Demerits
1. It consider both aspect action & reaction.	1. Normal level of activity is not fixed.
2. Results are more intellegent, logical, nearer to truth.	2. Not necessary every activity having reaction.

(C) Historical Anology Theory : Whatever has happened earlier will happer again under a same set of circumtances.

Merits	Demerits
1. Basis on past result so more nearer to realtity.	1. Based on past condition & not get attention of present.
2. More useful for forecasting trade cycle.	2. Present & past condition treated similar, not possible.

(D) Cross-cut Analysis Theory : Present business activity is the result of exsiting circumtauces e.g. Existing economic, social, political, govt. tast, income etc. do have major impact on business activities. But the combined effect of these various factors is not studied, the effect of each factors that has a bearing on the forecast is studied independently and based on them busi. forecasts are made.

Merits	Demerits
1. All factor studied separately so result are accurate. 2. Changing govt. is more imp. rather past evets.	1. All factor study is not easy task. 2. Only present condition studed.

Q.6. Give Essential Steps for Business Forecasting.

Ans. 1. Developing the base.
2. Estimating Future Business Operations.
3. Future Projections.
4. Regulating Forecasts.
5. Reviewing Forecasting Process.

Q.7. What is the Importance of Business Forecasting ?

Ans. 1. Establishment of New Business.
2. Determination of Financial Requirements.
3. Helps in Mgmt. Decision.
4. Co-ordination in sales and Production.
5. Control of trade cycle.
6. Formulation of plans.
7. Encourages Co-operation and Co-ordination.
8. Aids in control.
9. Success in Business.

Q.8. What are the limitation of business Forecasting ?

Ans. 1. Not absolute trutle.

2. Existence of Uncertainty.

3. Based on Assumption.

4. Time and Cost Factor.

Q.9. Explain most important and qeuerally used method for Busi. Forecasting.

Ans.

Forecasting Method

- Subjective Method
  - Historical Anology Method
  - Deductive Method
  - Joint Consultation Method
  - Opinion Polling Method
  - Mrt. Research Method
- Statistical Method
  - Barometric
  - Time Series
  - Regression
  - Correlation
  - Extrapolation
  - Econometric

(A) Historical Anology Method : It refers to the projection of trends on the basis of past events. The historical requence of events is analysed as a basis for understanding the present situation and forecasting the future trends.

(B) Deductive Method : This method takes into consideration not only the historical sequence of events but also the latest development.

(C) Joint Consultation Method : It utilise the collective opinion, judgement & experience of various experts.

(D) Opinion Polling Method :

1. Opinion of Deptt. Heads : The head of each deptt. prepares forecasts about the likely requirements to overcome the problem related to his deptt. as he is fully aware of the problem of his deptt. These manager analyse the problem with past historical data and existing busi. scenario and make prediction based on his own experience, knowledge, ability and foresightedness.

2. Opinion of the Jobmen : Jobmen are more closer to the work they estimate all fiquere and submit the head of deptt. after approval of him this will be forecast.

(E) Mrt. Research Method : The tech. require considerable collection of market data through questionnaries, survey and analysis of market variables. This method adopted by large busi. concern where seperate research deptt. exist. It may also be used for short term forecast.

Statistical Method :

(A) Barometer : The various index no. relating to different business activity guide the businessmen in taking decision on many problem. eg. wholesale price index, consumer price index, stock mkt. index, agriculture index etc. Hence they are called business barometers.

(B) Time Series Analysis :

$Y = T + C + S + I$ | $Y = T \times C \times S \times I$

Y = Sales C = Cyclical I = Irregular factors

T = Trend S = Seasonal

In long term forecast iqnore seasonal & Irreqular factor. In medium term forecast cyclical & seasonal effect more. In short term forecast mainly concerm Irreqular factors.

For finding trend impact different method are used :

(A) Graphic (B) Semi Arg. (C) Moving Arg. (D) Least Square Method Majourely (E) *Least Square Method Used*

$$Y = A + Bx$$

$$\varepsilon Y = Na + B\varepsilon X \qquad \text{...(i)}$$

$$\varepsilon XY = a\varepsilon X + b\varepsilon X^2 \qquad \text{...(ii)}$$

Simultaneous solved the (i) & (ii) equation find the constant of a & b, put them in main equation & than predict any year sales data.

(C) Regression & Correlation Analysis : Correlation analysis examine the degree of relationship between two variable and is associated with regression equation representing the variation of one or more independent variable with one dependent variable.

Correlation can be find as follows :

$$r = \frac{\Sigma XY - \frac{\Sigma X \, \Sigma Y}{N}}{\sqrt{\left(\Sigma X^2 - \frac{(\Sigma X)^2}{N}\right)\left(\Sigma Y^2 - \frac{(\Sigma Y)^2}{N}\right)}}$$

reqression equation as follows :

$$(Y - \overline{Y}) = byx \, (X - \overline{X})$$

$\overline{Y}$ = mean of Y

$\overline{X}$ = mean of X

$$by\,X = r \, \frac{\sigma_y}{\sigma_x}$$

$$by\,X = \frac{\Sigma XY - \frac{\Sigma X \, \Sigma Y}{N}}{\Sigma X^2 - \frac{(\Sigma X)^2}{N}}$$

$$(X - \overline{X}) = bxy \, (Y - \overline{Y})$$

$\overline{Y}$ = mean of Y

$\overline{X}$ = mean of X

$$by\,Y = r \, \frac{\sigma_x}{\sigma_y}$$

$$by\,Y = \frac{\Sigma XY - \frac{\Sigma X \, \Sigma Y}{N}}{\Sigma Y^2 - \frac{(\Sigma Y)^2}{N}}$$

(D) Extrapolation or Mathematical Projection : It is the process of estimating a value of some future period based on some assumption.

(E) Econometric Analysis Method : In econometric model take the form of a set of simulataneous equation on the basis of emparical data, economic theory, mathematics & statistics.

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