

PROJECT REPORT

Of

LED LIGHTING SYSTEM

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **LED lighting system**.

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 AT A GLANCE

- 1 Name of the Entrepreneur : xxxxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxxxx
- 3 Father / Spouse Name : xxxxxxxxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxxxx
Pin: xxxxxxxx State: xxxxxxxxxx
Mobile xxxxxxxx
- 5 Product and By Product : **LED LIGHTING SYSTEM**
- 6 Name of the project / business activity proposed : **LED LIGHTING SYSTEM MANUFACTURING UNIT**
- 7 Cost of Project : Rs.14.69 Lakhs
- 8 Means of Finance
Term Loan Rs.9.23 Lakhs
Own Capital Rs.1.47 Lakhs
Working Capital Rs.4 Lakhs
- 9 Debt Service Coverage Ratio : 2.20
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 40%
- 13 Employment : 8 Persons
- 14 Power Requirement : 10 HP
- 15 Major Raw materials : LED Chips, Rectifier Circuits, Heat Sink Devices, Metallic cap Holder
- 16 Estimated Annual Sales Turnover (Max Utilized Capacity) : 63.21 Lakhs
- 17 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building /Shed 1500 Sq ft	5.00
Plant & Machinery	4.00
Furniture & Fixtures	1.25
Working Capital	4.44
Total	14.69

MEANS OF FINANCE

Particulars	Amount
Own Contribution	1.47
Term Loan	9.23
Working Capital	4.00
Total	14.69

LED LIGHTING SYSTEMS

INTRODUCTION

A light emitting diode (LED) is a device which converts electrical energy into light. LEDs are preferred light sources for short distance (local area) optical fiber network because they are inexpensive, robust and have long life (the long life of an LED is primarily due to its being a cold device, i.e. its operating temperature being much lower than that of, say, an incandescent lamp), can be modulated (i.e. switched on and off) at high speeds.



A light-emitting diode (LED) is a two-lead semiconductor light source. It is a p-n junction diode, which emits light when activated. When a suitable voltage is applied to the leads, electrons are able to recombine with electron holes within the device, releasing energy in the form of photons.

This effect is called electroluminescence, and the color of the light (corresponding to the energy of the photon) is determined by the energy band gap of the semiconductor.

The key strength of LED lighting is reduced power consumption. LED's are available with at the most Lumen efficiency of 110 Lm/Watt compared to 65-80 Lm/Watt of CFL and FTL, 45 Lm/Watt of Mercury vapour and 75 Lm/Watt of metal halide or 94 Lm/Watt of Sodium Vapour.

LED tube light could replace for traditional fluorescent tubes in the following places like hotels, hospitals, factories/offices, commercial complexes conference/ meeting rooms, schools/colleges/universities, residential/institution buildings. Thus, due to demand it is a good project for entrepreneurs to invest.

FINANCIAL ASPECTS

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
<u>Capital Account</u>					
Opening Balance	-	2.70	3.70	5.84	8.05
Add: Additions	1.47	-	-	-	-
Add: Net Profit	1.23	2.00	3.64	5.21	6.93
Less: Drawings	-	1.00	1.50	3.00	5.00
Closing Balance	2.70	3.70	5.84	8.05	9.98
CC Limit	4.00	4.00	4.00	4.00	4.00
Term Loan	8.20	6.15	4.10	2.05	-
Sundry Creditors	0.31	0.36	0.41	0.47	0.53
TOTAL :	15.20	14.20	14.35	14.56	14.50
<u>APPLICATION OF FUND</u>					
Fixed Assets (Gross)	10.25	10.25	10.25	10.25	10.25
Gross Dep.	1.23	2.30	3.24	4.06	4.78
Net Fixed Assets	9.03	7.95	7.01	6.19	5.47
<u>Current Assets</u>					
Sundry Debtors	3.63	4.27	4.90	5.58	6.32
Stock in Hand	1.50	1.70	1.93	2.19	2.46
Cash and Bank	1.05	0.28	0.50	0.61	0.26
TOTAL :	15.20	14.20	14.35	14.56	14.50
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
<u>A) SALES</u>					
Gross Sale	36.26	42.73	49.05	55.77	63.21
Total (A)	36.26	42.73	49.05	55.77	63.21
<u>B) COST OF SALES</u>					
Raw Mateiral Consumed	18.63	21.51	24.62	28.02	31.69
Electricity Expenses	1.12	1.23	1.34	1.46	1.57
Repair & Maintenance	0.18	0.21	0.25	0.28	0.32
Labour & Wages	5.87	6.46	7.11	7.82	8.60
Depreciation	1.23	1.07	0.94	0.82	0.72
Cost of Production	27.03	30.49	34.26	38.40	42.90
Add: Opening Stock /WIP	-	0.63	0.70	0.78	0.88
Less: Closing Stock /WIP	0.63	0.70	0.78	0.88	0.98
Cost of Sales (B)	26.40	30.42	34.17	38.30	42.79
C) GROSS PROFIT (A-B)	9.86	12.31	14.87	17.46	20.42
	27.19%	28.80%	30.32%	31.31%	32.30%
D) Bank Interest (Term Loan)	1.00	0.82	0.59	0.37	0.14
ii) Interest On Working Capital	0.44	0.44	0.44	0.44	0.44
E) Salary to Staff	3.56	3.92	4.31	4.74	5.22
F) Selling & Adm Expenses Exp.	3.63	5.13	5.89	6.69	7.59
TOTAL (D+E)	8.63	10.30	11.23	12.24	13.38
H) NET PROFIT	1.23	2.00	3.64	5.22	7.03
	3.4%	4.7%	7.4%	9.4%	11.1%
I) Taxation	-	-	-	0.01	0.10
J) PROFIT (After Tax)	1.23	2.00	3.64	5.21	6.93

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
Own Contribution	1.47	-			
Net Profit	1.23	2.00	3.64	5.22	7.03
Depreciation & Exp. W/off	1.23	1.07	0.94	0.82	0.72
Increase In Cash Credit	4.00				
Increase In Term Loan	9.23	-	-	-	-
Increase in Creditors	0.31	0.05	0.05	0.06	0.06
TOTAL :	17.45	3.12	4.63	6.10	7.82
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	10.25	-	-	-	-
Increase in Stock	1.50	0.20	0.23	0.25	0.27
Increase in Debtors	3.63	0.65	0.63	0.67	0.74
Repayment of Term Loan	1.03	2.05	2.05	2.05	2.05
Taxation	-	-	-	0.01	0.10
Drawings	-	1.00	1.50	3.00	5.00
TOTAL :	16.40	3.90	4.41	5.99	8.17
Opening Cash & Bank Balance	-	1.05	0.28	0.50	0.61
Add : Surplus	1.05	- 0.78	0.22	0.12	- 0.35
Closing Cash & Bank Balance	1.05	0.28	0.50	0.61	0.26

COMPUTATION OF LED LIGHTING SYSTEM MANUFACTURING UNIT**Items to be Manufactured LED LIGHTING SYSTEM**

Manufacturing Capacity per Day		150.00	pcs
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		45,000	pcs
Year		Capacity Utilisation	SYSTEM
I		50%	22,500
II		55%	24,750
III		60%	27,000
IV		65%	29,250
V		70%	31,500

COMPUTATION OF RAW MATERIAL

Item Name	Quantity of Raw Material	Unit	Unit Rate of	Total Cost Per Annum (100%)
LED Chips	45,000	pcs	4	180,000
Rectifier Circuits with filter	45,000	pcs	20	900,000
Hink Sink devices	45,000	pcs	5	225,000
Metallic Cap Holder	45,000	pcs	10	450,000
Plastic Body	45,000	pcs	10	450,000
Reflector Plastic Glass	45,000	pcs	10	450,000
Connecting wire	l.s			36,000
Soldering Flux	l.s			36,000
Other Consumables	l.s			1,000,000
Total	90,000.00			3,727,000

Total Raw material in Rs lacs at 100% Capacity 37.27
 Cost per Lamp (In Rs) **82.80**

Raw Material Consumed	Capacity Utilisation	Rate	Amount (Rs.)
I	50%	82.80	18.63
II	55%	86.90	21.51
III	60%	91.20	24.62
IV	65%	95.80	28.02
V	70%	100.60	31.69

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(7 Days requirement)	0.63	0.70	0.78	0.88	0.98
Raw Material					
(14 Days requirement)	0.87	1.00	1.15	1.31	1.48
Closing Stock	1.50	1.70	1.93	2.19	2.46

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	1.50		
Less:			
Sundry Creditors	0.31		
Paid Stock	1.19	0.12	1.07
Sundry Debtors	3.63	0.36	3.26
Working Capital Requirement			4.33
Margin			0.48
MPBF			4.33
Working Capital Demand			4.00

BREAK UP OF LABOUR

Particulars	Wages	No of	Total
	Per Month	Employees	Salary
Plant Operator	15,000.00	1	15,000.00
Unskilled Worker	8,500.00	2	17,000.00
Helper	5,000.00	1	5,000.00
Security Guard	7,500.00	1	7,500.00
			44,500.00
Add: 10% Fringe Benefit			4,450.00
Total Labour Cost Per Month			48,950.00
Total Labour Cost for the year (In Rs. Lakhs)		5	5.87

BREAK UP OF SALARY

Particulars	Salary	No of	Total
	Per Month	Employees	Salary
Accountant cum store keeper	10,000.00	1	10,000.00
Administrative Staffs	8,500.00	2	17,000.00
Total Salary Per Month			27,000.00
Add: 10% Fringe Benefit			2,700.00
Total Salary for the month			29,700.00
Total Salary for the year (In Rs. Lakhs)		3	3.56

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		10.00%	15.00%	10.00%	
Opening Balance	Own/Rented		-	-	-
Addition	-	5.00	4.00	1.25	10.25
	-	5.00	4.00	1.25	10.25
TOTAL		5.00	4.00	1.25	10.25
Less : Depreciation	-	0.50	0.60	0.13	1.23
WDV at end of Ist year	-	4.50	3.40	1.13	9.03
Additions During The Year	-	-	-	-	-
	-	4.50	3.40	1.13	9.03
Less : Depreciation	-	0.45	0.51	0.11	1.07
WDV at end of IIInd Year	-	4.05	2.89	1.01	7.95
Additions During The Year	-	-	-	-	-
	-	4.05	2.89	1.01	7.95
Less : Depreciation	-	0.41	0.43	0.10	0.94
WDV at end of IIIrd year	-	3.65	2.46	0.91	7.01
Additions During The Year	-	-	-	-	-
	-	3.65	2.46	0.91	7.01
Less : Depreciation	-	0.36	0.37	0.09	0.82
WDV at end of IV year	-	3.28	2.09	0.82	6.19
Additions During The Year	-	-	-	-	-
	-	3.28	2.09	0.82	6.19
Less : Depreciation	-	0.33	0.31	0.08	0.72
WDV at end of Vth year	-	2.95	1.77	0.74	5.47

REPAYMENT SCHEDULE OF TERM LOAN

11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
I	Opening Balance						
	Ist Quarter	-	9.23	9.23	0.25	-	9.23
	IInd Quarter	9.23	-	9.23	0.25	-	9.23
	IIIrd Quarter	9.23	-	9.23	0.25	0.51	8.71
	Ivth Quarter	8.71	-	8.71	0.24	0.51	8.20
					1.00	1.03	
II	Opening Balance						
	Ist Quarter	8.20	-	8.20	0.23	0.51	7.69
	IInd Quarter	7.69	-	7.69	0.21	0.51	7.18
	IIIrd Quarter	7.18	-	7.18	0.20	0.51	6.66
	Ivth Quarter	6.66		6.66	0.18	0.51	6.15
					0.82	2.05	
III	Opening Balance						
	Ist Quarter	6.15	-	6.15	0.17	0.51	5.64
	IInd Quarter	5.64	-	5.64	0.16	0.51	5.13
	IIIrd Quarter	5.13	-	5.13	0.14	0.51	4.61
	Ivth Quarter	4.61		4.61	0.13	0.51	4.10
					0.59	2.05	
IV	Opening Balance						
	Ist Quarter	4.10	-	4.10	0.11	0.51	3.59
	IInd Quarter	3.59	-	3.59	0.10	0.51	3.08
	IIIrd Quarter	3.08	-	3.08	0.08	0.51	2.56
	Ivth Quarter	2.56		2.56	0.07	0.51	2.05
					0.37	2.05	
V	Opening Balance						
	Ist Quarter	2.05	-	2.05	0.06	0.51	1.54
	IInd Quarter	1.54	-	1.54	0.04	0.51	1.03
	IIIrd Quarter	1.03	-	1.03	0.03	0.51	0.51
	Ivth Quarter	0.51		0.51	0.01	0.51	0.00
					0.14	2.05	

Door to Door Period 60 Months
Moratorium Period 6 Months
Repayment Period 54 Months

CALCULATION OF D.S.C.R

PARTICULARS	I	II	III	IV	V
<u>CASH ACCRUALS</u>	2.45	3.07	4.58	6.03	7.65
Interest on Term Loan	1.00	0.82	0.59	0.37	0.14
Total	3.45	3.89	5.17	6.40	7.79
<u>REPAYMENT</u>					
Repayment of Term Loan	1.03	2.05	2.05	2.05	2.05
Interest on Term Loan	1.00	0.82	0.59	0.37	0.14
Total	2.03	2.87	2.64	2.42	2.19
DEBT SERVICE COVERAGE RAT	1.71	1.36	1.96	2.65	3.56
AVERAGE D.S.C.R.			2.20		

COMPUTATION OF SALE

Particulars	I	II	III	IV	V
Op Stock	-	525.00	578.00	630.00	683.00
Production	22,500.00	24,750.00	27,000.00	29,250.00	31,500.00
	22,500.00	25,275.00	27,578.00	29,880.00	32,183.00
Less : Closing Stock(7 Days)	525.00	578.00	630.00	683.00	735.00
Net Sale	21,975.00	24,697.00	26,948.00	29,197.00	31,448.00
Sale Price per Lamp	165.00	173.00	182.00	191.00	201.00
Sale (in Lacs)	36.26	42.73	49.05	55.77	63.21

COMPUTATION OF ELECTRICITY**(A) POWER CONNECTION**

Total Working Hour per day	Hours	8	
Electric Load Required	HP	10	
Load Factor		0.7460	
Electricity Charges	per unit	7.50	
Total Working Days		300	
Electricity Charges			1.34
Add : Minimim Charges (@ 10%)			

(B) DG set

No. of Working Days		300	days
No of Working Hours		0.5	Hour per day
Total no of Hour		150	
Diesel Consumption per Hour		8	
Total Consumption of Diesel		1,200	
Cost of Diesel		65.00	Rs. /Ltr
Total cost of Diesel		0.78	
Add : Lube Cost @ 15%		0.12	
Total		0.90	

Total cost of Power & Fuel at 100% 2.24

Year	Capacity	Amount (in Lacs)
I	50%	1.12
II	55%	1.23
III	60%	1.34
IV	65%	1.46
V	70%	1.57

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