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DETAILED TECHNO-ECONOMIC
CUM PRE-INVESTMENT PROJECT
REPORT

ON

(BAKERY BISCUIT MAKING UNIT)

FOR

INTRODUCTION

A bakery (also called baker's shop or bakehouse) is an establishment which produces or/and sells bread, pies, pastries, cakes & cupcakes, biscuits, cookies, muffins, rolls, pretzels, doughnuts, and other baked goods prepared by bakers. Many retail bakeries are also cafés, serving coffee and tea to customers who wish to enjoy the freshly baked goods on the bakery's premises.

Bakery Industry in India is the largest of the food industries with an annual turnover of about Rs. 3000 Crores. India is the second largest producer of biscuits after USA. The biscuit industry in India Comprises of organized and un - organized sectors. Bread and biscuit form the major baked food accounting for over 80% of the total bakery products produced in the country. The quantities of bread and biscuits produced are more or less the same. However the value of biscuits is more than bread. The industry has traditionally been and largely continues to be in the un organized sector contributing over 70% of the total production. Bakery products once considered as sick mans diet, have now become an essential food items of the vast majority of population. Though bakery industry in India has been in existence since long, real fillip comes only In the later part of 20th century. The contributing factors were urbanization, resulting in increased demand for ready to eat products at reasonable costs etc. Biscuit making is a conventional activity in many parts of the country. Despite the advent of modern, large capacity and automatic biscuit making plants, large section of people especially in semi-urban and rural areas still prefer fresh biscuits from local bakery as they are cheap and offer many varieties. These manufacturers are able to cater to some typical local palate as well. Thus, they are able to withstand competition from organised sector units.

PRODUCTS Applications

Biscuits are eaten by all sections of people across the board round the year. They are, thus, mass consumption items with number of varieties and shapes.

The market is scattered. There are some dominant national and regional brands. Biscuits can be manufactured at a location which is close to the market.

Quality Standards and Compliances

The BIS has specified quality standards vide IS 1011:1992. Compliance with PFA Act is necessary.

MARKET POTENTIAL

Demand and Supply

Market for biscuits is scattered all over the country. There are three distinct market segments viz. urban, semi-urban and rural. Urban and semi-urban markets are dominated by many national and regional brands but even then many local manufacturers have also carved a special niche as their products are fresh, they offer many varieties and they are cheaper.

Marketing Strategy:

Rural and certain semi-urban markets are mainly captured by small manufacturers. This note primarily suggests to enter this market. Apart from domestic customers, there is a vast market at bus and taxi stands, railway stations, weekly hats or bazaars, highway eateries or dhabas and melas or fairs. A small delivery vehicle can take care of destinations located in the vicinity of about 50-60 km. Attractive margins to traders/retailers will be crucial.

MANUFACTURING PROCESS

The process is conventional and easy. Wheat flour along with other ingredients is mixed with water and dough is prepared. Then it is kept at a normal room temperature for about couple of hours to allow proper fermentation. Then it is placed in biscuit moulding trays and these trays are placed in oven for baking.

After requisite baking, trays are taken out, cooled and biscuits are packed. The process flow chart is as under:

Mixing and Dough Making

Fermentation

Baking

Packing

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PROJECT COST SUMMARY			
S.NO	PARTICULARS		AMOUNT(LACS)
1	Land		----
2	Civil Works		4.20
3	Plant & Machinery		1.55
4	Miscellaneous Fixed Assets		0.30
5	Preliminary & Preoperative expenses		0.50
6	Working Capital Requirement		3.45
			10.00
MEANS OF FINANCE			
1	Promoters Contribution		0.50
2	Seed Capital		3.00
3	Bank Loan		6.50
DETAILS OF LOANS			
A	Long Term Investment		6.55
1	Promoters Contribution/Seed Money		2.24
2	Term Loan From Bank		4.26
B	Working Capital Requirement		3.45
1	Promoters Contribution/Seed Money		1.21
2	Working Capital Finance From Bank		2.24

POLLUTION NORMS

The technology involved for the manufacture of BAKED BISCUITS is simple and is available indigenously. In the proposed unit BAKED BISCUITS shall be manufactured out of flour, Sugar and Glucose, butter etc. as main ingredients. During Machine operation certain amount of noise will be produced which is well within the limits. Since the unit shall maintain the production section in enclosed walls, therefore it will not have any adverse effect on the local inhabitants.

1: Apart from the other recommendations, the promoter has agreed in principle that he will strictly adhere pollution norms as and when shall be implemented and shall use all possible devices to prevent pollution measures.

2: Adequate provisions of toilets, septic and soakage pit has been made to take care of human wastage and the waste water before discharging in the main drainage system, hence, there is no effluents discharged in the form of solid, liquid and gaseous and the plant, thus is considered free from the pollution aspects.

PROJECT PLANNING AND CONTROL-CONSTRUCTION SCHEDULE

Project planning and control are important aspect that affects the effective and efficient completion of the project. The promoter has an impact on the Planning schedule of the proposed project. Planning implies developing the overall layout of the project with estimates of the time and resources required and the detailed scheduling of the timing and sequence of various jobs to be performed. The control on the other hand, takes place during the work on the project. In the present project critical path method (CPM) is used for both planning and control of the project. The total project activities can be broadly divided into two groups. In the first group, there will be activities, involving interactions with various government departments, such as: registration of the firm, sanction of power connection, no objection certificate from pollution board and environment, sanction of short and long term loan from financial institutions.

In the second group the various activities will be obtaining necessary know how from the consultants or collaboration in the form of drawings and specifications, preparation of tender documents, selection of vendors for procurement of machinery and materials, construction of the proposed civil structures and Installation of requisite plant and machinery and their peripheral besides misc.fixed assets, start up and training a personnel etc. The total work involved in the construction of the proposed civil structures and commissions of the project will be rationally divided into logical components and further into a moderate number of contracts. Plant layout drawings, design of various parts of the proposed building and design or specifications of various items of the equipment and machinery will be prepared by Competent/reputed consultants for the project.

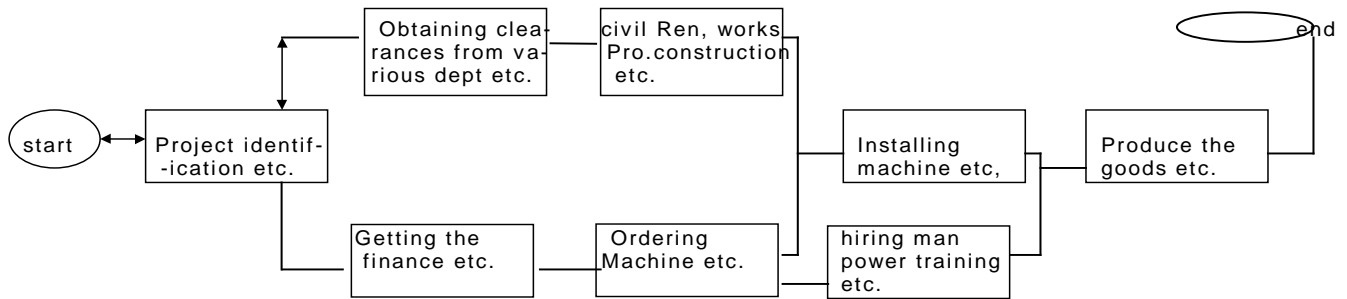
LIST OF ACTIVITIES AND PRECEDENCE

S.no	Activity	Description	Duration	Immediate predecessor (s)
1.	A	Project identification, evaluation, marketing research analysis, selection, and preparation of project report, firm registration, provisional registration, site identification.	2 months	—
2.	B	Obtaining clearance from various departments, machinery details and other technical information about the proposed project.	2 months	A
3.	C	Getting the finance sanctioned from various financial institutes	3 month	A
4.	D	Site development and construction of civil works. (can be started with promoters equity)	4 month	B

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5.	E	Ordering and obtaining the machine and other misc.fixed assets	1 months	C
6.	F	Installing the machine	2 month	DE
7.	G	Hiring the manpower & training the same	2 month	E
8.	H	Commencement of commercial production(Trail)	1 months	FG



Precedence relationship of various activities.

PATHS	ACTIVITIES	LENGTH (Months)
1-2-3-5-7-8	A B D F H	11-12
1-2-4-6-7-8	A C E G H	9-10
1-2-4-6-5-7-8	A C E F H	9-10

Critical path is 1-2-3-5-7-8 i.e. ABDFH. Activities on this path are critical activities and the delay in one of these activities will cause a delay in the whole project. The critical path is the bottle neck path in the project network.

The critical activities do not permit any flexibility in scheduling. Therefore, it will take 11-12 months for the completion of the whole project as per the specified assumptions of different activities.

Manpower

The category wise break-up manpower including salary as shown . A Manager who would be assisted by his selected staff member to look after accounts as well as procurement of raw material and sale of the product would look after the operations of the factory. Regarding technical staff, the production function would be looked after by a production foreman/supervisor who would be assisted by machine and other skilled operators to look after various jobs. The unit would provide employment opportunities to 8 numbers of persons including those required under administrative categories. The break up of requirement, monthly salary, annual salary as well as total cost on manpower. Necessary provision of perks and annual increase in salaries made in the estimates. It may be mentioned that except for the technical staff all the manpower will be recruited from local sources, if need arises, the same could be recruited from the neighboring states.

DETAILS AND ESTIMATED COST OF CIVIL WORLKS

DETAILS OF CIVIL WORKS					
S.NO	PARTICULARS	Dimensions	Covered Area	Rate SFT	Amount(Rs in lacs)
1	Production Shed	15' x20'	300	500	1.50
2	Bhatti	15' x 15'			1.00
3	Labour Room 2 nd story	10' x 12'	120	450	0.54
4	Bathroom	6' x 6'	36	500	0.18
5	Showroom Office	15 x 13	195	500	0.98
		Total			4.20

DETAILS OF PRELIMINARY & PRE-OPERATIVE EXPENSES			
S.NO	PARTICULARS		AMOUNT(LACS)
1	Traveling & Conveyance		0.02
2	Printing & Stationary		0.03
3	Professional Charges		0.02
4	Misc. Expenses		0.05
5	Interest During Moratorium		0.38
			0.50

DETAILS OF MISCELLANEOUS FIXED ASSETS			
S.NO	PARTICULARS		AMOUNT(LACS)
1	Table and chairs 2 sets		0.10
2	Fixtures in Shop and Working Benches	LS	0.30
3	Fire Extinguisher	2	0.10
			0.50

DETAILS AND ESTIMATED COST ON PLANT AND MACHINERY

While arriving at the requirement of various types of equipment and machinery required for the plant, due consideration has been given to the following points.

- Minimum wastage.
- High productivity.
- Maximum flexibility in operation.
- Adequate stand by provision where ever necessary.

The production plant and equipment proposed have been selected for the envisaged production capacity and incorporates features that permit smooth operation of the plant. After making a preliminary study of the source of supply of such equipment it has been identified that all the equipments will be available indigenously and no imports will be necessary.

The concern is expected to purchase the requisite machinery from reputed authorized dealer, who would also assist in the installation of plant and machinery. For estimating the cost on plant and machinery the quotations provided to us by the promoter has been taken into account.

The details of plant & machinery is as follows: –

DETAILS OF PLANT & MACHINERY			
S.NO	Particulars	Qty	Amount(Rs)
1	FLOUR SIFTER	1	0.30
2	SEALING PACKAGING MACHINE	1	0.30
3	PLANETARY MIXER (3 SPEED SYSTEM STEEL BODY CAPACITY 25 KGS PER HOUR 2 KW	1	0.50
3	WORKING TABLES WITH S.S/ ALUMINIUM TOP	2	0.10
4	WEIGHING BALANCE PLATFORM TYPE	1	0.05
5	ALUMINIUM VESSELS, MATS, CUPS, MUGS, LADLE, SPOONS, GLOVES		0.20
6	ELECTRIFICATION AND INSTALLATION @ 10% OF COST OF MACHINERY		0.10
		Total Cost	1.55

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INSTALLED CAPACITY AND PRODUCTION PROGRAMME AT 100% CAPACITY UTILIZATION

ASSORTED BISCUITS IN DIFFERENT PACKINGS 100 KGS A DAY

FOR 300 DAYS OF THE YEAR 30000 KGS

PACKINGS:

- A) 250 GMS
- B) 350 GMS
- C) 500 GMS

SALES REALIZATION AT 100% CAPACITY UTILIZATION

S.NO	PARTICULARS	RATE (RS)	QUANTITY	AMOUNT IN RS LACS
01	250 GMS	30	30000	9.00
02	350 GMS	40	21428	8.57
03	500 GMS	50	30000	15.00
	TOTAL SALES			32.57

PURCHASES AT 100% CAPACITY UTILIZATION

S.NO	PARTICULARS	QUANTITY	RATE IN RS.	AMOUNT
01	WHEAT FLOUR	21 TONNES	22000	4.62
02	YEAST	1 TONNE	80000	0.80
03	SUGAR	12 TONNES	40000	4.80
04	GHEE	1.5 TONNE	150000	2.25
05	MILK POWDER	0.20 TONNE	130000	0.26
06	SALT	0.50 TONNE	10000	0.10
07	EDIBLE COLORS AND FLAVOURS	L.S.		0.50
08	PACKING MATERIAL	L.S.		1.62
				14.95

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YEAR	CAPACITY	SAL/WAG	PURCHASE	UTILITIES	SALES
	UTILISATION		(Lacs)		(lacs)
1ST	50.00	1.68	7.48	0.24	16.29
2ND	55.00	1.85	8.22	0.26	17.91
3RD	60.00	2.02	8.97	0.28	19.54
4TH	65.00	2.18	9.72	0.31	21.17
5TH	70.00	2.35	10.47	0.33	22.80
6TH	75.00	2.52	11.21	0.35	24.43
7TH	80.00	2.69	11.96	0.38	26.06
8TH	80.00	2.69	11.96	0.38	26.06

STATEMENT OF CULCATION OF MANPOWER REQUIREMENT & THEIR REMUNERATION					
S.NO	PARTICULARS	Nos	Salary Per Month	Total Per Annum	
1	Manager/Accountant SELF	1	5000	60000.00	
2	Supervisor	1	5000	60000.00	
3	Skilled Workers	3	3500	126000.00	
4	UnSkilled Workers	3	2500	90000.00	
	TOTAL	8	Say	Rs. 3.36 Lacs	

ESTIMATED COST OF UTILITIES PER ANNUM

The main utilities for running the unit successfully are water and electricity.

• **Power**

• **Water**

1	Total connected load	= 5 hp or 3.73 KW
2.	Total power load after taking load factor (0.89)	= 3.32 KW
3.	Power consumption per annum	= 7968 Kwhr
4.	From PDD (80%) @ 2.50 Kwhr	= Rs 15936 /
5.	From own generator @ Rs. 6.00	= Rs 9561 /
6.	Coal for oven	= Rs. 20000/

Total = **Rs 45497/**

B) Water

The proposed venture being water intensive, requires extensive water for currying purposes, the unit as such has been facilitated with tube- well besides normal supply from P.H.E deptt,. The departmental supply shall mostly be utilized for drinking and sanitation purposes, which is available at cheaper rates from P.H.E Department. However under certain unfavorable conditions Rs 1,000 / annum has been kept on account of water

Total cost on Utilities (A + B) **Rs 46497/ Say Rs 0.47 Lacs**

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REPAIRS AND MAINTENANCE PER ANNUM.

On the basis of norms available from similar plants in actual operation provision has been made for annual cost of maintenance and repairs for the proposed items of fixed out lay. It has been taken as 2%, 3%, 4%, 5%, 5%, 6%, 6% and 6% for 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th year to keep the fixed assets in working conditions.

REPAIRS AND MAINTENANCE PER ANNUM.

Year	Percentage	Building	P&M	MFA	Total	R & M
1st	2%	4.20	1.55	0.30	6.05	0.12
2nd	3%	4.20	1.55	0.30	6.05	0.18
3rd	4%	4.20	1.55	0.30	6.05	0.24
4th	5%	4.20	1.55	0.30	6.05	0.30
5th	5%	4.20	1.55	0.30	6.05	0.30
6th	6%	4.20	1.55	0.30	6.05	0.36
7th	6%	4.20	1.55	0.30	6.05	0.36
8th	6%	4.20	1.55	0.30	6.05	0.36

DETAILS OF ADMINISTRATIVE EXPENSES PER ANNUM

It is taken as 1% of net sales in every year which includes printing, traveling, telegraph, petty expenses, audit fee, telephone bills, legal fee, bank charges and other sundry expenses both for the basic program shall be worked out as:

Year	Capacity Utilization	Sales	%	
1 st	50.00	16.29	1	0.16
2 nd	55.00	17.91	1	0.18
3 rd	60.00	19.54	1	0.20
4 th	65.00	21.17	1	0.21
5 th	70.00	22.80	1	0.23
6 th	75.00	24.43	1	0.24
7 th	80.00	26.06	1	0.26
8 th	80.00	26.06	1	0.26

DETAILS OF SELLING EXPENSES PER ANNUM

It is taken as 6 % of net sales in every year, which includes sales promotion expenses, advertising expenses, commission to intermediaries, carriage outwards, discount, brokerage and Annual Rent of the Premises etc.

<u>Year</u>	<u>Cap. Utiliz</u>	<u>Sales</u>	<u>%</u>	<u>Selling expenses/annum</u>
1 st	50.00	16.29	6	0.98
2 nd	55.00	17.91	6	1.07
3 rd	60.00	19.54	6	1.17
4 th	65.00	21.17	6	1.27
5 th	70.00	22.80	6	1.37
6 th	75.00	24.43	6	1.47
7 th	80.00	26.06	6	1.56
8 th	80.00	26.06	6	1.56

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DETAILS OF WORKING CAPITAL REQUIREMENT AT DIFFERENT LEVELS.

YEAR	CAPACITY	SAL/WAG	PURCHASE	UTILITIES	SALES	Repair	Admn.	Selling	WIP	F.Goods
	UTILISATION		(Lacs)		(lacs)	Maint.	Expen.	Expen.		
1ST	50.00	1.68	7.48	0.24	16.29	0.12	0.16	0.98	9.39	10.53
2ND	55.00	1.85	8.22	0.26	17.91	0.18	0.18	1.07	10.33	11.58
3RD	60.00	2.02	8.97	0.28	19.54	0.24	0.20	1.17	11.27	12.64

S.no	Particulars		1st Year		2 nd year		3rd year	
		Days	50.00 Amount	Margin	55.00 Amount	Margin	60.00 Amount	Margin
1	Stock of Raw Material	30	0.75	0.00	0.82	0.00	0.90	0.00
2	Stock of work in progress	2	0.06	0.00	0.07	0.00	0.08	0.00
3	Stock of finished goods	10	0.35	0.00	0.39	0.00	0.42	0.00
4	Sundry debtors	45	2.44	0.00	2.69	0.00	2.93	0.00
5	Working expenses	30	0.02	0.02	0.02	0.02	0.02	0.02
6	Sundry Creditors	7	0.17		0.19		0.21	
7	Working capital requirement		3.45		3.79		4.14	
8	Margin money			1.21		1.21		1.21
9	Working capital limit		2.24		2.58		2.93	

FUNDING OF CAPITAL EXPENDITURE

The total capital investment cost of the project is estimated at Rs.10.00 Lakhs, which shall be financed for term loan as per the projections made in the report subject to furnishing of latest cost comparative quotations from the authorized dealers besides contribution from the promoters during the implementation of the project, the specific details interalia as:

S.no	Particulars	Amt.(Lacs)
1	Promoters contribution	0.50
2	Seed Capital	3.00
2	Long term borrowings	4.26

A: Equity

The share capital of the unit has been fixed at Rs.3.50 Lakhs comprising 35 % of the total project cost and seed capital forms 3.00 lacs. The unit has to raise share capital within this limit. The promoter shall arrange remaining equity from the ancestral resources and from the established business of the family for the purpose of availing long term borrowings.

B: Term loan

Term loan requirement to the extent of Rs. 4.26 Lakhs for the purpose of purchases of plant & machinery and misc. fixed assets shall be made available from the financial institutions or commercial banks well operating in the valley on the basis that the unit being proven technically feasible and financially viable. As the policies are liberal for such type of ventures to avail packages/incentives to encourage the entrepreneurs to promote industrial culture in the backward area of the country. The state Govt. is equally eager to give all possible support to the development of industry in the area, where the unit is being established more so when the promoter share is about 35% of the capital formulation, which is higher than the normal requirement of funding, insisted upon by the bankers.

INTEREST CALCULATION

It is proposed to raise the sum of Rs 4.26 lacs as long term loans from financial institutions to meet the capital cost of the project. For the purpose of calculating the interest on long-term loans an interest rate of 9.00% per annum is taken into consideration in the project report.

A: Interest on long term loan

S.no	Particulars	Amt.(Lacs)
		4.26
01.	Long term borrowings	
02.	Rate of interest	9.00%
03.	Installment	Rs. 0.71 Lacs/Annum
04.	Repayment schedule	7 years
05.	Moratorium Period	12 Months

YEAR	INT T/Loan	T.Loan	Decrease	Yr.Term	Rem. Term
		Payment	Term Loan	Loan Paym.	Loan
1	0.38	0.00	0.00	0.00	4.26
2	0.38	0.71	0.71	0.71	3.55
3	0.32	0.71	1.42	0.71	2.84
4	0.26	0.71	2.13	0.71	2.13
5	0.19	0.71	2.84	0.71	1.42
6	0.13	0.71	3.55	0.71	0.71
7	0.06	0.71	4.26	0.71	0.00

B: INTEREST ON WORKING CAPITAL LIMIT

To meet the working capital requirements of the project, the promoters will have to make arrangements for cash credit facilities with the nationalized bank.

RATE OF INTEREST	9.00%
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YEAR	INT W/C	Increase w/ Cap	Increase Curr. Asse	Current Assets	Working Capital
1	0.20	2.24	3.45	3.45	2.24
2	0.23	0.34	0.34	3.79	2.58
3	0.26	0.34	0.34	4.14	2.93
4	0.26	0.00	0.00	4.14	2.93
5	0.26	0.00	0.00	4.14	2.93
6	0.26	0.00	0.00	4.14	2.93
7	0.26	0.00	0.00	4.14	2.93
8	0.26	0.00	0.00	4.14	2.93

COMPUTATION OF DEPRECIATION CALCULATION

For the purpose of claiming extra depreciation and amortization, the preoperative expenses and contingencies will be capitalized with the cost of fixed assets. The distribution of pre-operative expenses and contingencies has been done approximately in proportion to the cost of all the fixed assets (except land and site development). In the estimation of cost of sales and in books of accounts of the firm the normally adopted practice is to depreciate the various assets by straight-line method.

For income tax purposes, the depreciation of depreciable assets (all fixed assets except land and site development) is carried out by written down value method.

COMPUTATION OF DEPRICIATION

<u>S.no</u>	<u>Particulars</u>	<u>Building</u>	<u>P&M</u>	<u>MFA</u>	<u>Total</u>
1	Cost Price	4.20	1.55	0.30	6.05
2	Preliminary & Preoperative exp.	0.35	0.13	0.02	0.50
	Total	4.55	1.68	0.32	6.55

Depreciation under WDV method

		BUILDING		
Rate of depreciation			6.25%	
		Cost	Dep	WDV
1st	Year	4.55	0.28	4.26
2nd	Year	4.26	0.27	4.00
3rd	Year	4.00	0.25	3.75
4th	Year	3.75	0.23	3.51
5th	Year	3.51	0.22	3.29
6th	Year	3.29	0.21	3.09
7th	Year	3.09	0.19	2.89
8th	Year	2.89	0.18	2.71

Depreciation under WDV method

		Plant & Machinery		
Rate of depreciation			10%	
		Cost	Dep	WDV
1st	Year	1.68	0.17	1.51
2nd	year	1.51	0.15	1.36
3rd	Year	1.36	0.14	1.22
4th	Year	1.22	0.12	1.10
5th	Year	1.10	0.11	0.99
6th	Year	0.99	0.10	0.89
7th	Year	0.89	0.09	0.80
8th	Year	0.80	0.08	0.72

Depreciation under WDV method

Rate of depreciation		Misc. Fixed Assets	
		15%	

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		Cost	Dep	WDV
1st	Year	0.32	0.05	0.28
2nd	Year	0.28	0.04	0.23
3rd	Year	0.23	0.04	0.20
4th	Year	0.20	0.03	0.17
5th	Year	0.17	0.03	0.14
6th	Year	0.14	0.02	0.12
7th	Year	0.12	0.02	0.10
8th	Year	0.10	0.02	0.09

Depreciation under WDV method

		<u>Building</u>	<u>P&M</u>	<u>M F A</u>	<u>Total</u>
	Rate of depreciation	6.25%	10%	15%	
1st	Year	0.28	0.17	0.05	0.50
2nd	Year	0.27	0.15	0.04	0.46
3rd	Year	0.25	0.14	0.04	0.42
4th	Year	0.23	0.12	0.03	0.39
5th	Year	0.22	0.11	0.03	0.36
6th	Year	0.21	0.10	0.02	0.33
7th	Year	0.19	0.09	0.02	0.30
8th	Year	0.18	0.08	0.02	0.28

Depreciation under SL Method

	Rate of depreciation	5.00%	15%	10%	Total
	Amount of depreciation	0.23	0.25	0.03	0.51

Projected Profitability Statement

The annual cost of sales and profitability during the first eight years of operation of the plant is estimated in the following table.

S.no	Particulars	Operating Years							
		1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
1	Year of operation								
2	Capacity Utilization (%)	50.00	55.00	60.00	65.00	70.00	75.00	80.00	80.00
3	Sales realization	16.29	17.91	19.54	21.17	22.80	24.43	26.06	26.06
A:	<u>Cost of production</u>								
1	Raw Material	7.48	8.22	8.97	9.72	10.47	11.21	11.96	11.96
2	Salary & wages	1.68	1.85	2.02	2.18	2.35	2.52	2.69	2.69
3	Utilities	0.24	0.26	0.28	0.31	0.33	0.35	0.38	0.38
4	Repairs & Maintenance	0.12	0.18	0.24	0.30	0.30	0.36	0.36	0.36
5	Administrative expenses	0.16	0.18	0.20	0.21	0.23	0.24	0.26	0.26
6	Selling expenses	0.98	1.07	1.17	1.27	1.37	1.47	1.56	1.56
7	Total	10.65	11.76	12.88	13.99	15.04	16.16	17.21	17.21
8	Gross profit	5.63	6.15	6.66	7.18	7.75	8.27	8.85	8.85
B:	<u>Financial expenses</u>								
1	Interest on term loan	0.38	0.38	0.32	0.26	0.19	0.13	0.06	0.00
2	Interest on WCL	0.20	0.23	0.26	0.26	0.26	0.26	0.26	0.26
3	Depreciation (SLM)	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
4	Total	1.10	1.13	1.09	1.03	0.97	0.90	0.84	0.77
5	Profit before tax	4.54	5.02	5.57	6.15	6.79	7.37	8.01	8.07
6	Taxation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Profit after tax	4.54	5.02	5.57	6.15	6.79	7.37	8.01	8.07
8	Withdrawals	0.00	0.00	0.00	0.50	1.00	1.00	2.00	2.00
9	Profit carried to B/S	4.54	5.02	5.57	5.65	5.79	6.37	6.01	6.07
10	Cumulative profit	4.54	9.56	15.13	20.78	26.57	32.93	38.94	45.01
11	Add back depreciation	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
12	Total cash surplus	5.05	10.07	15.64	21.29	27.08	33.44	39.45	45.52
C:	<u>Less payment</u>								
1	Term Loan	0.00	0.71	0.71	0.71	0.71	0.71	0.71	0.00
2	Withdrawals	0.00	0.00	0.00	0.50	1.00	1.00	2.00	2.00
3	Total payments	0.00	0.71	0.71	1.21	1.71	1.71	2.71	2.00
4	Net Cash accruals	5.05	9.36	14.93	20.08	25.37	31.73	36.74	43.52

PAY BACK PERIOD

Pay back period is the length of time in which, the unit recovers its initial investment. It may also be defined as the number of months or years required for the unit to generate commutative gross operating surplus equal to the fixed capital investment in the project. The payback period of the unit is estimated in the following table.

<u>Year</u>	<u>CFAT</u>	<u>Cumulative Cash inflow</u>	
1st	5.05		5.05
2nd	5.53		10.58
3rd	6.08		16.66
4th	6.66		23.32
5th	7.30		30.62
6th	7.88		38.50
7th	8.52		47.02
8th	8.58		55.60
<u>1 year</u>	<u>+</u>	<u>11</u>	<u>Months</u>

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DETAILED DEBT SERVICE COVERAGE:

The debt service coverage ratio shows the ability of the unit to repay interest and principal amount of composite loans.

S.no	Particulars		1st	2nd	3rd	4th	5th	6th	7th
A	Source of funds								
1	Profit after tax		4.54	5.02	5.57	6.15	6.79	7.37	8.01
2	Depreciation		0.51	0.51	0.51	0.51	0.51	0.51	0.51
3	Interest on term loan		0.38	0.38	0.32	0.26	0.19	0.13	0.06
	Total A		5.43	5.92	6.40	6.92	7.49	8.01	8.58
B	Disposition of funds								
4	Repayment of term loan		0.00	0.71	0.71	0.71	0.71	0.71	0.71
	Total B (3+4)		0.38	1.09	1.03	0.97	0.90	0.84	0.77
C	Debt service coverage ratio		14.17	5.41	6.22	7.16	8.31	9.56	11.09
D	Average DSCR		8.84						

BREAK EVEN ANALYSIS AT 60% UTILIZATION

The break even point analysis of the plant is developed from the assumed plant efficiency, fixed cost of sales, variable cost of sales and sales revenue.

BREAK EVEN ANALYSIS

60.00 PERCENT

S.no	Particulars	Amount.(Lacs)
A	Sales realization	19.54
B	<u>Variable cost</u>	
1	Raw material	8.97
2	Utilities	0.28
3	Selling expenses	1.17
4	Interest on WCL	0.26
	Total	10.69
C	Contribution (A-B)	8.85
D	<u>Semi-variable/ fixed costs</u>	
1	Salary & wages	2.02
2	Repairs & maintenance	0.24
3	Administrative expenses	0.20
4	Interest on term loan	0.32
5	Depreciation	0.51
	Total	3.28
	<u>B. E. P.</u>	<u>%</u>
		37.10

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PROJECTED CASH FLOW STATEMENT

The following table gives the cash flow analysis of 8 years of operation of the plant. A cash flow statement is basically an analysis of sources of availability of funds, extent of the utilization and availability of surplus funds or their deficit at the end of each year of operation.

S.no	Particulars	Const period	1st	2nd	3rd	4th	5th	6th	7th	8th
	Capacity utilization (%)		50.00	55.00	60.00	65.00	70.00	75.00	80.00	80.00
A	Source of funds									
1	Profit before interest, tax but after depn.		5.12	5.64	6.15	6.67	7.24	7.76	8.33	8.33
2	Depreciation		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
3	Increase in Share Capital	3.50								
4	Increase in Term loan	4.26								
5	Increase in WCL		2.24	0.34	0.34	0.00	0.00	0.00	0.00	0.00
	Total (A)	7.76	7.87	6.49	7.01	7.18	7.75	8.27	8.85	8.85
B	Application of funds									
1	Capital expenditure	6.55								
2	Prelim / Pre-operative expenses									
3	Increase in current assets		3.45	0.34	0.34	0.00	0.00	0.00	0.00	0.00
4	Decrease in term loan		0.00	0.71	0.71	0.71	0.71	0.71	0.71	0.00
5	Interest on term loan		0.38	0.38	0.32	0.26	0.19	0.13	0.06	0.00
5a	Interest on WCL		0.20	0.23	0.26	0.26	0.26	0.26	0.26	0.26
6	Taxation		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Withdrawal		0.00	0.00	0.00	0.50	1.00	1.00	2.00	2.00
	Total (B)	6.55	4.03	1.67	1.64	1.73	2.16	2.10	3.04	2.26
C	Opening Balance		1.21	5.05	9.87	15.24	20.69	26.28	32.45	38.26
D	Net Surplus	1.21	3.84	4.82	5.37	5.45	5.59	6.17	5.81	6.58
E	Closing Balance	1.21	5.05	9.87	15.24	20.69	26.28	32.45	38.26	44.84

PROJECTED BALANCE SHEET

The balance sheet of a unit is a very important feature of the working of the unit. In a healthy unit, there is always a growth in total assets and liabilities every year. In a projected balance sheet on the liabilities side the reserves and surplus and on the assets side the cash and bank balances should show healthy growth.

S.no	Particulars	Year	Year							
			1st	2nd	3rd	4th	5th	6th	7th	8th
A:	Liabilities									
1	Share Capital		3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2	Reserves & Surplus		4.54	9.56	15.13	20.78	26.57	32.93	38.94	45.01
3	Term Loan		4.26	3.55	2.84	2.13	1.42	0.71	0.00	0.00
4	WCL		2.24	2.58	2.93	2.93	2.93	2.93	2.93	2.93
	Total		14.54	19.19	24.39	29.33	34.41	40.07	45.36	51.43
B:	Assets									
1	Gross Block		6.55	6.04	5.53	5.02	4.50	3.99	3.48	2.97
2	Depreciation		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
3	Net Block		6.04	5.53	5.02	4.50	3.99	3.48	2.97	2.46
4	Current Assets		3.45	3.79	4.14	4.14	4.14	4.14	4.14	4.14
5	Cash and bank balance		5.05	9.87	15.24	20.69	26.28	32.45	38.26	44.84
	Total		14.54	19.19	24.39	29.33	34.41	40.07	45.36	51.43