

Computer Furniture

PRODUCT CODE	: 276001001
QUALITY AND STANDARDS	: As per Customer's requirement IS 71381 : 73 Hollow Rectangular MS Section IS14587 : 98 Pre-Laminated medium Density Fibre board for table top. IS 303 : 89 for Pressed formed and ergonomically shaped seat and back.
PRODUCTION CAPACITY	: (1) Computer Table (Overall size 900 × 600 × 750 mm) - 1800 Nos. (2) Computer-cum-Printer Table (Overall size 1200 × 700 × 750 mm) - 1000 Nos. (3) Printer Table (Overall size 750 × 700 × 750 mm) - 1800 Nos. (4) Computer Chair without Arms and adjustable seats, having size 725×725×950-1050mm- 4000 Nos. (5) Computer Chair with Arms and adjustable seat height size 725×725×950-1050 mm-3000 Nos. (6) Executive Computer Chairs with Arms and adjustable seat height size 725×725×1100-1200 mm -1500 Nos. Volume : Rs. 282.9 Lakh
MONTH AND YEAR OF PREPARATION	: March, 2003
PREPARED BY	: Small Industries Service Institute 22, Godown, Industrial Estate, Jaipur—302006 (Rajasthan) Phone Nos. :0141- 2212098, 2213099 Fax No.: 2210553 Email: sisijpr@sancharnet.in

INTRODUCTION

Within a carved span of time, Computers have carved out a niche in the history of mankind and changed the entire gamut of human life at an overwhelming pace. Be it business,

academics, defence strategy, budgeting research, engineering, medicine, space exploration, communication, travel and hospitality, utilities, or designing, Computers have established themselves as an indispensable part and so also the computer furniture. Some commonly

used computer furniture are Computer Tables, Computer-cum-Printer tables, Printer Tables, Computer Chairs with or without arms, Computers Chairs with or without coaster wheel base etc.

MARKET POTENTIAL

The market demand for Computer furniture is increasing day by day with the increase in use of the Computers. Computer furniture has got domestic as well as export market. Long sitting hours on Computers has necessitated the use of computer furniture such as table and chair having proper dimensions and specifications. Computer tables are designed in such a way so as to accommodate Monitor, CPU, Key Board and other peripherals etc. with the optimum utilization of horizontal and vertical space. Care is also given to provide sufficient leg space, free hand movement for operating mouse, etc. Care is also taken in designing and manufacturing Computer chairs to suit the computer table. Long sitting hours on computer clubbed with improper spinal support on chair have become the major cause for backache to many Computer users. Computer furniture manufacturers are bringing out innovative changes to cope with this problem. Computer furniture is being mainly used in Offices, Computers Training Institutes, Laboratories, Schools, Colleges, and Homes.

BASIS AND PRESUMPTIONS

- 1) It is presumed that the unit will work for single shift of 8 hours and 300 days in a year with 75% efficiency.

- 2) The unit will take minimum three years to achieve full capacity utilization.
- 3) Labour wages are taken at the prevailing rates in the local market.
- 4) The rate of interest on Fixed and Working Capital is taken at an average rate of 16% per annum.
- 5) The rent of building is taken as per prevailing rates.
- 6) Cost of machinery and equipments/ raw materials indicated refers to a particular make and prices are approximate to the prevailing rate at the time of preparation of project report.

IMPLEMENTATION SCHEDULE

<i>Sl.No. Activity</i>	<i>Period</i>
1. Selection of site	15 days
2. Preparation of Project Report	15 days
3. Registration with DIC	7 days
4. Financial arrangements with Banks	1½ months
5. Machinery procurement	1 month
6. Installation of machines	15 days
7. Procurement of Raw Materials	7 days
8. Recruitment of manpower	7 days
9. Trial production	15 days

Some of the above activities would be carried out simultaneously. The approximate time required to commence manufacturing would be 4-5 months.

TECHNICAL ASPECTS

Process of Manufacture

(I) *Computer Tables:* The Computer table shall be fabricated in knock-down design for easy assembly and transportation. The base frame shall be made of hollow rectangular Mild Steel Section of 50 mm × 25 mm × 1.2 mm thickness by cutting in desired sizes and welding the sections. The open edges of base frames are protected by PVC cover. Level Adjusters are mounted suitably at the bottom edges of base frame. The vertical frame for holding table top and shelf, shall be made out of 25 mm × 25 mm × 1.2 mm thick hollow MS Square Section. The space between vertical frames shall be covered by 1 mm thick steel CRC Sheet. All steel sections shall be protected by powder coated paint after following proper pre-treatment. The table top and shelf shall be made of pre-laminated medium density fibre board of 18 mm thickness of interior grade having teak/gray/oak or any other shades specified by the customer. The edges of table top, shelf etc., all shall be rounded or tapered.

Printer Table does not have any drawer/shelf etc., whereas the computer table shall have a suitable drawer for key board made of 18 mm of one side pre-laminated medium density board. Below the drawer, the provision is made for sliding board of 9 mm thickness and width 300 mm which can be taken out on either side upto approximate 225 mm for placing the mouse and pad. The table shall also be made with the provision of lockable drawer adjacent to the Key Board drawer, of appropriate size. One shelf of 18 mm of one side pre-laminated MDF having a gap of 450 mm

from the drawer shall also be provided for holding CPU, UPS, etc.

Computer-cum- printer table shall also have a Key Board drawer/shelf, sliding board (for keeping the mouse and pad), and a lockable drawer. Two shelves are also made for keeping CPU, UPS and stationery etc. A slot on table top is made for smooth passage of computer stationery. MS Flat to support the seat and back rest. The side support shall be made of 50 × 6 mm MS Flat welded to main frame. The arms shall be supported on the side frames having flat of not less than 30 × 6 mm MS Section welded to the side frame. The PUF and coirised rubber sheet of seat and back rest shall be covered by tapestry/fabric by stitching, and with the help of adhesive and nails. Fabric are also bought out from market which are available in different shades like Coffee Brown/Navy Blue/Light Brown/Grey, etc., and used as per the choice of customer and availability of stock.

The PUF arms for the computer chairs are available in plenty of designs in the market and shall be fitted according to customers orders.

(II) *Computer Chairs:* The Computer chair shall be revolving type fabricated in knock-down design for easy assembly and transportation, of 12 mm thick ply, pressed formed and ergonomically shaped seat and back which are easily available in the market in standard sizes. These seat and backrest shall be covered with mechanically formed PUF 50 mm thick with an underneath coirised rubber sheet of 12 mm thick. The PUF and coirised rubber sheet are also bought out from market and manually cut to desired sizes of seat and back rest. Then the seat will be fixed to

synchro tilt mechanism which is fabricated in the unit by cutting, bending and welding etc. Five pronged base of MS sheet, 2.5 mm thick duly powder coated is supported on strong ABS Cylindrical turning twin type roller 50 mm dia. The main supporting system for chairs shall be fabricated out of 50 × 8 mm.

Quality Control and Standards

- The Hollow Rectangular MS Section used for manufacturing of Computer Table shall conform to IS 71381 : 73. The pre-laminated medium density fibre board for table top shall conform to IS 14587 : 98.
- Pressed formed and ergonomically shaped seat and back shall be used and conform to IS 303 : 89 having BWR AA type ply.
- The fabric for chair shall be used as per customers requirements but in this project report, the calculation is based upon the fabric of standard quality with following specifications:

Weight of fabric	- 250 gms/Sq. metre nominal
Construction	- Wrap 140 + 5%, Weft 120 + 5%
Breaking strength	- 5 + 20 cm between grips
Weft	- 130 (Min)
Wrap	- 150 (Min.)
Material	- Polyester
Count of yarn	- Both Warp and Weft 2/14

All sharp edges should be removed and welding joints must be sound and strong. Coaster wheel movement of chair should be easy. Backrest

movement should be noiseless. Computer table key board slide movement should be ease in operation. Table joints should be rigid.

Production Capacity (per annum)

(I) Computer Tables

- 1) Computer table (Overall size 900 × 600 × 750 mm) - 1800 Nos.
- 2) Computer-cum-Printer Table - Overall Size 1200 × 700 × 750 mm - 1000 Nos.
- 3) Printer Table (Overall size 750 × 700 × 750 mm) - 1800 Nos.

(II) Computer Chairs

- (1) Computer Chair without Arms and adjustable seat having size 725 × 725 × 950 - 1050 mm - 4000 Nos.
- (2) Computer Chairs with Arms and adjustable seat Height size 725 × 725 × 950 - 1050 mm.- 3000 Nos.
- (3) Executive Computer Chairs with Arms and adjustable seat height of size 725 × 725 × 1100 - 1200 mm, - 1500 Nos.

Motive Power 15 HP.

Pollution Control

Noise Pollution created by machines should be controlled within limits.

Energy Conservation

Shunt capacitors should be provided to control power factor. As electricity is used as a supply of energy in the unit, hence for better results efficient motor should be used. Tube lights, fans, etc., should be kept off as and when not required.

FINANCIAL ASPECTS

A. Fixed Capital

(i) Land and Building

450 sq. mtrs. of covered area, @ Rs. 20 per sq. mtr. per month on rent (450 × 20)	Rs. 9000
---	----------

(ii) Machinery and Equipments

Sl. No.	Description	Qty.	Amount (In Rs.)
1.	Multi Purpose Wood Working Machine	1 No.	30,000
2.	Hand operated Screw Press 5 Nos.	1 No.	12,000
3.	Arc Welding Machine 300 Amp.	1 Set	10,000
4.	Gas Welding Set	1 Set	3,500
5.	Pipe Shearing Machine 4" size	1 Set	11,000
6.	Double ended bench Grinder 6"	1 No.	4,000
7.	Flexible Shaft Grinder 6" Wheel size	2 Nos.	2,000
8.	Bench Drilling Machine 3/4" Cap. with motor	1 No.	12,000
9.	Portable Drilling Machine	1 No.	3,000
10.	Powder coating equipment	1 No.	1,50,000
11.	Air Compressor	1 No.	40,000
12.	Paint Baking Oven Temp. 300 deg. C, 8' x 6' size	1 No.	85,000
13.	Phosphating Plant	1 No.	30,000
	Total		3,92,500
-	<i>Electrification and Installation @ 10% of the Cost of Machinery</i>		39,250
-	<i>Tools, Jigs, Fixtures, etc.</i>		7,000
-	<i>Office furniture, etc.</i>		7,000
	Total		4,45,750
(iii)	Pre-operative Expenses		20,000
	Total Fixed Capital (ii+iii)		4,65,750

B. Working Capital (per month)

(i) Staff and Labour

Sl. No.	Designation	No.	Salary (Rs.)	Amount (In Rs.)
1.	Manager	1	4000	4,000
2.	Accountant-cum-Clerk	1	3000	3,000
3.	Skilled Workers	4	2800	11,200
4.	Semi-skilled Worker	4	2200	8,800
5.	Un-skilled Worker/Peon	3	1,800	5,400
	Total			32,400
	<i>Add 15% perks</i>			4,860
	Total			37,260

(ii) Raw Material

Sl. No.	Particulars	No.	Rate (Rs.)	Amount (In Rs.)
1.	MS Square and Rectangular Section of assorted size	46 MT	22,000/MT	10,12,000
2.	Ball Bearing Channel 15" long and 2 mm thick	4600 Set	15/ Set	69,000
3.	Both side Pre-laminated Particle Board 18 mm thick	6000 Sq.mtrs.	600/ sq.mtr.	36,00,000
4.	Plastic Fittings, Floor Adjuster Screws, PVC Beadings		L.S.	2,25,000
5.	PUF Arm set:			
	i) For general type chair	7000 set	200/ chair	14,00,000
	ii) For Executive Chair	1500 set	350/ chair	5,25,000
6.	Tapestry/Fabric:			
	i) For General type chair	10,500 Mtrs.	100/ Mtr	10,50,000
	ii) For Executive Chair	3750 Mtrs.	150/ Mtr.	5,62,500
7.	MS Strip 50x 5 mm size, MS Round 1 1/2' size etc.	81 MT	15500/ MT	12,55,500
8.	MS Pedastal Arms of Assorted sizes	42.5 set	25,000/ MT	10,62,500
9.	Twin Roller type ABS Coaster set	8,500 set	325/ set	27,62,500
10.	Plywood Seat (16"x16" and 18"x18" size) and Back (16"x14" and 16"x18" size) set, thickness 12 mm and PU Foam seat and Back set			
	i) For General type	7000 set	1000/ set	70,00,000
	ii) For Executive type	1500 set	1500/ set	22,50,000

Sl. No.	Particulars	No.	Rate (Rs.)	Amount (In Rs.)
11.	PVC Beadings Shoes for Chairs	LS		85,000
12.	Powder coating compound	1300 kg.	200/kg.	2,60,000
	Total (per annum)			2,31,19,000
	Say (per month)			19,26,000

(iii) Utilities		(In Rs.)
1.	Electricity	7,000
2.	Water	200
	Total	7,200

(iv) Other Contingent Expenses		(In Rs.)
1.	Rent	9,000
2.	Postage Stationery	1,200
3.	Telephone	1,500
4.	Transportation Charges	6,000
5.	Advertisement and Publicity	3,000
6.	Insurance	800
7.	Travelling Expenses	3,000
8.	Phosphating and Cleaning agents and other Misc. Expenses	4,000
	Total	28,500

(v) Total Recurring Expenses (per month) (Rs.)		
1)	Salaries and Wages	37,260
2)	Raw Materials	19,26,000
3)	Utilities	7,200
4)	Other Contingent Expenses	28,500
	Total	19,98,960
	Say	19,99,000

C. Total Capital Investment

1) Fixed Capital	Rs. 4,66,000
2) Working Capital for 3 Months	Rs. 59,97,000
Total	Rs. 64,63,000

FINANCIAL ANALYSIS

(1) Cost of Production (per annum) (In Rs.)	
(1) Total Recurring Cost	2,39,88,000
(2) Depreciation on Machines @ 10%	39,250

(1) Cost of Production (per annum) (In Rs.)	
(3) Depreciation on Tools, Fixtures, etc., @25%	1,750
(4) Depreciation on Office equipment @20%	14,000
(5) Interest on Capital Investment @ 16%	10,34,080
Total	25,077,080
Say	250.77 lacs

(2) Turn-over

Sl. No.	Description	Qty. Nos.	Price (Rs.)	Amount (In Rs.)
1.	Computer Table size 900 × 600 × 750 mm	1800	2,250	40.50
2.	Computer-cum-Printer Table size 1200 × 700 × 750 mm	1000	2,600	26.00
3.	Printer Table size 750 × 700 × 750 mm	1800	1,800	32.40
4.	Computer Chair without Arms size 725 × 725 × 950 -1050 mm	4000	1,900	76.00
5.	Computers Chair with Arm, size 725× 725×950-1050 mm	3000	2,100	63.00
6.	Executive Computer Chair size 725×725 ×1100-1200 mm	1500	3,000	45.00
	Total			282.90(Lakhs)

(3) Net Profit (per annum)

Turnover - Cost of Production

Rs. 282.90 - 250.77

= Rs. 32.13 Lakhs

(4) Net Profit Ratio = $\frac{\text{Net Profit per year} \times 100}{\text{Turnover per year}}$

= $\frac{32.13 \times 100}{282.90}$

= 11.36%

(5) Rate of Return = $\frac{\text{Net Profit per year} \times 100}{\text{Total Investment}}$

$$= \frac{32.13 \times 100}{64.63}$$

$$= 49.11\%$$

(6) Break-even Point

Sl.No.	Annual Fixed Cost	(In Rs.)
1)	Depreciation on Machinery Furniture, etc.	55,000
2)	Rent of Building	1,08,000
3)	Interest on total investment	10,34,080
4)	Insurance	9,600
5)	40% of Salary and Wages	1,78,848
6)	40% of other Contingent Expenses (excluding Rent and Insurance)	1,36,800
	Total	15,22,328

$$\begin{aligned} \text{B.E.P.} &= \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost} + \text{Profit}} \\ &= \frac{15,22,328 \times 100}{15,22,328 + 32,13,000} \\ &= \frac{15,22,328 \times 100}{47,35,328} \\ &= 31.48\% \end{aligned}$$

Addresses of Machinery and Raw Material Suppliers

1. M/s. Charandeep Industries
S C O 32, G.S. Complex,
1st Floor, Sangeet Cinema Road,
Ludhiana.
2. M/s. Akal Industries
240, St. No. 3,
Darmesh Nagar,
Near Campa Cola Chowk,
Ludhiana.

3. M/s. A.P. Enterprises
40, New Kapur Nagar,
Sultanwind Road,
Amritsar-143006
Ph. No.: 2234099.
4. M/s. Nightingale Products
Bachittan Nagar,
Near GNE College,
Gill Road,
Ludhiana.
5. M/s. Welding and Tools
Corporation
GT Road Miller Ganj,
Near Overbridge,
Ludhiana.
6. M/s. Kalgidhar Foundry and Agro
Industries
G.T. Road,
Opp. Power House,
Mandi Gobinagar.
7. M/s. Ajit Electro Sales
9, Gurudwara Market,
Opp. Manager Cinema,
G.T. Road,
Ludhiana.
8. M/s. A. P. Engineering Works
42, New Kapoor Nagar,
Sultanwind Road,
Amritsar -143006.
9. M/s. Guru Nanak Fabricators
3201, St. No. 2,
New Janta Nagar,
Opp. Arora Palace,
Ludhiana -141003.