DETAILED TECHNO-ECONOMIC CUM PRE-INVESTMENT PROJECT

REPORT

(SHER – E – KASHMIR EMPLOYMENT AND WELFARE PROGRAMME FOR THE YOUTH (SKEWPY)

ON

(MANUFACURE OF COPPER BASE PRODUCTS/ORNAMENT/GIFT ITEMS AND USABLES)

INTRODUCTION

Copper is a chemical element with the symbol **Cu** (Latin: *cuprum*) and atomic number 29. It is a ductile metal with very high thermal and electrical conductivity. Pure copper is rather soft and malleable, and a freshly exposed surface has a pinkish or peachy color. It is used as a household utensil, gift items, thermal conductor, an electrical conductor, a building material, and a constituent of various metal alloys.

Copper has a reddish, orangish, or brownish color because a thin layer of tarnish (including oxides) gradually forms on its surface when gases (especially oxygen) in the air react with it. But pure copper, when fresh, is actually a pinkish or peachy metal. Copper, osmium (blueish) and gold (yellow) are the only three elemental metals with a natural color other than gray or silver

Copper has been in use at least 10,000 years, It is used extensively, in products such as:

1)Piping

- including water supply.
- used extensively in refrigeration and air conditioning equipment because of its ease of fabrication and soldering, as well as high conductivity to heat.

2)Electrical applications

- Copper wire
- Oxygen-free copper
- Electromagnets
- Printed circuit boards
- Lead free solder, alloyed with tin
- Electrical machines, especially electromagnetic motors, generators and transformers
- Electrical relays, electrical busbars and electrical switches
- Vacuum tubes, cathode ray tubes, and the magnetrons in microwave ovens
- Wave guides for microwave radiation
- Integrated circuits, increasingly replacing aluminium because of its superior electrical conductivity

As a material in the manufacture of computer heat sinks, as a result of its superior heat dissipation capacity to aluminiumpper is malleable and ductile and is a good conductor of both heat and electricity

3)Household products

- Copper plumbing fittings and compression tubes.
- Doorknobs and other fixtures in houses.
- Roofing, guttering, and rainspouts on buildings.
- In cookware, such as frying pans, Somavar, Cultery, Bowls ,Dishes etc
- In Ornamants like classic wrists bands ,chain link Bracelets ,zinc bangles etc

- Gift Items like Mirror Frames, Photo frames Vases & candle Sticks ,Fruit Bowl, Napkin Holder, Soap Case etc.
- Copper water heating cylinders
- Copper bath tubs
- Copper counters
- Copper sinks

Copper

A ductile malleable reddish-brown corrosion-resistant diamagnetic metallic element; occurs in various minerals but is the only metal that occurs abundantly in large masses; used as an electrical and thermal conductor.

World Copper Markets

- LME
- NYMEX

The eight leading refining nations, viz., United States,Japan, Chile, Canada, Zambia, Belgium, and the Federal Republic of Germany account for 67% of total refined metal production.

Factors Influencing Copper Markets

- Copper prices in India are fixed on the basis of the rates that rule on LME the preceding day.
- World copper mine production through exploration of new mine and expansion of existing mine.
- Economic growth of the major consuming countries such as China, Japan, Germany etc.
- Growth and development in the Building, electronics and electrical industry

Indian Scenario

- The size of Indian Copper Industry is around 4 lakh tons, which as percentage of world copper market is 3 %.
- Birla Copper, Sterilite Industries are two major private producers and Hindustan Copper Ltd the public sector producers.
- India is emerging as net exporter of copper from the status of net importer on account of rise in production by three companies.
- Copper goes into various usage such as Building, Cabling for power and telecommunications, Automobiles etc. Two major states owned telecommunications service providers; BSNL and MTNL consume 10% of country's copper production. Growth in the building construction and automobile sector would keep demand of copper high.

Global Scenario

- Economic, technological and societal factors influence the supply and demand of copper. As society's need for copper increases, new mines and plants are introduced and existing ones expanded.

- Land-based resources are estimated at 1.6 billion tons of copper, and resources in deep-sea nodules are estimated at 0.7 billion tons.

- The global production of refined copper is around 15 million tons

- The major copper-consuming nations are Western Europe (28.5%), the United States (19.1%), Japan (14%), and China (5.3%).

- Copper and copper alloy scrap composes a significant share of the world's supply.

- The largest international sources for scrap are the United States and Europe. Chile, Indonesia, Canada and Australia are the major exporters and Japan, Spain, China, Germany and Philippines are the major importers.

MARKET AND DEMAND

The demand for hand made gift items in the Indian market and particularly the state of Jammu & Kashmir can be classified in following categories:

- LOCAL MARKET

The State of Jammu & Kashmir has been a state of rich heritage and cultural values where the taste of the people is positive about the gift items to be kept in the offices and homes. The State has a population of Approximately 1.20 Crore Population which makes a great scope for the hand made gift items (Regularly, on festivals, marriages and other special days)

- TOURIST MARKET

Every Year the expectations of Tourists to the State of Jammu & Kashmir particularly to Kashmir Division is above 10 Lacs including the inflow of Yatries during Shri Amarnath Ji Yatra. The incoming tourists to the state of Jammu & Kashmir includes the foreign Tourist visiting the state. In jammu the inflow of Tourists and yatris to Mata Vaishno Devi Shrine is approximately 50 Lacs a year which is increasing day by day.

EXPORT MARKET OUT SIDE THE STATE

Hand Made gift items of Copper, German Silver and Brass have a very good export market out the state of Jammu & Kashmir.

Energy Conservation

With the growing energy needs and shortage coupled with rising energy cost, a greater thrust in energy efficiency in industrial sector has been given by the Govt. of India since 1980s. The Energy Conservation Act, 2001 has been enacted on 18th August 2001, which provides for efficient use of energy, its conservation and capacity building of Bureau of Energy Efficiency created under the Act.

The following steps may help for conservation of electrical energy:

i) Adoption of energy conserving technologies, production aids and testing facilities.

ii) ii) Efficient management of process/ manufacturing machineries and systems, QC and testing equipments for yielding maximum Energy Conservation.

iii) Optimum use of electrical energy for heating during soldering process can be obtained by using efficient temperature controlled soldering and desoldering stations.

iv) Periodical maintenance of motors, compressors etc.

v) Use of power factor correction capacitors. Proper selection and layout of lighting system; timely switching on-off of the lights; use of compact fluorescent lamps wherever possible etc.

PROJECT COST SUMMARY			
S.NO	**PARTICULARS**		**AMOUNT(LACS)**
1	LAND		-----
2	Civil Works		NIL
3	Plant & Machinery		2.66
4	Miscellaneous Fixed Assets		2.00
5	Preliminary & Preoperative expenses		0.50
6	Working Capital Requirement		16.84
			22.00
	MEANS OF FINANCE		
1	Seed Capital 35.00%		7.70
2	Promoters Contribution		0.00
2	Loan from Bank		14.30
DETAILS OF LOANS			
A	**Long Term Investment**		**5.16**
1	Promoters Contribution/Seed Money		1.81
2	Term Loan From Bank		3.35
B	**Working Capital Requirement**		**16.84**
1	Promoters Contribution/Seed Money		5.89
2	Working Capital Finance From Bank		10.95

POLLUTION NORMS

The process involved for manufacturing of Copper made Gift Items and other items the product is inspected for pin cracks and other factors and the selected products are stacked for onward marketing, which forms the basic operation for the envisaged program under common hood and facilities, therefore, the material required is in finished form and the waste products during the process of operation has better marketing support. Since the project is assumed to operate at 50% capacity utilization during first year and so on till optimum utilization is achieved, as such, the process of making copper based products is free of pollution and are controlled within the prescribed norms constituted for such type of ventures.

1: Apart from the above 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: The machines provided in the project report shall be housed in acoustic proof room and shall be provided with anti –vibration mounting/pads in order to reduce the pitch of the noise within the prescribed norms, therefore, the promoters are advised to purchase machinery from the approved manufacture having BIS certifications both for quality as well as safety measures, while as the captive power i.e. D'G set of 5 Kva rated capacity as and when installed shall be provided with canopies and other certified equipment's, which would reduce the emission level within the prescribed norms, therefore, the cost to be incurred for such equipment's has been worked out and is provided under Misc. fixed head of the project report.

3: 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.

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Manpower

The category wise break-up manpower including salary as shown at Annexure. 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 15 numbers of persons including those required under administrative categories on permanent basis. 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 form the neighboring states.

PRELIMINARY AND PREOPERATIVE EXPENSES

The details of preliminary and pre-operative expenses generally are expenses on travelling, postage, interest and bank charges during construction period, security deposits, land, premium, project report preparation and other un-fore seen expenses, the details on account of preliminary & pre-operative expenses follows as:

DETAILS OF PRELIMMINARY & PRE-OPERATIVE EXPENSES

S.NO	PARTICULARS		AMOUNT(LACS)
1	Traveling & Conveyance		0.04
2	Printing & Stationary		0.03
3	Professional Charges		0.04
4	Misc. Expenses		0.09
5	Interest during Moratorium		0.30
			0.50

MISC. FIXED ASSETS

The details of Misc. fixed assets generally comprising furniture / fixtures, power distribution network, water distribution network and other related items.

S.No	Description	Amount (lacs)
1.	**Office Furniture & Fixture**	
a.	Office table with set of chairs 2 sets @ Rs 12,500	0.25
b.	Staff table with chairs 2 sets @ Rs12,500/ set	0.25
c.	Steel almirahs racks 2 No @ Rs 5000	0.10
d.	Computer latest with all peripherals	0.30
e.	Fire fighting equipments 2 No @ Rs 5,000/ each	0.10
2.	**Electric Power Distribution Network**	
a)	Diesel generator set self start with battery and electrical (5 KVA rated capacity) (To be purchased after unit commences its commercial production, therefore, the cost under this head shall be quoted than.	0.40
b)	Transformer 5 KVA	0.20
b)	Syntax tank 1,000 liters capacity 2 No @ Rs 5,000/ each	0.10
c)	Miscellaneous tools for 15 persons	0.30
	Grand Total	**2.00**

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: –

S.No	Particulars	Quantity	Rate Rs	Amount lacs
	Machinery			
1	Buffing Machine with Motor	2 No	20,000	0.40
2	Brush Machine with Motor	2 No	20,000	0.40
3	Tools			
	Hammers, Rods, moulders, fans, Iron , Sranz, Makhes, Inder Vave, Coke etc (Sets)	LS		1.91
	Total			2.31
	Grand total			**Rs 2.66 lacs**

INSTALLED CAPACITY AND PRODUCTION PROGRAMME

Keeping in view the climatic conditions and other factors prevailing in the valley into consideration, the operational hours shall be assumed as:-

a)	No. of working days per annum	300
b)	No. of shifts per day	Single
c)	No. of hours per day	8 hours

S.no	Description	Installed capacity per annum.
A:	**Copper Gift Items**	**15000 KG** **Finished Gift and Other Items** **(50 KG Per Day x 300 Working Days)** **@ Rs 700 per Kg on an Average** **SALES FOR THE YEAR** **RS. 105.00 LACS**
1	Samowar 1', 2', 3', 4', 5', 6', 7', 8', 9', 10'	
2	Gole Samowar 6', 7', up to 16'	
3	Flower Vass 5' to 3 Ft.	
4	Flower Vass Gole 5', to 12'	
5	Fruit Bowl 8', to 16',	
6	Karba 4'	
7	Surya 6', 7' 8', 9',	
8	Jug Set/ Kettle with out he	
9	Jug Set/ Kettle with he	
10	Jug Set Wine,	
	Very Small/ Small	
	Medium/ Large	
	Extra Large/ Extra Big	
11	Napkin Holder 5' to 12'	
12	Table Lamp	
13	Soap Case 3 Types	
14	Mirror Case	
15	Tea Set/ Cup Plates	
16	Isband Soz	

SALES REALIZATION AND PURCHASES IN PHASED MANNER

YEAR		CAPACITY UTILISATION	SAL/WAG	PURCHASE (Lacs)	UTILITIES	SALES (lacs)
1ST		**50.00**	**3.18**	**42.00**	**0.15**	**52.50**
2ND		**55.00**	**3.50**	**46.20**	**0.17**	**57.75**
3RD		**60.00**	**3.82**	**50.40**	**0.18**	**63.00**
4TH		**65.00**	**4.13**	**54.60**	**0.20**	**68.25**
5TH		**70.00**	**4.45**	**58.80**	**0.21**	**73.50**
6TH		**75.00**	**4.77**	**63.00**	**0.23**	**78.75**
7TH		**80.00**	**5.09**	**67.20**	**0.24**	**84.00**
8TH		**80.00**	**5.09**	**67.20**	**0.24**	**84.00**

Raw Material Per Annum

The basic raw material required for making copper based gift items are Copper , German Silver, Brass, Coal, Yalu, Wawat,, Kani, Creal, Salee, Handle of Barta, kaalie, Acid, Iron Tar, Brush, Buffing Cloth and powder, Karosene Oil. The materials have proportionately been considered in view of installed capacity of the plant and also on the basis of cement sand & aggregate ratio as per B.I.Standards in order to make the product qualitatively better.

The specific details of each section follow as:-

S.No	Description	Qty/Price of material required per KG of Finished Goods	No. of KGs to be produced Finished Goods / Day	Total quantity of material required PER DAY
	COPPER GOODS			
1	Copper	1.25 KG	50 Kg/ Day	62.50 Kg
2	Coal	1.92 Kg	50 Kg/ Day	96 Kg (Four Bags)
3	Yalu	Rs. 25/ Kg	50 Kg/ Day	
4	Watwa	Rs. 25/Kg	50 Kg/ Day	
5	Kani Ring	100 Gms/Kg	50 Kg/ Day	8 Kg
6	Creal	100 Gms/Kg	50 Kg/ Day	8 Kg
7	Salee	Rs. 25/Kg	50 Kg/ Day	
8	Handle of Barta	150 Gms/Kg	50 Kg/ Day	12 Kg
9	Kaalie	Rs. 50/ Kg	50 Kg/ Day	
10	Acid	Rs. 7/ Kg	50 Kg/ Day	
11	Iron tar	Rs. 3/ Kg	50 Kg/ Day	
12	Brush	Rs. 2/ Kg	50 Kg/ Day	
13	Buffing Cloth	Rs. 8/Kg	50 Kg/ Day	
14	Buffing Powder	Rs. 15/Kg	50 Kg/ Day	
14	Kerosene Oil	Rs. 1/ Kg	50 Kg/ Day	

TOTAL REQUIREMENT OF MATERIAL AND COST OF MATERIALS

S.No	Description	Qty	Rate	Amount (in Lacs)
1	Copper	16000 Kg	500	78.75
2	Coal	9000 Kg	22	Rs. 5.25 lacs
3	Yalu/atwa	Rs. 25/Kg of finished goods		
4	Kani Ring	770 Kg	400	
5	Creal	770 Kg	100	
6	Salee (Rods)	Rs. 20/Kg of finished goods		
7	Handle of Barta	700	400	
8	Kaalie	Rs. 30/Kg of finished goods		
9	Acid	Rs. 5/Kg of finished goods		
10	Iron tar	Rs. 3/Kg of finished goods		
11	Brush	Rs. 2/Kg of finished goods		
12	Buffing Cloth	4350	8	
13	Buffing Powder	2175	15	
14	Kerosene Oil	Rs. 1/Kg of finished goods		
	GRAND TOTAL for PURCHASES			**84.00 lacs**

REQUIREMENT OF SALARY AND WAGES PER ANNUM

The requirements of personnel has been worked out by taking into consideration the anticipated work load, degree of skill required and the productivity of the workers on similar jobs. The plant is proposed to be operated on single shift basis comprising of eight hours a day on a 300 days working schedule in a year. Based upon the plant capacity and the number of machines, the total requirement of personnel is estimated at 15 persons under various categories.

STATEMENT OF CULCATION OF MANPOWER REQUIREMENT & THEIR REMUNERATIC

S.No	Description	No	Salary PM Rs	Salary PA lacs
a)	**Administrative staff**			
1.	Supervisor (SELF)	1	5,000	0.60
2.	Peon cum chokidar	1	2,500	0.30
	Total	**02**		**0.90**
b)	**Factory staff**			
1.	Skilled workers	13	3,500	5.46
	Total A + B	**15**		**6.36**

ESTIMATED COST OF UTILITIES PER ANNUM

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

- **Power**

1	Total connected load	= 6 hp or 4.50 KW
2.	Total power load after taking load factor (0.8)	= 4.01 KW
3.	Power consumption per annum	= 9624 Kwhr
4.	From PDD (80%) @ 2.25/Kwhr	= Rs 17323 /
5.	From own generator (20 %)	
	@ Rs 6.00 /Kwhr	= Rs 11549/
	Total	**= Rs 28872/**

B) Water

The P H E departmental supply of water 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 29872/ Say Rs 0.30 Lac

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, 7thand 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%	0.00	2.66	2.00	4.66	0.09
2nd	3%	0.00	2.66	2.00	4.66	0.14
3rd	4%	0.00	2.66	2.00	4.66	0.19
4th	5%	0.00	2.66	2.00	4.66	0.23
5th	5%	0.00	2.66	2.00	4.66	0.23
6th	6%	0.00	2.66	2.00	4.66	0.28
7th	6%	0.00	2.66	2.00	4.66	0.28
8th	6%	0.00	2.66	2.00	4.66	0.28

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	%	
1st	**50.00**	52.50	0.5	**0.26**
2nd	**55.00**	57.75	0.5	**0.29**
3rd	**60.00**	63.00	0.5	**0.32**
4th	**65.00**	68.25	0.5	**0.34**
5th	**70.00**	73.50	0.5	**0.37**
6th	**75.00**	78.75	0.5	**0.39**
7th	**80.00**	84.00	0.5	**0.42**
8th	**80.00**	84.00	0.5	**0.42**

DETAILS OF SELLING EXPENSES PER ANNUM

It is taken as 2 % of net sales in every year, which includes sales promotion expenses, advertising expenses, commission to intermediaries, carriage outwards, discount, brokerage AND ANNUAL RENT OF Rs. 24000. etc.

Year	Cap. Utiliz	Sales	%	Selling expenses/annum
1st	50.00	52.50	2	**1.05**
2nd	55.00	57.75	2	**1.16**
3rd	60.00	63.00	2	**1.26**
4th	65.00	68.25	2	**1.37**
5th	70.00	73.50	2	**1.47**
6th	75.00	78.75	2	**1.58**
7th	80.00	84.00	2	**1.68**
8th	80.00	84.00	2	**1.68**

DETAILS OF WORKING CAPITAL REQUIREMENT AT DIFFERENT LEVELS.

YEAR	CAPACITY UTILISATION	SAL/WAG	PURCHASE (Lacs)	UTILITIES	SALES (lacs)	Repair Maint.	Admn. Expen.	Selling Expen.	WIP	F.Goods
1ST	50.00	3.18	42.00	0.15	52.50	0.09	0.26	1.05	45.33	46.64
2ND	55.00	3.50	46.20	0.17	57.75	0.14	0.29	1.16	49.86	51.31
3RD	60.00	3.82	50.40	0.18	63.00	0.19	0.32	1.26	54.40	55.97

S.no	Particulars		Ist Year		2nd year		3rd year	
			50.00		55.00		60.00	
		Days	Amount	Margin	Amount	Margin	Amount	Margin
1	Stock of Raw Material	30	4.20	0.00	4.62	0.00	5.04	0.00
2	Stock of work in progress	6	0.91	0.00	1.00	0.00	1.09	0.00
3	Stock of finished goods	30	4.66	0.00	5.13	0.00	5.60	0.00
4	Sundry debtors	45	7.88	0.00	8.66	0.00	9.45	0.00
5	Working expenses	30	0.17	0.17	0.17	0.17	0.17	0.17
6	Sundry Creditors	7	**0.98**		**1.08**		**1.18**	
7	Working capital requirement		**16.84**		**18.50**		**20.17**	
8	Margin money			**5.89**		**5.89**		**5.89**
9	Working capital limit		**10.95**		**12.61**		**14.28**	

FUNDING OF CAPITAL EXPENDITURE

The total capital investment cost of the project is estimated at Rs.22.00 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	Seed Capital	7.70
2	Long term borrowings	3.35

A: Equity

The share capital of the unit has been fixed at Rs. 7.70 Lakhs Seed Money. The unit has to raise share capital within this limit. The promoter shall arrange equity from the seed capital assistance for the purpose of availing long term borrowings.

B: Term loan

Term loan requirement to the extent of Rs. 3.35 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.

INTEREST CALCULATION

It is proposed to raise the sum of Rs 3.35 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)**	
01.	Long term borrowings	3.35	
02.	Rate of interest	**9.00%**	
03.	Installment	Rs. 0.58 Lacs Per Annum	
04.	Repayment schedule	7 years	
05	Moratorium Period	12 months	

YEAR	INT T/Loan	T.Loan Payment	Decrease Term Loan	Yr.Term Loan Paym.	Rem. Term Loan
1	0.30	0.00	0.00	0.00	3.35
2	0.30	0.56	0.56	0.56	2.79
3	0.25	0.56	1.12	0.56	2.23
4	0.20	0.56	1.68	0.56	1.68
5	0.15	0.56	2.23	0.56	1.12
6	0.10	0.56	2.79	0.56	0.56
7	0.05	0.56	3.35	0.56	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%

YEAR	INT W/C	Increase w/ Cap	Increase Curr. Asse	Current Assets	Working Capital
1	0.99	10.95	16.84	16.84	10.95
2	1.14	1.67	1.67	18.50	12.61
3	1.29	1.67	1.67	20.17	14.28
4	1.29	0.00	0.00	20.17	14.28
5	1.29	0.00	0.00	20.17	14.28
6	1.29	0.00	0.00	20.17	14.28
7	1.29	0.00	0.00	20.17	14.28
8	1.29	0.00	0.00	20.17	14.28

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

S.no	Particulars	Building	P&M	MFA	Total
1	Cost Price	0.00	2.66	2.00	4.66
2	Preliminary & Preoperative exp.	0.00	0.29	0.21	0.50
	Total	0.00	2.95	2.21	5.16

Depreciation under WDV method — **BUILDING**

Rate of depreciation — **6.25%**

		Cost	Dep	WDV
1st	Year	0.00	0.00	0.00
2nd	Year	0.00	0.00	0.00
3rd	Year	0.00	0.00	0.00
4th	Year	0.00	0.00	0.00
5th	Year	0.00	0.00	0.00
6th	Year	0.00	0.00	0.00
7th	Year	0.00	0.00	0.00
8th	Year	0.00	0.00	0.00

Depreciation under WDV method — **Plant & Machinery**

Rate of depreciation — **10%**

		Cost	Dep	WDV
1st	Year	2.95	0.29	2.65
2nd	year	2.65	0.27	2.39
3rd	Year	2.39	0.24	2.15
4th	Year	2.15	0.21	1.93
5th	Year	1.93	0.19	1.74
6th	Year	1.74	0.17	1.57
7th	Year	1.57	0.16	1.41
8th	Year	1.41	0.14	1.27

Depreciation under WDV method — **Misc. Fixed Assets**

Rate of depreciation — **15%**

		Cost	Dep	WDV
1st	Year	2.21	0.33	1.88
2nd	Year	1.88	0.28	1.60
3rd	Year	1.60	0.24	1.36
4th	Year	1.36	0.20	1.16
5th	Year	1.16	0.17	0.98
6th	Year	0.98	0.15	0.84
7th	Year	0.84	0.13	0.71
8th	Year	0.71	0.11	0.60

Depreciation under WDV method		Building	P&M	M F A	Total
	Rate of depreciation	**6.25%**	**10%**	**15%**	
1st	Year	0.00	0.29	0.33	0.63
2nd	Year	0.00	0.27	0.28	0.55
3rd	Year	0.00	0.24	0.24	0.48
4th	Year	0.00	0.21	0.20	0.42
5th	Year	0.00	0.19	0.17	0.37
6th	Year	0.00	0.17	0.15	0.32
7th	Year	0.00	0.16	0.13	0.28
8th	Year	0.00	0.14	0.11	0.25
Depreciation under SL Method					
	Rate of depreciation	5.00%	15%	10%	Total
	Amount of depreciation	0.00	0.44	0.22	0.66

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	Year of operation	1st	2nd	3rd	4th	5th	6th	7th	8th
2	Capacity Utilization (%)	50.00	55.00	60.00	65.00	70.00	75.00	80.00	80.00
3	Sales realization	52.50	57.75	63.00	68.25	73.50	78.75	84.00	84.00
A:	**Cost of production**								
1	Raw Material	42.00	46.20	50.40	54.60	58.80	63.00	67.20	67.20
2	Salary & wages	3.18	3.50	3.82	4.13	4.45	4.77	5.09	5.09
3	Utilities	0.15	0.17	0.18	0.20	0.21	0.23	0.24	0.24
4	Repairs & Maintenance	0.09	0.14	0.19	0.23	0.23	0.28	0.28	0.28
5	Administrative expenses	0.26	0.29	0.32	0.34	0.37	0.39	0.42	0.42
6	Selling expenses	1.05	1.16	1.26	1.37	1.47	1.58	1.68	1.68
7	Total	46.74	51.45	56.16	60.87	65.53	70.24	74.91	74.91
8	Gross profit	5.76	6.30	6.84	7.38	7.97	8.51	9.09	9.09
B:	**Financial expenses**								
1	Interest on term loan	0.30	0.30	0.25	0.20	0.15	0.10	0.05	0.00
2	Interest on WCL	0.99	1.14	1.29	1.29	1.29	1.29	1.29	1.29
3	Depreciation (SLM)	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
4	Total	1.95	2.10	2.20	2.15	2.10	2.05	2.00	1.95
5	Profit before tax	3.81	4.20	4.64	5.23	5.87	6.46	7.09	7.14
6	Taxation	0.00	0.00	0.00	0.00	0.00	0.65	0.71	1.43
7	Profit after tax	3.81	4.20	4.64	5.23	5.87	5.81	6.38	5.72
8	Withdrawals	**0.00**	0.00	1.00	1.00	**2.00**	2.00	3.00	3.00
9	Profit carried to B/S	3.81	4.20	3.64	4.23	3.87	3.81	3.38	2.72
10	Cumulative profit	3.81	8.02	11.66	15.89	19.76	23.57	26.96	29.67
11	Add back depreciation	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
12	**Total cash surplus**	4.48	8.68	12.32	16.56	20.42	24.24	27.62	30.34
C:	**Less payment**								
1	Term Loan	0.00	0.56	0.56	0.56	0.56	0.56	0.56	0.00
2	Withdrawals	0.00	0.00	1.00	1.00	2.00	2.00	3.00	3.00
3	Total payments	0.00	0.56	1.56	1.56	2.56	2.56	3.56	3.00
4	Net Cash accruals	4.48	8.12	10.77	15.00	17.87	21.68	24.06	27.34

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.

Year	**CFAT**	**Cumulative Cash inflow**	
1st	4.48		4.48
2nd	4.87		9.34
3rd	5.31		14.65
4th	5.90		20.55
5th	6.53		27.08
6th	6.48		33.55
7th	7.05		40.60
8th	6.38		46.98
4 year	**+**	**4**	**Months**

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		3.81	4.20	4.64	5.23	5.87	5.81	6.38
2	Depreciation		0.66	0.66	0.66	0.66	0.66	0.66	0.66
3	Interest on term loan		0.30	0.30	0.25	0.20	0.15	0.10	0.05
	Total A		**4.78**	**5.17**	**5.56**	**6.10**	**6.68**	**6.58**	**7.10**
B	**Disposition of funds**								
4	Repayment of term loan		0.00	0.56	0.56	0.56	0.56	0.56	0.56
	Total B (3+4)		0.30	0.86	0.81	0.76	0.71	0.66	0.61
C	Debt service coverage ratio		15.85	6.01	6.86	8.03	9.42	9.98	11.66
D	**Average DSCR**		**9.69**						

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	63.00
B	**Variable cost**	
1	Raw material	50.40
2	Utilities	0.18
3	Selling expenses	1.26
4	Interest on WCL	1.29
	Total	53.13
C	Contribution (A-B)	9.87
D	**Semi-variable/ fixed costs**	
1	Salary & wages	3.82
2	Repairs & maintenance	0.19
3	Administrative expenses	0.32
4	Interest on term loan	0.25
5	Depreciation	0.66
	Total	5.23
	B. E. P. %	**52.98**

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.		5.10	5.64	6.18	6.72	7.30	7.84	8.43	8.43
2	Depreciation		0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
3	Increase in Share Capital	7.70								
4	Increase in Term loan	3.35								
5	Increase in WCL		10.95	1.67	1.67	0.00	0.00	0.00	0.00	0.00
	Total (A)	11.05	16.71	7.97	8.51	7.38	7.97	8.51	9.09	9.09
B	Application of funds									
1	Capital expenditure	5.16								
2	Prelim / Pre-operative expenses									
3	Increase in current assets		16.84	1.67	1.67	0.00	0.00	0.00	0.00	0.00
4	Decrease in term loan		0.00	0.56	0.56	0.56	0.56	0.56	0.56	0.00
5	Interest on term loan		0.30	0.30	0.25	0.20	0.15	0.10	0.05	0.00
5a	Interest on WCL		0.99	1.14	1.29	1.29	1.29	1.29	1.29	1.29
6	Taxation		0.00	0.00	0.00	0.00	0.00	0.65	0.71	1.43
7	Withdrawal		0.00	0.00	1.00	1.00	2.00	2.00	3.00	3.00
	Total (B)	5.16	18.12	3.66	4.76	3.04	3.99	4.59	5.60	5.71
C	Opening Balance		5.89	4.48	8.79	12.53	16.87	20.84	24.76	28.25
D	Net Surplus	5.89	-1.41	4.31	3.75	4.34	3.97	3.92	3.49	3.38
E	Closing Balance	5.89	4.48	8.79	12.53	16.87	20.84	24.76	28.25	31.63

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	1st	2nd	3rd	4th	5th	6th	7th	8th
A:	**Liabilities**									
1	Seed Capital		7.70	7.70	7.70	7.70	7.70	7.70	7.70	7.70
2	Reserves & Surplus		3.81	8.02	11.66	15.89	19.76	23.57	26.96	29.67
3	Term Loan		3.35	2.79	2.23	1.68	1.12	0.56	0.00	0.00
4	WCL		10.95	12.61	14.28	14.28	14.28	14.28	14.28	14.28
	Total		**25.81**	**31.12**	**35.87**	**39.55**	**42.86**	**46.11**	**48.94**	**51.65**
B:	**Assets**									
1	Gross Block		5.16	4.50	3.83	3.17	2.51	1.84	1.18	0.52
2	Depreciation		0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
3	Net Block		4.50	3.83	3.17	2.51	1.84	1.18	0.52	-0.15
4	Current Assets		16.84	18.50	20.17	20.17	20.17	20.17	20.17	20.17
5	Cash and bank balance		4.48	8.79	12.53	16.87	20.84	24.76	28.25	31.63
	Total		**25.81**	**31.12**	**35.87**	**39.55**	**42.86**	**46.11**	**48.94**	**51.65**