PROJECT REPORT

Of

HAND MADE PAPER FROM WASTE

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Hand made paper from Waste** .

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

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PROJECT REPORT

On

HAND MADE PAPER FROM WASTE

INTRODUCTION

The history of paper dates back to the history of human culture and civilization. The ancient Egyptians, Greeks and Romans used a different kind of paper called `papyrus'. To-day's kind of paper was first developed and used by China and spread to other countries. Growth of human population, need for transfer of knowledge, education and information within the society at large were forcing factors for innovations and notable increase on the production of paper.

Modern paper making began in early 19th century in Europe. All most all paper is manufactured using trees as primary source of wood pulp. Paper manufacturing continues to be a concern in modern times from an environmental perspective due to its use of large number of trees, harsh chemicals, huge water consumption resulting in ecological imbalances, pollution and contamination risks.

Eco-friendly paper is a solution to solve all environmental related problems. Though some tools and equipment are used in making eco-friendly, paper it is still called traditionally as a handmade paper only all over the world. It is a paper that does not utilize wood for its manufacturing – is free from all chemicals and is dried using most eco-friendly means of energy – it is a bio-degradable product.

Handmade paper making in India begin in 3rd Century B.C. This paper making has been a traditional art which has been passed through generation by craftsmen known as `Kagzis'. The name being derived from the world `Kagaz' meaning paper. Through these are now almost extinct except in small pockets like Jaipur, the handmade paper making is fast developing in several parts of our country and now it gained a status of commercial venture and a sound business proposition. The demand for handmade paper and its product is fast growing in the domestic as well as international market.

NIRD&PR identified this project as one of the important activities that creates employment among unskilled and semi skilled people, provide regular source of income, develops entrepreneurship among youth, encourage recycling of waste, produce biodegradable products and above all helps to create an eco-friendly environment.

Eco-friendly handmade paper making

A survey shows that for the manufacture of 1 ton of paper 277 Eucalyptus or 462 bamboo plants are required. On the other hand 100000 greeting cards on hand made paper can save 500 trees. The concern about disappearance of forests, coupled with renewed interest in quality of paper generated new study on the paper makers materials especially the pulp and fibers. According to KVIC experiences "Handmade paper product is a real treasure with full of creative, innovative and thought provoking ideas and the industry got an excellent future because of value addition and export oriented prospective".

Handmade paper has the advantage of being 100% wood free which makes it most eco-friendly form of paper. Handmade paper is excellent for writing as well as printing. It has greater tensile, bursting, tearing and double fold strength compared to conventional papers.

Handmade paper is eco-friendly, bio-degradable, recyclable, the best in quality as well as utility and above all availability at an affordable cost.

Demand for Handmade paper

The handmade paper industry in India offers considerable potential to meet the increasing demand for paper products in an environmentally sound way. People are moving to maximize the use of handmade and recycled paper to generate a reverse chain reaction. Undoubtedly the use of eco-friendly paper ushers in a self sustainable society.

Handmade paper is used for office stationary, writing pads, conference folders, computer printouts, drawing and documentation sheets, certificate and degree awards, for making fancy products and diaries, for making photo frames, paper bag and variety of other decorative and show case products.

The countries like Indonesia, Malaysia and Philippines have already emerged as "Hand made paper giants". There has been phenomenal growth in the export market for Indian handmade paper and its products especially in developed countries like USA, German, Europe, Australia etc.

One estimate shows that in India only about 20% of waste paper is being currently recycled annually which is very low in comparison to 73% in German, 69% in Sweden, 60% in Japan,

49% in USA and 45% in Italy. ITC launched a program on paper collection called “wealth out of waste, WOW”. The location of major handmade paper industries in India are Rajasthan, New Delhi, Tamil Nadu, Pondicherry etc. Hyderabad is also home for several small and medium sized handmade paper industries. Sanganer near Jaipur in Rajasthan is the world’s largest centre of handmade paper.

Shri AMM Murugappa, Chettiar Research Centre, Chennai, Jabalpur Chamber of Commerce & Industry for EDP, Kalpana handmade paper Sanganer, Jaipur, M.R. Exports Vijayawada, (Pamarru Mandal) are well established training research and production centers in handmade paper making.

Raw materials used in handmade paper making

A wide range of raw materials such as paddy and wheat straw, jute, rags, cotton rags, hosiery cuttings cotton linter, tailor cuttings, fibers (Jute /hump), bagasse, cotton stalks, grasses, waste paper etc., are used in making handmade paper. They are available abundantly and regularly from different sources. The proposed unit makes permanent arrangement for procuring raw materials in bulk from various suppliers.

Service Requirements and its availability for proposed manufacturing unit

Water
Power
Building shed
Drying shed
Labour /work force
Chemicals

The most common equipment / machines used for handmade paper making

Rag Chopper, beaters, Pulp Tanks, Calendar machine, Agitator, Hydraulic press, cylinder mould, Vat power drives machine, Iron box etc are major tools and equipments used.

All these machines and equipment are available and can be easily procured by placing orders with suppliers.

Special Marketing strategies for handmade paper products

Demand for handmade paper and its products are fast growing everywhere. Due to increasing awareness among public on environmental protection, people preference for eco-friendly products has been increasing. These products have its own special customers. The elite and educated individuals as well as several organisations in public and private sector choose to go for handmade paper products and occasionally, they purchase in bulk also. The suppliers or manufacturers of these products have to make vide publicity and make readily available variety of products may it be paper bag, greeting card, show case items or any other. The models / varieties of handmade paper products are to be exhibited and demonstrated in public gatherings, exhibitions, office premises, high level meeting places etc. The heads of PSUs and private sector units need to be contacted as part of marketing strategy. District Collectors, high level bureaucrats like Secretaries, Directors,

Commissioners, CEOs need to be approached for getting large scale orders for the supply of handmade paper products.

All State institutes of Rural Development (SIRDs) start using eco-friendly handmade products for their routine stationary items and replace all plastic and synthetic items like bags with handmade paper products. These products may be used as best example by our SIRDs to take forwards the campaign of Swatch Bharat, environmental care and protection and recycling of waste.

With such an aggressive marketing strategy the sales would increase to profitable level within a short time. The manufacturing and sales unit may explore opportunities for exports business also. The manufacturers engage continuously in product innovation and invention to capture business from variety of customers.

CONCEPT AND SCOPE

A real fact in today's world is that one tone of mill made paper cost our earth 270 trees or 400 bamboo plants. Therefore, today there is a focus on usage of handmade papers.

This proposal deals with the Project for manufacturing Handmade Papers. These handmade papers may be converted into different items for daily use such as bags, files, folders etc. Now a days there is a good market for handmade paper since the products of handmade are eco friendly, free from destructive chemicals and non-Toxic. It's also an employment generative activity. It's one of the preferred industries since investment is comparatively lower than any such allied industrial units. At the same time this handmade unit has potential to generate good profits.. It needs around 4000 sq. feet land to construct a work shed and any one can run the unit with about 6 persons. Depending upon the handmade papers design and thickness and other features the sale value increases or decreases for products.
It is one of the oldest methods of making paper. Generally, it was made by sifting pulp on to a screen and letting each individual sheet of paper dry. But it was time consuming and mainly used in Nepal, Japan, China and Thailand for centuries to produce exceptionally beautiful paper. Now, handmade paper is a delicate customized special product. Handmade papers are mainly used in handmade paper conversion units. These papers gets converted into gift cards, wrapping paper, photo albums, wedding invitation, collages and picture frames etc. Therefore, so much of emphasis is being given on handmade paper manufacturing units. To reiterate, some of the features of handmade paper are mentioned below:-

1. It has an elegant and exquisite surface for writing.

2. It has indestructibility and superb strength for performance.

3. It has unmatched texture for drawings by artists or engineers

4. It comes in colors of fancy varieties for decorative wraps.

5. It has high tensile bursting, tearing and double fold strength as compared to mill made paper.

TECHNICAL FEASIBILITY

a. Location of the Project

This unit can be established at any rural, semi urban as well as urban location. Land area of about 4000 sq.ft, with water facility is good enough to run this industrial unit.

b. Raw materials Waste cotton rags Jeans waste cuttings old rope Jute bag waste or jute waste Waste paper Office record waste paper Waste cuttings Hosiery & Tailor cuttings vegetable matter (including leaves, tree moss, flowers) potatoes, Agro-waste fibers like Bagasse Banana, Mulberry, Hemp Liquid rosin soap alum bleaching powder adhesive (fevicol) colour

d. Utilities

i. Power: The total requirement of the unit is 36 HP

ii. Water: The water requirement of the unit for the production of 80 Kgs per day i.e. 12000 liters.

iii. Effluent Treatment: The effluent discharged from handmade paper plant contains only very insignificant quantity of chemicals. The total chemicals used are lesser than 3% of the total weight. The waste water effluent will be treated before discharge to nearby agro forms or drainage

e. Technology and manufacturing process

i) Plant and Machinery

The standard equipment is available for handmade paper production. The

important among them are:

(a) Rag chopper- It is used for cutting the rag into fine pieces suitable for beating in beater machine. Beater Machine-The pulp from the pulper machine sent to beater machine for the formation of fine pulp which plays an important role for formation of board of good quality. Auto Vat - used for the forming of paper sheets in the traditional Indian manner. A measured quantity of diluted pulp is spread evenly on to a wire mould, which is clamped in between two wooden deckles in a water tub. The excess water in the pulp is drained mechanically by manual operation.

(b) Hydraulic press -- presses the post of newly formed sheets to remove excess water

(c) Calendaring machine-- It's a series of hard pressure rollers used to form or smoothen a sheet

(d) Cutting machine-- Is used for waste cutting

(e) Weighing balance-- For weighing or measuring weight of raw materials as well as other required items.

MANUFACTURING PROCESS –

The process of making handmade paper involves a series of steps that are briefly discussed below.

1. **Sorting and dusting:** the raw material that is to be used is manually sorted and foreign material like buttons; plastic, synthetic fibers etc. are removed. To remove dust and dirt the material is shaken vigorously.
2. **Rag Chopping:** The sorted and dusted material is chopped into pieces of equal size.
3. **Beating:** The raw material is mixed with water and harmless chemicals and beaten in a Hollander beater. This consists of a U-shaped trough, with a drum; on the outer side of this drum are iron blades that cut the raw material to make a pulp out of it. There is a washing drum as well that cleans the pulp and drains the dirty water. The quality of the paper to be made determines the consistency of the pulp. Sheets of handmade paper can be made in two ways.
4. **Dipping Method:** This method is normally used for fine or thin paper. The pulp is diluted with water and put into a masonry trough or vat. The lifting mould (a mesh on a wooden frame) is dipped into the trough, shaken evenly and lifted out with the pulp on it. The consistency of the pulp in the tank should be kept constant all the time.
5. **Lifting Method:** This method is used for all paper and especially for card paper. A fixed quantity of pulp is poured evenly onto a mould, which is then clamped between two wooden deckles (frames) and then dipped into a water tank. The mould in then lifted using a lever mechanism that allows the excess water to drain away.
6. **Couching:** Once the sheet is formed, the wet paper is transferred onto a cloth like muslin or felt sheet and a stack of interleaved sheets in made.
7. **Pressing:** A hydraulic press is used to remove the excess water from the sheets. Pressing reduces the thickness of the paper and the sheets become more compact. This process improves the physical properties of the paper and helps drying.
8. **Drying:** Even after the sheets have been pressed, they still contain about 50% to 65% of the moisture. The sheets are hung in the sunlight to dry. Solar dries can speed up the process and the space required for drying. Coloured papers are dried in the shade to prevent the sun from bleaching the color.
9. **Cleaning and Sizing:** Small particles of dirt and other foreign matter are removed manually with a sharp instrument. The cleaned sheets are coated with a layer of starch to improve the quality of the paper and prevent feathering. This

process is called sizing. This can be done manually using a brush or by dipping the sheet into a vat containing sizing chemicals.

10. **Calendaring:** The sheets are then placed between metallic plates and passed through spring-loaded rollers in a calendaring machine. This makes the paper smooth and increases the gloss of the paper.

11. **Cutting:** The sheets are cut neatly according the required size using a cutting machine.

f. Inspection and quality control

Handmade paper has potential to gain widespread acceptance. provided material is produced and delivered with a high level of consistency, quality and precision. Quality control aspects are more important for the handmade paper units than the rest of the paper industry. In recent years quality control procedures has evolved to some extent. As a part of quality control a unit should at least lay down specifications for purchase of raw materials, should inspect production procedure and should control pulp parameters. Acceptance procedures for pulps can only ensure whether the paper to be produced will be suitable for down line processes till the finishing stage or not. The unit will employ a trained supervisor to take care of quality checks

g. Schedule of Implementation

The building can be arranged within 3 months period. The machinery can be procured within 4 months period from the date orders are placed. The total project can be completed within 6 months period and production could commence could commence immediately thereafter.

COMMERCIAL VIABILITY

Handmade paper industry produces paper such as drawing paper for artists, permanent document paper, dark colored card sheets, deckle edged stationery, exclusive greetings, and varieties of fancy decorative wraps, unique paper for carry bags, water mark paper certificates, filter papers and pads besides other cultural grades like covers, duplicating paper and tissue paper. These products have good demand in the domestic market and find usage in the stationery, greeting card, packaging industry and have tremendous unexplored potential in export markets. Superior Variety Handmade Paper like bond paper, Decorative Paper, Drawing Paper, Card sheets, mottled paper, moon rock paper, banana paper and other varieties can be produced. Different varieties of handmade paper can be used for interior decoration, corporate gifts, and office purpose. New attractive varieties of ecofriendly handmade paper have very good demand in India and abroad. On small quantity a special quality handmade paper can be produced and converted in to value added products to earn good profit.

Pure cellulosic (or raw) materials to be pulped, mechanically rather than chemically pulping methods. In fact, the existing handmade paper industry relies absolutely on secondary resources. There is no theoretical limit to the size of handmade paper units, though in India they are often limited in practice to a particular production capacity. The table below shows comparative facts for a normal paper unit and handmade paper unit.

Sl No.	Handmade Paper Unit	Normal Integrated Paper Unit
1	Consumption of resources is lowest in handmade paper units	Consumption of resource is more in these units
2	Water consumption per ton 150 cubic meter	Water consumption per ton 250 cubic meter
3	Electricity consumption comparatively less and chemical consumption relatively less	Electricity consumption , chemical consumption is more
4	Pollution is quite low	Pollution is more

PROJECT AT A GLANCE

1	Name of the Entreprenuer		XXXXXXX	
2	Constitution (legal Status)	:	XXXXXXX	
3	Father's/Spouce's Name		XXXXXXXX	
4	Unit Address	:	XXXXXXXX	
			Taluk/Block:	
			District :	XXXXX
			Pin:	XXXXX State:
			E-Mail :	XXXXX
			Mobile	XXXXX
5	Product and By Product	:	**Handmade Paper from waste**	
6	Name of the project / business activity proposed	:	**Handmade Paper from waste**	
7	Cost of Project	:	Rs25.00lac	
8	Means of Finance			
	Term Loan		Rs.16.56 Lacs	
	KVIC Margin Money	-	As per Project Eligibility	
	Own Capital		Rs.2.5 Lacs	
	Working Capital		Rs.5.95 Lacs	
9	Debt Service Coverage Ratio	:	2.80	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	8	Months
12	Break Even Point	:	36%	
13	Employment	:	10	Persons
14	Power Requirement	:	36.00	HP
15	Major Raw materials	:	Cotton hosiery rags, Cotton jeans waste cutting, jute bag waste, office record waste paper .	
16	Estimated Annual Sales Turnover	:	38.88	Lacs

16 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lacs)

Particulars	Amount
Land	Rented/Owned
Building & Civil Work (4000 Sq Ft)	2.00
Plant & Machinery	15.75
Furniture & Fixtures	0.25
Pre-operative Expenses	0.40
Working Capital Requirement	6.61
Total	**25.00**

MEANS OF FINANCE

Particulars	Amount
Own Contribution @10%	2.50
Term Loan	16.56
Workign Capital Finance	5.95
Total	**25.00**

	General	**Special**
Beneficiary's Margin Money (% of Project Cost)	10%	5%

PLANT & MACHINERY

PARTICULARS	**QTY.**	**RATE**	**AMOUNT IN RS.**
Rag Chopper	1	70,000.00	70,000.00
Hollander Beater	1	285,000.00	285,000.00
Auto Vat	4	40,000.00	160,000.00
Hydraulic press	1	275,000.00	275,000.00
Calendaring machine	1	425,000.00	425,000.00
Cutting machine	1	350,000.00	350,000.00
Weighing balance	1	10,000.00	10,000.00
			-
TOTAL			1,575,000.00

Rates are indicative only

PROJECTED CASH FLOW STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
SOURCES OF FUND					
Share Capital	2.50	-			
Reserve & Surplus	5.92	8.48	11.63	14.62	17.43
Depriciation & Exp. W/off	2.58	2.21	1.89	1.62	1.38
Increase in Cash Credit	5.95	-	-	-	-
Increase In Term Loan	16.56	-	-	-	-
Increase in Creditors	0.37	0.06	0.06	0.06	0.06
Increase in Provisions	0.36	0.04	0.04	0.04	0.05
TOTAL :	**34.24**	**10.79**	**13.62**	**16.34**	**18.92**
APPLICATION OF FUND					
Increase in Fixed Assets	18.00	-	-	-	-
Increase in Stock	5.04	0.84	0.84	0.84	0.84
Increase in Debtors	1.94	0.54	0.36	0.36	0.36
Increase in Deposits & Adv	2.50	0.25	0.28	0.30	0.33
Repayment of Term Loan	-	4.14	4.14	4.14	3.17
Taxation	0.59	0.85	2.33	2.92	3.49
TOTAL :	**28.08**	**6.62**	**7.94**	**8.57**	**8.19**
Opening Cash & Bank Balance	-	6.16	10.33	16.01	23.78
Add : Surplus	6.16	4.17	5.68	7.77	10.73
Closing Cash & Bank Balance	**6.16**	**10.33**	**16.01**	**23.78**	**34.51**

PROJECTED BALANCE SHEET

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
SOURCES OF FUND					
Capital Account	2.50	2.50	2.50	2.50	2.50
Retained Profit	5.33	12.96	22.26	33.95	47.89
Term Loan	16.56	12.42	8.28	4.14	0.97
Cash Credit	5.95	5.95	5.95	5.95	5.95
Sundry Creditors	0.37	0.43	0.49	0.55	0.62
Provisions & Other Liab	0.36	0.40	0.44	0.48	0.53
TOTAL :	**31.07**	**34.66**	**39.92**	**47.58**	**58.46**
APPLICATION OF FUND					
Fixed Assets (Gross)	18.00	18.00	18.00	18.00	18.00
Gross Dep.	2.58	4.79	6.68	8.29	9.67
Net Fixed Assets	15.43	13.21	11.32	9.71	8.33
Current Assets					
Sundry Debtors	1.94	2.48	2.84	3.20	3.56
Stock in Hand	5.04	5.88	6.72	7.56	8.40
Cash and Bank	6.16	10.33	16.01	23.78	34.51
Deposits & Advances	2.50	2.75	3.03	3.33	3.66
TOTAL :	**31.07**	**34.66**	**39.92**	**47.58**	**58.46**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
A) SALES					
Gross Sale	38.88	49.68	56.88	64.08	71.28
Total (A)	**38.88**	**49.68**	**56.88**	**64.08**	**71.28**
B) COST OF SALES					
Raw Mateiral Consumed	15.84	18.48	21.12	23.76	26.40
Elecricity Expenses	3.09	3.61	4.13	4.64	5.16
Repair & Maintenance	-	0.50	0.57	0.64	0.71
Labour & Wages	6.34	6.97	7.67	8.43	9.28
Depriciation	2.58	2.21	1.89	1.62	1.38
Consumables,packaging and Other Expenses	1.94	2.48	2.84	3.20	3.56
Cost of Production	29.79	34.25	38.21	42.29	46.49
Add: Opening Stock /WIP	-	3.46	4.03	4.61	5.18
Less: Closing Stock /WIP	3.46	4.03	4.61	5.18	5.76
Cost of Sales (B)	26.33	33.68	37.64	41.72	45.92
C) GROSS PROFIT (A-B)	12.55	16.00	19.24	22.36	25.36
	32%	**32%**	**34%**	**35%**	**36%**
D) Bank Interest (Term Loan)	1.43	1.73	1.25	0.77	0.31
Bank Interest (C.C. Limit)	0.60	0.60	0.60	0.60	0.60
E) Salary to Staff	3.83	4.21	4.63	5.10	5.60
F) Selling & Adm Expenses Exp.	0.78	0.99	1.14	1.28	1.43
TOTAL (D+E)	**6.63**	**7.53**	**7.61**	**7.75**	**7.94**
H) NET PROFIT	5.92	8.48	11.63	14.62	17.43
I) Taxation	0.59	0.85	2.33	2.92	3.49
J) PROFIT (After Tax)	5.33	7.63	9.30	11.69	13.94

COMPUTATION OF MANUFACTURING OF Handmade Paper from waste

Items to be Manufactured **Handmade Paper from waste**

Manufacturing Capacity per day	-	0.08	MT
	-		
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		24.00	MT
Year		Capacity	MT
		Utilisation	
IST YEAR		60%	14.40
IIND YEAR		70%	16.80
IIIRD YEAR		80%	19.20
IVTH YEAR		90%	21.60
VTH YEAR		100%	24.00

COMPUTATION OF RAW MATERIAL

Item Name		Quantity of Raw Material/MT	Recovery	Unit Rate of /MT	Total Cost Per Annum (100%)
Cotton hosiery rags, Cotton jeans waste cutting, jute bag waste, office	100%	30.00	100%	80,000.00	24.00
Adhesives colour					2.40
For production of 24. MT of output 30.00MT raw material requirement has					
				Total (Rounded off in lacs)	26.40

Annual Consumption cost (In Lacs) 26.40

Raw Material Consumed	Capacity Utilisation	Amount (Rs.)
IST YEAR	60%	15.84
IIND YEAR	70%	18.48
IIIRD YEAR	80%	21.12
IVTH YEAR	90%	23.76
VTH YEAR	100%	26.40

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Finished Goods					
(30Days requirement)	3.46	4.03	4.61	5.18	5.76
Raw Material					
(30 Days requirement)	1.58	1.85	2.11	2.38	2.64
Closing Stock	**5.04**	**5.88**	**6.72**	**7.56**	**8.40**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars			Total
			Amount
Stock in Hand			5.04
Sundry Debtors			1.94
		Total	6.98
Sundry Creditors			0.37
Working Capital Requirement			**6.61**
Margin			0.66
Working Capital Finance			**5.95**

BREAK UP OF LABOUR

Particulars		Wages Per Month	No of Employees	Total Salary
Skilled Worker		9,000.00	2	18,000.00
Unskilled Worker		6,000.00	5	30,000.00
				48,000.00
Add: 10% Fringe Benefit				4,800.00
Total Labour Cost Per Month				52,800.00
Total Labour Cost for the year (In Rs. Lakhs)			7	6.34

BREAK UP OF SALARY

Particulars		Salary Per Month	No of Employees	Total Salary
				-
Accountant		9,000.00	1	9,000.00
Sales		10,000.00	2	20,000.00
Total Salary Per Month				29,000.00
Add: 10% Fringe Benefit				2,900.00
Total Salary for the month				31,900.00
Total Salary for the year (In Rs. Lakhs)			3	3.83

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**10.00%**	**15.00%**	**10.00%**	
Opening Balance	Leased	-	-	-	-
Addition	-	2.00	15.75	0.25	18.00
	-	2.00	15.75	0.25	18.00
Less : Depreciation	-	0.20	2.36	0.01	2.58
WDV at end of Ist year	-	1.80	13.39	0.24	15.43
Additions During The Year	-	-	-	-	-
	-	1.80	13.39	0.24	15.43
Less : Depreciation	-	0.18	2.01	0.02	2.21
WDV at end of IInd Year	-	1.62	11.38	0.21	13.21
Additions During The Year	-	-	-	-	-
	-	1.62	11.38	0.21	13.21
Less : Depreciation	-	0.16	1.71	0.02	1.89
WDV at end of IIIrd year	-	1.46	9.67	0.19	11.32
Additions During The Year	-	-	-	-	-
	-	1.46	9.67	0.19	11.32
Less : Depreciation	-	0.15	1.45	0.02	1.62
WDV at end of IV year	-	1.31	8.22	0.17	9.71
Additions During The Year	-	-	-	-	-
	-	1.31	8.22	0.17	9.71
Less : Depreciation	-	0.13	1.23	0.02	1.38
WDV at end of Vth year	-	1.18	6.99	0.16	8.33

REPAYMENT SCHEDULE OF TERM LOAN 11.5%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
IST YEAR	Opening Balance						
	Ist Quarter	-	16.56	16.56	-	-	16.56
	Iind Quarter	16.56	-	16.56	0.48	-	16.56
	IIIrd Quarter	16.56	-	16.56	0.48	-	16.56
	Ivth Quarter	16.56	-	16.56	0.48	-	16.56
					1.43	-	
IIND YEAR	Opening Balance						
	Ist Quarter	16.56	-	16.56	0.48	1.04	15.53
	Iind Quarter	15.53	-	15.53	0.45	1.04	14.49
	IIIrd Quarter	14.49	-	14.49	0.42	1.04	13.46
	Ivth Quarter	13.46		13.46	0.39	1.04	12.42
					1.73	4.14	
IIIRD YEAR	Opening Balance						
	Ist Quarter	12.42	-	12.42	0.36	1.04	11.39
	Iind Quarter	11.39	-	11.39	0.33	1.04	10.35
	IIIrd Quarter	10.35	-	10.35	0.30	1.04	9.32
	Ivth Quarter	9.32		9.32	0.27	1.04	8.28
					1.25	4.14	
IVTH YEAR	Opening Balance						
	Ist Quarter	8.28	-	8.28	0.24	1.04	7.25
	Iind Quarter	7.25	-	7.25	0.21	1.04	6.21
	IIIrd Quarter	6.21	-	6.21	0.18	1.04	5.18
	Ivth Quarter	5.18		5.18	0.15	1.04	4.14
					0.77	4.14	
VTH YEAR	Opening Balance						
	Ist Quarter	4.14	-	4.14	0.12	1.04	3.11
	Iind Quarter	3.11	-	3.11	0.09	1.04	2.07
	IIIrd Quarter	2.07	-	2.07	0.06	0.55	1.52
	Ivth Quarter	1.52		1.52	0.04	0.55	0.97
					0.31	3.17	

CALCULATION OF D.S.C.R

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
CASH ACCRUALS	7.90	9.84	11.19	13.31	15.32
Interest on Term Loan	1.43	1.73	1.25	0.77	0.31
Total	9.33	11.57	12.44	14.08	15.64
REPAYMENT					
Instalment of Term Loan	4.14	4.14	4.14	3.17	3.17
Interest on Term Loan	1.43	1.73	1.25	0.77	0.31
Total	5.57	5.87	5.39	3.94	3.48
DEBT SERVICE COVERAGE RATI	**1.68**	**1.97**	**2.31**	**3.57**	**4.49**
AVERAGE D.S.C.R.			**2.80**		

COMPUTATION OF SALE

Particulars	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Op Stock	-	1.44	1.68	1.92	2.16
Production	14.40	16.80	19.20	21.60	24.00
	14.40	18.24	20.88	23.52	26.16
Less : Closing Stock	1.44	1.68	1.92	2.16	2.40
Net Sale	12.96	16.56	18.96	21.36	23.76
Sale Price per MT	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00
Sale (in Lacs)	**38.88**	**49.68**	**56.88**	**64.08**	**71.28**

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	36	
Load Factor			0.7460	
Electricity Charges		per unit	8.00	
Total Working Days			300	
Electricity Charges (8 Hrs Per day)				515,635.20
Add : Minimim Charges (@ 10%)				
(B) D.G. SET				
No. of Working Days			300	days
No of Working Hours			-	Hour per day
Total no of Hour			-	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			-	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			-	
Add : Lube Cost @15%			-	
Total			**-**	
Total cost of Power & Fuel at 100%				5.16
Year		**Capacity**		**Amount**
				(in Lacs)
IST YEAR		60%		3.09
IIND YEAR		70%		3.61
IIIRD YEAR		80%		4.13
IVTH YEAR		90%		4.64
VTH YEAR		100%		5.16

BREAK EVEN POINT ANALYSIS

Year	I	II	III	IV	V
Net Sales & Other Income	38.88	49.68	56.88	64.08	71.28
Less : Op. WIP Goods	-	3.46	4.03	4.61	5.18
Add : Cl. WIP Goods	3.46	4.03	4.61	5.18	5.76
Total Sales	**42.34**	**50.26**	**57.46**	**64.66**	**71.86**
Variable & Semi Variable Exp.					
Raw Material & Tax	15.84	18.48	21.12	23.76	26.40
Electricity Exp/Coal Consumption at 85%	2.63	3.07	3.51	3.94	4.38
Manufacturing Expenses 80%	1.56	2.38	2.73	3.08	3.42
Wages & Salary at 60%	6.10	6.71	7.38	8.12	8.93
Selling & adminstrative Expenses 80%	0.62	0.79	0.91	1.03	1.14
Intt. On Working Capital Loan	0.60	0.60	0.60	0.60	0.60
Total Variable & Semi Variable Exp	**27.34**	**32.03**	**36.24**	**40.52**	**44.87**
Contribution	**15.00**	**18.22**	**21.22**	**24.14**	**26.99**
Fixed & Semi Fixed Expenses					
Manufacturing Expenses 20%	0.39	0.60	0.68	0.77	0.86
Electricity Exp/Coal Consumption at 15%	0.46	0.54	0.62	0.70	0.77
Wages & Salary at 40%	4.07	4.47	4.92	5.41	5.95
Interest on Term Loan	1.43	1.73	1.25	0.77	0.31
Depreciation	2.58	2.21	1.89	1.62	1.38
Selling & adminstrative Expenses 20%	0.16	0.20	0.23	0.26	0.29
Total Fixed Expenses	**9.08**	**9.75**	**9.59**	**9.52**	**9.56**
Capacity Utilization	**60%**	**70%**	**80%**	**90%**	**100%**
OPERATING PROFIT	**5.92**	**8.48**	**11.63**	**14.62**	**17.43**
BREAK EVEN POINT	**36%**	**37%**	**36%**	**36%**	**35%**
BREAK EVEN SALES	**25.63**	**26.88**	**25.97**	**25.51**	**25.45**

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