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कार्यलाय जापन

विषय: "प्रधानमंत्री किसान सम्पदा योजना (पीएमकेएसवाई) के अंतर्गत पात्र परियोजना लागत की गणना करने हेतु अवसंरचना और प्रसंस्करण सुविधाओं के लिए लागत मानदंड निर्धारित करने से संबंधित मसौदा रिपोर्ट पर आम जनता की टिप्पणियां मांगने हेतु नोटिस – के बारे में।

डॉ. सी. वासुदेवप्पा, उप कुलपति, राष्ट्रीय खाद्य प्रौद्योगिकी उद्यमशीलता एवं प्रबंधन संस्थान (निफ्टेम) की अध्यक्षता में गठित समिति ने समक्ष प्राधिकार के अनुमोदन से "प्रधानमंत्री किसान सम्पदा योजना (पीएमकेएसवाई) के अंतर्गत पात्र परियोजना लागत की गणना करने हेतु अवसंरचना और प्रसंस्करण सुविधाओं के लिए लागत मानदंड निर्धारित करने से संबंधी मसौदा रिपोर्ट प्रस्तुत की है। स्कीम का ब्यौरा मंत्रालय की वेबसाइट (mofpi.nic.in) पर उपलब्ध है।

2. मसौदा रिपोर्ट आज से 10 दिनों के भीतर अर्थात् देर से देर 20.06.2019 (5.00 बजे अपराहन) तक आम जनता की टिप्पणियां मांगने हेतु इसके साथ संलग्न है। टिप्पणियां, यदि कोई हों, सीधे उपकुलपति (निफ्टेम) को उनकी ई-मेल (vc@niftem.ac.in) पर भेजी जाएं और प्रति श्री एच.के.पटनायक, उप सचिव, खाद्य प्रसंस्करण उद्योग मंत्रालय को उनकी ई-मेल (hkpattan@nic.in) पर भेजी जाएं।

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Draft Guidelines for

Fixing the Cost Norms

For

Various Schemes of

***PRADHAN MANTRI
KISAN SAMPADA YOJANA
(PMKSY)***

Of



Ministry of Food Processing Industries
Government of India
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PROCESS FOLLOWED TO FIX THE COST NORM

The process followed to fix the cost norm for various plant machinery and equipment, utilities and other items is based on the discussion and method followed by committee members in proposing the cost norms following points are submitted.

The cost of the plant machinery and equipment were collected from original equipment manufacturer (OEM) by email. Quotations as received from the OEMs were discussed and thoroughly looked at by the concerned expert members of the committee and corrections etc were added. Cost norms are proposed for commonly used plant machinery and equipment in food industry along with utilities needed.

The cost norms provided are also based on the information available about cost of equipment, mostly obtained for other purposes over a period of time by member's institution of the committee. Wherever the quotes were relatively older, escalation factor was also considered. As, the cost of an equipment with same specification varies with suppliers, geographical location etc., it would be difficult to obtain a very precise quote or cost norms for the line identified. It may be noted that generally it takes time to obtain response from suppliers, especially when number of lines is more.

In some cases like warehouses, CWC is constructing warehouses of different capacities from time to time on PAN India basis and based on the prevailing rates received in the open tenders inquiry and approved by the department have been considered in the submission for fixing the cost norms of the warehouses/godowns in different soil conditions, different zones etc. as applicable. Similarly, rates of silo have been considered based on the rates received by CWC and FCI in the open tenders inquiry. So far as fixing the rates of office buildings, same is based on the plinth area rates of CPWD with prevailing cost index. Hence, a scientific method has been adopted in calculating the rates which was submitted to the committee.

Similarly cost norms for equipment of Dairy sections, Fruits and vegetables processing plant, Millet processing & value added products etc and miscellaneous items, the source of submitted cost are from original equipment manufacturer (OEM).

Regarding specification of the equipment, capacity and general specifications are mentioned against each equipment, however detail specification of each is not practically possible to include at this stage and it is not needed also. These costs are indicative or budgetary cost and actual cost may vary depending on various factors. So collection of detail specification of each equipment is beyond the scope of the present committee as this work will need more than one year atleast with dedicated manpower.

It is hoped that the proposed cost norm is very clear and it would be useful in PMKVY scheme.

1. Cold Chain



Cold Chain in Food Processing

A. [Cost norms of plant & machinery and equipment for Fruits & Vegetables Processing Sector under the Scheme of Integrated ColdChain and Value Addition Infrastructure](#)

Sr. No.	Description				Cost (In Rs. Lac.)
A.1	IQF Tunnel [without refrigeration]		Associated Frozen Storage capacity	Refrigeration cost of IQF & Associated Frozen Storage	Total
1.1	1 MT/hr.	85.00	1000 MT	140.00	225.00
1.2	2 MT/hr.	130.00	2000 MT	230.00	360.00
1.3	3 MT/hr.	220.00	3000 MT	290.00	510.00
1.4	4 MT/hr.	250.00	3000 MT	350.00	600.00
1.5	5 MT/hr.	280.00	3000 MT	400.00	680.00
A.2	IQF	Tunnel only(Cost in Rs Lac)	Refrigeration (Cost in Rs Lac)	Total	
2.1	1 MT/hr.	85.00	95.00	180.00	
2.2	2 MT/hr.	1,30.00	150.00	280.00	
2.3	3 MT/hr.	2,20.00	170.00	390.00	
2.4	4 MT/hr.	2,50.00	200.00	450.00	
2.5	5 MT/hr.	2,80.00	220.00	500.00	
2.6	6 MT/hr.	3,18.00	250.00	568.00	
A.3	Blast Freezer(Including refrigeration and PEB structure)				Total
3.1	1 MT/Batch	35.00		35.00	
3.2	2 MT/Batch	50.00		50.00	
3.3	3 MT/Batch	70.00		70.00	
A.4	Spiral Freezer (without refrigeration)		Refrigeration	Total	
4.1	250 Kg/hr.	130.00	150.00	280.00	
4.2	500 Kg/hr.	170.00	180.00	350.00	
4.3	1000 Kg/hr.	200.00	200.00	400.00	

A.5	Pre-Processing/Preparatory Line associated with IQF for Peas (Including Depodder, Blancher & Pre-chiller)	Total
5.1	1 MT/hr.	80.00
5.2	2 MT/hr.	130.00
5.3	3 MT/hr.	180.00
5.4	4 MT/hr.	200.00
5.5	5 MT/hr.	250.00
5.6	6 MT/hr.	300.00
A.6	Pre-Processing/Preparatory Line associated with IQF for other Vegetables (other than Peas)	Total
6.1	Add on to Sl. No. A.5	7.00
A.7	Sorting Grading Line for other fruits & vegetables (other than Apple)	Total
7.1	1 MT/hr.	15.00
7.2	2 MT/hr.	25.00
7.3	3 MT/hr.	30.00
7.4	4 MT/hr.	40.00
7.5	5 MT/hr.	50.00
A.8	Sorting, Grading & Packing Line for Apple (with optical grader)	Total
8.1	5 MT/hr.	200.00
8.2	10 MT/hr.	280.00
8.3	15 MT/hr.	325.00
A.9	Weighing & Packing Machine 1MT/hr.	65.00
A.10	Metal Detector	10.00

B. Cost norms of plant & machinery and equipment for Marine/ Fisheries/ Meat & Poultry Processing Sector under the Scheme of Integrated Cold Chain and Value Addition infrastructure

Sr. No.	Description			Cost (In Rs. Lac.)
B.1	IQF (freezing/ glazing/ hardening of shrimp) (without refrigeration)			
	Capacity	Tunnel Only	Refrigeration	Total
1.1	250 Kg/hr.	195.00	95.00	290.00
1.2	400 Kg/hr.	265.00	110.00	375.00
1.3	500 Kg/hr.	275.00	120.00	395.00
1.4	600 Kg/hr.	285.00	130.00	415.00
1.5	750 kg/hr.	300.00	145.00	445.00
1.6	1000 Kg/hr.	375.00	170.00	545.00
B.2	Plate Freezer (without refrigeration)		Refrigeration	Total
2.1	750 Kg/hr.	25.00	45.00	70.00
B.3	Spiral Freezer(without refrigeration)		Refrigeration	Total
3.1	250 Kg/hr.	130.00	150.00	280.00
3.2	500 kg/hr.	170.00	180.00	350.00
3.3	1000 Kg/hr.	200.00	200.00	400.00
B.4	Cooking Line			Total
4.1	250 Kg/hr.			130.00
4.2	500 Kg/hr.			150.00
4.3	750 Kg/hr.			185.00
B.5	Weighing Line			Total
5.1	7.5 MT/hr.			45.00

B.6	Automatic Grading Line		Total
6.1	1 MT/hr.		40.00
6.2	2 MT/hr.		60.00
B.7			
	Ice Maker		Total
	<i>Tube Ice Maker</i>		
7.1.1	Tube Ice Maker - 25 TPD		21.00
7.1.2	Tube Ice Maker - 40 TPD		23.40
7.1.3	Tube Ice Maker - 50 TPD		25.00
7.1.4	Tube Ice Maker - 60 TPD		26.60
	<i>Flake Ice Maker</i>		
7.2.1	Flake Ice Maker-5 MT		15.00
7.2.2	Flake Ice Maker-10 MT		19.00
7.2.3	Flake Ice Maker-20 MT		25.00
B.8			
	Blast Freezer (including refrigeration and PEB structure)		Total
8.1	1 MT/Batch	35.00	35.00
8.2	2 MT/Batch	50.00	50.00
8.3	3 MT/Batch	70.00	70.00
B.9			
	Spiral Freezer (without refrigeration)	Refrigeration	Total
9.1	250 Kg/hr.	130.00	280.00
9.2	500 Kg/hr.	170.00	350.00
9.3	1000 Kg/hr.	200.00	400.00
B.10			
	Weighing & Packing Machine 1MT/hr.		65.00
B.11			
	Metal Detector		10.00

C. Cost norms for NHB related activities

Sr. No.	Category	Component	Capacity	Cost (Rs.)
C.1	Development of Integrated Post Harvest Management	Pack House	9M*6M	4.0 lac./unit
		Integrated pack house (with facilities for conveyer belt, sorting, grading units, washing, drying and weighing)	9M*18M	50.0 lac./unit
		Pre-cooling unit	6 MT	25.0 lac./unit
		Cold room (staging)	30MT	15.0 lac./unit
		Mobile pre- cooling unit		25.0 lac./unit
		Ripening Chamber (11 M ³ of chamber vol. shall be equivalent of 1 MT of storage capacity)	lac/MT	1.0 lac./MT
C.2	Expansion/ Modernization of Cold Storage	Cold storage units (Type 1 (Basic type with single Temp. zone) Cost in Rs per MT	upto 5000 MT	8000
			5001 to 6500 MT	7600
			6501 to 8000 MT	7200
			8001 to 10000 MT	6800
		Cold storage units (Type 2 (with multi Temp. zones & basic material handling equipment) Cost in Rs per MT	upto 5000 MT	10000
			5001 to 6500 MT	9500
			6501 to 8000 MT	9000
			8001 to 10000 MT	8500
		Cold storage units (Type- 2 (with add on Tech. for Controlled Atmosphere)		Additional Rs. 10,000/ MT for add on components of controlled atmosphere technology
		Technology induction and modernization of cold-chain		Max Rs 500.00 Lac @ Rs. 5000/MT for max. capacity of 10000 MT.
		Refrigerated Transport Vehicles (104 Feet ³ of chamber volume shall be equivalent of 1MT of storage capacity)		Rs. 30.00 lac for 15 MT, and prorate basis for capacities between 9 to 15 MT (3m ³)

D. Cost norms for Cold storage

Component	Capacity/ Quality	Cost (In Rs. Lac.)
Cold storage	2000MT	265.00
Potato cold storage	10000 MT	1000.00
Multi commodity cold storage	3000 MT	300.00
Cold storage for fruits and vegetables	500 MT	50.00
Multi storey cold storage	Normal-3036 MT, Frozen(-18 deg c)-1006 MT	450.00
Bulk potato cold storage	1250 MT * 8 chamber(5824 sq m)	1000.00
Cold storage	93 MT	9.00
Pack house with cold storage	2600 SQM	260.00
Cold storage	5000 MT	600.00
Freezer and cold storage	100 MT	150.00
Cold room	500 Sq.M	88.50
Cold store	(2500 MT) Frozen CS (500 MT)+ Ripening chamber (20 MT*4)	405.00

E. Cost norms for Refrigeration Unit

Particulars	Capacity/ Quality	Cost (In Rs. Lac.)
Refrigerated van	9 Mt	6.00
Refrigeration	360 TR	96.00
Continuous freezer	600 lit/hr	49.00
Chiller plant	150 TR	28.00
Blast freezer	200 Kg to 2000 Kg	10.00/unit
Air compressor with air dryer	20 CPM	0.27/unit
Thermic fluid heaters (SS304, SS316)	500 to 2000 kg/h	5/unit
Chilling plant -20 degree	1	12.40
Chilling plant -5 degree	1	10.33
Automatic nitrogen gas plant	50 LPM to 10000 LPM	5.55/unit
LP compressor	757 CFM	61.50

HP compressor	1024 CFM	94.27
Air compressor	75 HP	39.67
Air compressor	50 HP	15.13
Air compressor	15 HP	7.30
Air compressor	5 hp	2.10
Air compressors (screw type)	3650 x 1700 x 204 (L x W x H) mm	5.50/unit

F. Cost norms for Refrigeration Van.

Sr No	Particulars	Cost (In Rs. Lac.)	Remarks
1.	Refrigerated containers Material FRP Container Length 10 feet Capacity 40-50 ton Temperature Range -25 to +4°C	8.00	Excluding the vehicle cost
2.	Reefer Van Fuel Type Diesel Gross Vehicle Weight 3600 (KG) Type AC Payload Capacity 1600 (KG) No. of wheels 4 Temperature -15 to - 5°C Insulation PUF	3.60	Excluding the vehicle cost
3.	Refrigerated containers Material Mild Steel Container Length 8 - 10 Feet Container Type Reefer Container Capacity 10-20 ton Surface Finishing Pain Coated Temperature Range -25 to +4°C	8.00	Excluding the vehicle cost

2. Fruits & Vegetable Processing

Fruits and Vegetable



A. Fruit & Vegetable Processing

Sr.No.	Particulars	Capacity	Cost (Rs. in Lac.)
A.1	Fruit and vegetable Pack House (Multi fruits and vegetables) Handling line (Conveyor, storage tanks, washer, dryer, sorter and grader, weighing balance) wax coating, ripening chamber, vapour treatment facility, pre-cooling, cold storage	1.0 TPD	55-60
		2.0 TPD	85-90
		3.0 TPD	120-130
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)	-	20
	DG with accessories	125KVA	15
	Effluent water treatment plant	100KLD	20
A.2	Fruit Jam/Jelly (Bottling line)Fruit sorting & Grading, Washer, Inspection conveyor, fruit mill, pulper, Sugar Syrup preparation syrup filters, Homogenization & pasteurization, Bottling Section, bottle inspection conveyor	1 TPH	50-55
		2.0 TPH	75-80
		3.0 TPH	100-110
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)	-	20
	DG with accessories	125KVA	15
	Effluent Water treatment plant	100KLD	20
	Boiler with accessories	500kg/h	20
Water softening plant	10 KLH	5	
A.3	Tomato Paste/Puree/Sauce/Ketchup (Bottling line)		
	Handling (washer, grader ,sorting table, crusher, cold and hot break system, inspection conveyor), pulper, juice extractor, evaporator, steam jacketed kettles, bottling line, concentrator, Tomato paste aseptic	1.0 TPH	60-65
		2.0 TPH	90-95
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)	-	20
	DG with accessories	125KVA	15
	Effluent treatment plant	100KLD	20
	boiler with accessories	500kg/h	20
Water softening plant	10 KLH	5	
A.4	Fruit and vegetable juice / squash (Bottling line) (Bottling line) Handling (washer, grader ,sorting table, crusher,cold and hot break system, inspection conveyor), pulper, juice extractor,evaporator, steam jacketed kettles, bottling line, concentrator, Tomato paste aseptic	1.0TPD	45-44
		1.0 TPH	60-65
		2.0 TPH	90-95
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)	-	20
	DG with accessories	125KVA	15

	Effluent treatment plant	100KLD	20	
	boiler with accessories	500kg/h	20	
	Water softening plant	10 KLH	5	
A.5	Spray dried fruit and vegetable	0.25TPD	150-160	
	washer, sorting , grading , sorting table, Inspection table, fruit mill, pulper, filtration system, homogeniser, spray drying system, packaging machinery			
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)			
		DG with accessories	125KVA	15
		Water treatment plant (ETP)	100KLD	20
		Boiler with accessories	500kg/h	20
A.6	Dehydrated vegetables	1TPD	130-140	
	Primary processing (grading, sorting and grading), Peeler, slicer, dicer/ cutting, blanching unit, Continuous Hot air dryer			
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)			
		DG with accessories,	125KVA	15
		Water treatment plant (ETP)	100KLD	20
A.7	Canning line for fruit pulp (mango guava etc.)	2 MT/h	65-70	
	Preparatory line (conveyor, sorting & grading , washing, weighing)			
	Processing line (fruit mill, pulper)			
		Canning line (Reformer, Seamer, Continuous filler, Exhaust box, Retort, steriliser)		
		Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)	-	20
		DG with accessories,	125KVA	15
		Water treatment plant	100KLD	20
		Boiler with accessories	500kg/h	20
		Water softening plant	10 KLH	5
A.8	Aseptic line for fruit pulp (Multiple fruits)	3.0MT/h	390-400	
	Preparatory line (conveyor, sorting & grading , washing, weighing)			
	Processing line (fruit mill , pulper)			
	Aseptic line (sterilizer, filler, chiller, aseptic storage tank)			
	Material handling equipment (trolleys, elevators, Hand Pallets			

	truck, Forklift)		
	DG with accessories	125KVA	15
	Water treatment plant (ETP)	100KLD	20
	Boiler with accessories	500kg/h	20
	Water softening plant	10 KLH	5
A.9	Pickle Line (Multi vegetable)	5.0TPD	25
	Washing tank, Vegetable preparation tables, Lime quartering machine, mango slicing machine		
	Pickle blending machine, pickle filling machine, mixing tanks		
	Lug capping machine		
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)		
	DG with accessories	125KVA	14
	Water treatment plant (ETP)	100KLD	20
A.10	Aseptic Juice Line (RTS beverages)	2.0TPH	375-380
	Preparatory line (conveyor, sorting & grading , washing, weighing)		
	Processing line (fruit mill , pulper/ juicer, decanter)		
	Syrup preparation line (Steam jacketed kettle, syrup filters)		
	Mixing tank		
	Aseptic line (sterilizer, filler, chiller, aseptic storage tank, packaging machines)		
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)		
	DG with accessories	125KVA	14
	Water treatment plant (ETP)	100KLD	20
	Boiler with accessories	500kg/h	20
	Water softening plant	10 KLH	5
	A.11	IQF plant for frozen fruits and vegetables	0.5 TPH
Preparatory line (washer, inspection conveyor, sorter and grader,)		1.0 TPH	260-270
IQF freezing system		2.0 TPH	350-360
Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)		-	
DG with accessories		125KVA	15
Water treatment plant (ETP)		100KLD	20
Boiler with accessories		500kg/h	20
Water softening plant		10 KLH	5
A.12	Amchur (Dry Mango powder) processing plant	6TPD (raw	38-40

	Preparatory line (Washer, slicer, fruit preparation tables)	mango)			
	Dryer				
	Hammer mill				
	Packaging machines				
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)				
	DG with accessories			125KVA	15
	Water treatment plant (ETP)			100KLD	20
A.13	Freeze drying plant for fruits and vegetables	1TPH (raw material)	500-550		
	Preparatory line (Washer, inspection conveyor, sorting and grading, preparation table)				
	Processing line (Peeler, slicer, dicer, blanching unit)				
	Freeze dryer				
	Packaging machines, dehumidifier				
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)				
	DG with accessories			125KVA	15
	Water treatment plant (ETP)			100KLD	20
	Boiler with accessories			500kg/h	20
A.14	Juice Concentration line (Apple)	2.0 TPH	500-525		
	Preparatory line (grader & sorter, inspection conveyor, washer)				
	Juice extractor, Filtration unit, centrifugation, pasteurizer, evaporator, Aseptic sterilizer				
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)				
	DG with accessories			125KVA	15
	Water treatment plant (ETP)			100KLD	20
	Boiler with accessories			500kg/h	20
	Water softning plant			10 KLH	5
A.15	Candied fruit and vegetable Production line	1.0 TPD	40-45		
	Preparatory line (Washer, inspection conveyor, sorting and grading, preparation table)				
	Processing line (Peeler, slicer, dicer, blancher)				
	steam jacketed kettle, tank for candy preparation, duplex filter, dripping table, dryer				
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)				
	DG with accessories			125KVA	15
	Water treatment plant (ETP)			100KLD	20

	Boiler with accessories	500kg/h	20
	Water softening plant	10 KLH	5
A.16	Carbonated beverage/Drink production line	1.0 TPH	100-110
	Preparatory line (grader & sorter, inspection conveyor, washer)		
	Juice extractor, decanter, Filtration unit, pasteurizer , Carbonation unit, Bottling line		
	Material handling equipment (trolleys, elevators, Hand Pallets truck, Forklift)		
	DG with accessories	125KVA	15
	Water treatment plant (ETP)	100KLD	20
	Boiler with accessories	500kg/h	20
	Water softening plant	10 KLH	5
A.17	Utilities		
	DG with accessories	125KVA	15.00
	Water treatment plant (ETP)	100KLD	20.00
	Boiler with accessories	500kg/h	20.00
	Water softening plant	10 KLH	5.00

B. Tomato Processing

Particulars	Total Cost (In Rs. Lac.)	Remark
Tomato waste reception, separation & pulping section	36.00	Tomato processing will be evaluated in terms of proportion of skin, pulp and seeds. The Skin and Seeds will go for wastage processing and pulp will go for further processing such as ketchup.
Tomato concentration plant	76.50	The pulp obtained is called puree. The refined tomato juice from Pulper cum finisher is then fed to the double effect vacuum evaporator to be concentrated by boiling at low temperature under vacuum to preserve the organoleptic characteristics of the tomato
Utilities		
Semi electrical stacker	129.60	Stacker will be used for handling all types of applications including lifting, transporting skids, baskets and pallets.
Manual pallet truck	5.80	It will be used to lift and move pallets. Pallet truck are the most basic form of a forklift and are intended to move heavy or light pallets within a warehouse
Platform hand trucks	2.20	It will be used for transferring, unloading materials, delivering and moving them from one place to another.
Platform hand trucks	4.20	It will be used for transferring, unloading materials, delivering and moving them from one place to another.

Plastic crats	447.60	Crates will be used for storing and moving goods through all links of the distribution chain.
Plastic pallets	272.60	It will be used for cold storage and warehouse. The pallet is the structural foundation of a unit load which allows handling and storage efficiencies.
Electrical fork lifts	16.24	It will be used for transferring, unloading materials, delivering and moving them from one place to another.

C. Onion Processing

C1. Onion Dehydration Plant of Capacity 10 TPD and 5TPD

S. NO	PARTICULARS	TOTAL PRICE (Rs)	TOTAL PRICE (Rs)
		10 TPD	5 TPD
A	RAW MATERIAL PRE-TREATMENT SECTION	450	351
	ROUND GRADER AND CLEANER MACHINE		
	VEGETABLE WASHER MACHINE		
	SUPPLY ELEVATORE		
	VEGETABE- DISH PILLER MACHINE		
	WASHING TANK		
B	RAW MATERIAL SLICING SECTION		
	SUPPLY ELEVEVATOR		
	BUFFER STOCK CONTINEOUS HEADER CONVEYOR		
	SLICER MACHINE		
C	RAW MATERIAL DRYING SECTION		
	SUPPLY CONVEYOR TO DRYER		
	VEGETABLE DRYER		
	BEEN BOX DRYER		
D	RAW MATERIAL POST TREATMENT SECTION		
	DRY MATERIAL GRADER		
	SHORTING CONVEYOR		
	METAL DETECTOR		
	PACKING MACHINE (5-10KG SEALING MACHINE)		
E	ELECTRICALS		
F	ERECTION & FITTING CHARGES		

Sr.No	Particulars	Total capacity	Cost (Rs. in Lac)
C.2	Processing Line		
	Preparation line - sticker	7MT/Hr	52.37
	Preparation line - washing	7MT/Hr	29.55

	Dryer- dehydration	500Kg 92.5kw	2425.89
	Granulation	1MT/Hr	21.13
	Blender line	1MT/Hr	54.55
	Sifter line- packing	0.75MT/Hr	18.70
	Milling line	0.5MT/Hr	47.96
	Onion dehydration plant	15 ton/day	1700.00
	Onion powder making plant from dehydrated onion		250.00
C.3	Packaging		
	Packaging after drying	0.5MT/Hr	12.97
	Packing line FG	3MT/Hr	36.92
C.4	Utilities		
	Colour sorter line	0.5MT/Hr	64.62
	Cleaning line	1MT/Hr	18.46
	Central dust collection, compressed air line and platform		76.85
	Pallet guard sleeve		15.34
	Power Generation- caterpillar	1250 KW	99.12

C.5 Onion Processing Equipments

Sr.No	Particulars	Total Capacity	Total Cost (Rs.in Lac)
1	Automatic net clipping machine (1 set having 5 units)	1 Set	246.00
2	Belt conveyor stitching machine	350 mm	12.00
3	Belt conveyor stitching machine	350 mm (2 Nos)	12.00
4	Belt conveyor stitching machine	350 mm (10 Nos)	60.00
5	Cold storage facility	7500 MT	
6	Computer weighing machine (1 set having 4 units)	2.5 kg approx. 48-50 cycles per min	252.13
7	Control & Ventilation system		1257.00
8	Cooling system		1272.00
9	Crates for storage	14000 MT	260.00
10	Dehydrated onion sorting line	(2 Nos)	120.00
11	DG Set	100 Kva (3 Nos)	17.70
12	DG set	160 Kva (3 Nos)	24.75
13	Door & Windows		466.00
14	Electrical		25.00
15	Electrical	1Set	40.00
16	Final packing line for dehydrated onion	(2 Nos)	120.00
17	Fork lift	2000 Kg (2Nos)	26.00
18	Fork lift	2000 Kg (4 Nos)	52.00
19	Grading line on wheels		320.00

20	Heat pump dryer for onion dehydration	max 500 kg input	171.46
21	Loading/Unloading line		570.00
22	Onion Dehydration plant	4 MT	1800.00
23	Onion grading machine	10 Tons/Hr	42.00
24	Onion grading machine	10 Tons/Hr	21.00
25	Onion grading machine	10 Tons/Hr	126.00
26	Onion packing bags making line		300.00
27	Onion retail outlets	15000 MT	525.00
28	Onion sorting and weigher feeding line	10 Tons/Hr	32.00
29	Onion sorting and weigher feeding line	10 Tons/Hr (2Nos)	16.00
30	Onion sorting and weigher feeding line	10 Tons/Hr (12 no)	96.00
31	Onion sorting, grading and packing line		20.00
32	Panel for insulation		1744.00
33	Plastic crates	5000 Nos	150.00
34	Racks for storage	14000 MT	260.00
35	Refrigeration plant & Machinery	Set	238.79
36	Single leaf manual swing/ Hinge Hatch Door	1 Set	58.00
37	Solution octo-push 8 head carousel bagger	Set (3 Nos)	90.53
38	Stacker	1500 kg	5.90
39	Stacker	1500 Kg	5.90
40	Stacker	1500 Kg (2 Nos)	11.80
41	Supply of goods lift	2000 Kg (2Nos)	14.30
42	Ventilation assistant	9000 MT	219.24
43	Weighing bridge	40 Ton each	40.00
44	Weighing bridge	20 Tons each	18.00
45	Weighing scales	1000 Kg/each	12.00

D. Potato Processing

Sr.No	Particulars	Total Capacity	Total Cost (Rs.in Lac)
D.1	Pre-Processing Line		
	Potato receiving line - Indigenous	30 TPH	90.98
	Post harvesting machinery- for potato low fat chips line		1243.70
	Main Machinery		
	Potato receiving section		
	Washing, peeling and inspection section		
	Slice washing & blenching		
	Frying section		
	Seasoning section equipment's		
	PLC control panel		

	Packing machines- 4 line		
	Potato graders		61.6
	Bagging system		69.71
	Potato dry cleaning system		21.63
	Drum dryer including drying inspection, milling, storage & packing		936.78
	Steam peeler		457.77
	Dehydration section		141.16

D.2	Processing Line		
	Dipping and drying		708.08
	Coating and frying		1630.00
	Process control system		418.64
	Transport- French fry line		140.00
	Cost of French fry processing line		2170.80 to 3920
	Electronic control system for French fries line		390.00
	Potato starch plant	200 kg/hr	212.10
	Transport and installation for freeze		80.00
	Supervision on installation, commissioning		236.00

D.3	Packaging		
	Feeding and distribution system		300.00
	Weigher		234.00
	Bagger		354.36
	Secondary packaging		704.00
	Packaging conveyors		40.50
	Packaging printer		18.80

D.4	Utilities		
	Boiler	10 MTPH	325.00
	Water treatment		78.00
	Effluent treatment Plant		538.00
	Refrigeration		520.40

	Air compressor		22.00
	Cables-MCC and controls for processing equipment		150.00
	Installation of equipment		125.00
	Laboratory equipment's		42.50
	Pressure reducing station, flowmeter, controls etc.*		47.20
	Material Handling Equipment – Forklift		12.00
	Material Handling Equipment - Hand pallet trucks		1.05
	Trucks and Trollies		342.29
	Installation of plant and machinery		12.50
	Transformer		23.00
	Weigh bridge		8.00
	Electric panel and related cost		35.00
	Ro and softener plant		5.00 to 46.00 lakh
	Fully automatic packing line	2.5 TPH	422.20
	Cost of automatic case filling, compaction, case heightmeasurement, case control, visual warning, case synchronization, case closing, check weighing system	2.5 TPH	164.07
	Electricals- transformer, panels, cables etc.		121.07
	Water storage and distribution		44.25
	Laboratory equipment's		4.63 to 59.00 lakh
	IT system website designing cost- E platform		141.60
	Air compressor, Nitrogen generator		
	D.G Set		Cost not given separately
	Electrical substation		Cost not given separately

D.5	Material handling equipment		
	Wooden bins	1600x1200x1250 mm	273.00
	Hydraulic pallet	2.5 ton	0.72
	Charger		1.05
	Electric panel and related cost		35.00
	Temperature management system		1.30

	Wooden pallets		13.53
	Installation of plant and machinery		10.20
	Mobile racking with pallet		265.50
	Hydraulic pallet	2.5 ton	0.72
	Charger		2.10
	Transformer		16.00
	Electric panel and related cost		25.00
	Plastic crates		129.80
	Potato dumper truck for raw potato handling		47.20
	Pine wood bins for raw potato		18.05
	Hand pallet trucks		2.95

E.French Fries – Capacity 3000 Kg/hr

Line Component

S. No.	Particulars	Cost (Rs. In Lac)
1	Reception, Washing, peeling & inspection	685.4
2	Cutting and grading	314.4
3	Optical sorting and blanching	686.2
4	Dipping and drying	832.57
5	Frying and defatting	739.83
6	Freezing	507
7	Controls	359.81
8	Destoning, washing, peeling and inspection	71.60
9	Cutting, grading, sorting and blanching	59.59
10	Dipping and drying	68.13
11	Frying and defatting	140.98

E.1 Reception, Washing, peeling & inspection

S. No.	Particulars	Cost (Rs. In Lac)
1	Electrical box tripper	5.46

2	Bunker	15.17
3	Feed elevator destoner	18.06
4	Cyclone destoner	19.23
5	Stone catching tank	5.42
6	Prewasher	41.81
7	Static Filter	2.22
8	Vertical belt elevator	30.73
9	Weigh hopper steam peeler	10.80
10	Steampeeler	237.67
11	Cost steam approval	4.84
12	Steam peeler support with screw conveyor	26.75
13	Switchboard with PLC	27.65
14	Steam expansion vessel	48.67
15	Steam accumulator	42.98
16	Dry brush machine	77.34
17	Piston pump	26.17
18	After washer	28.39
19	Flat inspection belt	16.07

E.2. Cutting and grading

S. No.	Particulars	Cost (Rs. In Lac)
1	Vertical screw elevator	17.47
2	Watertight hopper with screw	32.92
3	Dividing chute	5.07
4	Hydro cutter	115.91
5	Orienting tube	5.77
6	Dewatering belt	29.48
7	Knife block	2.42
8	Knife block	2.42
9	Dosing system	1.60
10	Silver remover	39.66
11	Support with waste pan	8.85
12	Length grader	52.07
13	Sorting deck	0.74

E.3 Optical Sorting and blanching

S. No.	Particulars	Cost (Rs. In Lac)
1	Lateral dividing vibrator	28.74
2	Additional per track	1.67
3	Feed vibrator	34.94
4	Visionair Optical belt sorter	219.84
5	Support frame optical sorter	4.21
6	Defects discharge cross belt	16.06
7	Water transport system	60.33
8	Horizontal transport	13.18
9	Water Transport pump	50.11
10	Horizontal screw blancher	69.45
11	Circulation System blancher	30.84
12	Blancher support	0.66
13	Horizontal screw blancher	119.92
14	Circulation system blancher	19.5
15	Blancher support	10.72

E.4 Dipping and drying

S. No.	Particulars	Cost (Rs. In Lac)
1	Additives dip pump system	70.2
2	Dip vibrator	36.0
3	Application system	24.3
4	Vibratory crumb	9.4
5	Volumetric screw dosing device	14.3
6	Volumetric screw dosing device	9.0
7	Dewatering vibrator with gauze deck	35.8
8	Support dewatering vibrator	11.3
9	Air knife	11.9
10	Belt dryer	546.6
11	Belt cleaning	10.7
12	Equilibration belt	30.1
13	Hood over Equilibration belt	10.7

14	Horizontal transport belt	12.3
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E.5Frying and defatting

S. No.	Particulars	Cost (Rs. In Lac)
1	Converging feed	32.29
2	French fries fryer	181.97
3	Belt filter	31.20
4	Frying oil	42.55
5	External steam	36.78
6	Frying oil cleaning system	23.91
7	Fire extinguish	101.24
8	Paper filter	25.90
9	Pump system	12.52
10	Overnight oil tank	22.15
11	Defatting vibrator	44.19
12	EcoMiser	185.13

E.6Freezing

S. No.	Particulars	Cost (Rs. In Lac)
1.	Belt cooler freezer	507

E.7Controls

S. No.	Particulars	Cost (Rs. In Lac)
1.	Central Switchboard French Fries line	360

E.8Frying and defatting

S. No.	Particulars	Cost (Rs. In Lac)
1	Stone removal belt	21.1
2	Vapour suction system	10.4
3	Calibration System	10.8

4	Platform Inspection belt	4.6
5	Platform along peeling line	24.7

E.9 Optional: Cutting, grading sorting and blanching

S. No.	Particulars	Cost (Rs. In Lac)
1	Extension change over system	20.6
2	Dosing system for anti-foam	1.6
3	Platforms along blancher	18.4
4	Water cleaning unit	19.0

E.10 Optional: Dipping and drying

S. No.	Particulars	Cost (Rs. In Lac)
1.	Preparation for CIP system	12.9
2.	Air humidity sensor belt dryer	6.0
3.	Product depth sensor belt dryer	3.7
4.	Platform along belt dryer	33.7
5.	Air filter unit for intake air	11.7

E.11 Optional: Frying and defatting

S. No.	Particulars	Cost (Rs. In Lac)
1	Fire extinguish installation	100.6
2	Extension low pressure water mist	19.0
3	Crumb discharge vibrator	9.0
4	Fat return system	12.4

F. Potato Flake – Capacity 1200 Kg/hr

Line Component

S. No.	Particulars	Cost (Rs. In Lac)
1	Reception, Washing, peeling & inspection	422.0
2	Cutting and grading	602.8
3	Drying	658.5

4	Inspection and milling	73.8
5	Storage and packaging	47.2
6	Controls production line	206.9

F.1. Reception, Washing, peeling & inspection

S. No.	Particulars	Cost (Rs. In Lac)
1	Bunker	Excluded
2	Feed elevator	Excluded
3	Cyclone	Excluded
4	Stone removal belt	Excluded
5	Prewasher	Excluded
6	Rotary filter	Excluded
7	Incline screw conveyer	35.3
8	Weigh hopper steam peeler	12.0
9	Electronic weighing system	5.8
10	Steam peeler	157.4
11	Costs steam approval ASME	7.4
12	Switchboard	13.7
13	Steam expansion vessel	27.7
14	Steam peeler support	26.8
15	Dry brush machine	99.6
16	Peristaltic pump with hopper	14.8
17	Roller type inspection belt	19.3
18	Waste funnel inspection belt	2.5

F.2 Cutting, blanching, cooling and cooking

S. No.	Particulars	Cost (Rs. In Lac)
1	Inclined screw conveyer	31.4
2	WeighGuard	Excluded
3	Cutting machine	27.2
4	Support cutter	5.2
5	Horizontal transport belt	11.9

6	Flume	Excluded
7	Dewatering vibrator	Excluded
8	Dividing chute	Excluded
9	Water transport pump system	Excluded
10	Horizontal screw blancher	109.8
11	Circulation system blancher	30.8
12	Blancher support	9.2
13	Horizontal screw blancher	109.8
14	Circulation system blancher	39.0
15	Blancher support	9.2
16	Incline screw conveyor	28.8
17	Incline screw conveyor	25.1
18	Twin screw steam cooker	144.8
19	Support cooker	20.4

F.3Drying

S. No.	Particulars	Cost (Rs. In Lac)
1	Ricer for potato flakes	13.6
2	Additives mix	26.8
3	Lateral auger mash	12.6
4	Feed auger drum dryer	16.8
5	Fabricated Steel Drum Dryer	588.8
6	SS Coating of drum	Included
7	Travelling scraper system	Included
8	Steam pressure control set	Included
9	Vapour hood over drum dryer	Included
10	Prebreaker screw	Included
11	Waste collecting screw	Included
12	Remote adjustable top application roll	Included
13	Standard foundation material	Included

F.4Inspection and milling

S. No.	Particulars	Cost (Rs. In Lac)
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1	Transport system	22.6
2	Inspection vibrator	21.2
3	Flake chute	5.9
4	Flake mill	22.6
5	Support mill	1.6

F.5 Storage and packaging

S. No.	Particulars	Cost (Rs. In Lac)
1.	Pneumatic transport system	29.5
2.	Flake silo	Excluded
3.	Rotary valve underneath silo	Excluded
4.	Collecting screw	Excluded
5.	Platform along silos	Excluded
6.	Filling system big bags	17.70
7.	Semi-automatic weighing & sewing machine	Excluded

F.6 Controls production line

S. No.	Particulars	Cost (Rs. In Lac)
1.	Central switchboard flake line	207

G. Potato Specialty Processing Line (2000 Kg/hr) *Specialty products such as Aloo Tikki, Burger Patty, Hash Brown, Veggie Stix, Potato Wages*

Sr.No	Particulars	Cost (Rs. In Lac)
1	Washer and destoner, double drum Type	46.90
2	Elevator, vertical belt type	23.45
3	Weigh hopper	12.51
4	Automatic abrasive peeler, batch type	23.45
5	Inspection roller belt	27.36
	Total Amount	133.65
6	Auger Conveyor	23.45
7	Slice Cutter integration	14.07
	Total Amount	37.52
9	Balancer, horizontal auger type	81.29
10	Auger Conveyor	22.67

11	Cooler, horizontal augar type	61.75
12	Steam cooker, horizontal augar type	109.42
13	Mashing screw conveyer	21.10
	Total Amount	296.23
14	Augar Conveyor	46.90
15	Automatic dosing system for SAPP	10.94
16	Automatic dosing system for dextrose	17.98
17	Dewatering Shaker	28.14
18	ferguson Belt dryer	265.74
19	Inspection belt	18.76
20	bi-direction belt	18.76
21	weigher	25.79
22	Bins	4.69
	Total Amount	437.70
23	Transport conveyer	19.54
24	Fryer for potato spcialties	300.92
25	Frying oil Circulation system	50.80
26	Frying oil drum filter	20.32
27	Paper filter	25.79
28	Frying oil/thermal oil heat exchanger	26.57
29	Total Amount	443.95
30	Controls	142.25
31	Supervision, installation and commissioning charges	74.25
	Total Amount	216.50
	Project Total	1876.31
	Options	
32	Steam Peeler set up instead of abrasive peeler	244.64
A	French Fries Production Line (2000 Kg/hr)	
33	Destoning and Washing	49.55
34	Steam Peeling section	310.76
35	Cutting and grading	255.66
36	Balanching	255.04
37	Drying	465.05
38	Frying	272.78
39	Cooling and Freezing	307.79
40	Control System	222.44
	Total Amount	2139.08
	Optional components	
41	Ultra Clean Washer/destoner	51.27

42	Bin tipper	26.97
43	Switch Box	52.13
44	Automatic Dosing System for Dextore	18.21
45	Paper filter	31.26
46	Frying oil storage tank	19.07

H. Post Harvesting Machinery-for Potato low fat chip line-1 MT/Hr.

Sr.No	Particulars	Cost (Rs. In Lac)
1	Potato low fat chips processing line	1053.98
2	Main Machineries	
3	Potato receiving section	
4	Washing , peeling and inspection section	
5	Slice washing and Blenching	
6	Frying Section	
7	Seasoning section equipments	
9	Packing machine-4 Line	
10	Lab Equipments	
11	Machinery for pack house including cleaning, grading, sorting facilities	45.00
12	IT System website Designing Cost-E Platform	120.00
13	Thermic Fluid heater and Boiler	195.00
14	Air Compressor, Nitrogen generator	40.00
16	ETP-(For giving BOD/COD Load and about 1 lit per day capacity effluent)	32.00
17	Electrical Equipments	
18	Electrical Substation of 2000 KVA	118.00
19	Genset-500 KVA with accessories	35.00

I. Frozen potato RTC Products line-3MT/Hr

S. No.	Particulars	Capacity	Cost (Rs. In Lac)
1	Frozen potato RTC Products line	3 MT/Hr	4231
2	Packaging line		224.40
3	Packaging printer		5.50
4	Case shaker		10.80
5	Boiler	15MT/hr	917.00

6	ETP	For 3Mt/Hr line	555.00
7	Water treatment plant		85.00
8	Air Compressor		26.00
9	Transformer		30.00
10	Racking system for frozen		95.00

J. Freeze Dryer

S.No	Capacity (Kg/Batch of 8 hr)	Cost of Plant (Rs. In Lac)	Utilities Required	Cost of Utilities (Rs. In Lac)	Cost of Installation & Commissioning (Rs. In Lac)	Total Cost (Rs. In Lac)
1	10	19.5	Deep Freezer, Air Compressor, Steam generator, Cooling tower	2.50	0.50	22.50
2	20	23.5	Deep Freezer, Air Compressor, boiler,, Cooling tower	4.50	0.50	28.5
3	50	43.5	Deep Freezer, Air Compressor, boiler,, Cooling tower	7.5	0.50	51.5
4	100	68.5	Deep Freezer ,Air Compressor, boiler,, Cooling tower	11.5	1.0	81.0
5	330	190	Deep Freezer ,Air Compressor, boiler,, Cooling tower	60.0	5.0	255

K. Miscellaneous Equipments for Fruits and Vegetable Processing

<u>Miscellaneous Equipments for Fruits and Vegetable Processing</u>			
S. No.	Particulars	Capacity	Cost (Rs. In Lac)
1	Steam jacketed boiling pan	500 lts	1.19
2	Multi effect falling film evaporator	100Kg/h	39.17
3	Pulper	100kg/h	0.79
4	Juice extractor	100-200 Kg/h	7.23
5	Screw press		3.41

6	Colloid mill	100L/h	1.33
7	Homogenizer	200L/h	4.32
8	Batch mixing tank	500L	1.33
9	Steam jacketed syrup making tank	500L	2.43
10	Bottle washer	20 bottles/min	1.33
11	Slicing machine	100Kg/h	5.41
12	Cubing machine	100Kg/h	7.19
13	Bottle capping machine	10 bottles/min	0.87
14	Bottle crimping machine	10 bottles/min	0.18
15	Bottle labelling machine	20 Lables/min	5.12
16	Plate and frame filter press	100Kg/h	5.36
17	Sparkler filter	100L/h	1.75
18	Plate heat exchanger	200L/h	1.44
19	Sterilizer(totating type autoclave)	300Kg	44.06
20	Auto clave	150Kg	2.46
21	Pouch filler	10 Pouches/Minute(500 ml vol each)	3.01
22	Form fill seal machine	10-20 Pouches/Minute(500 ml vol each)	1.43
23	Can reformer		0.90
24	Can filler	10 can/min	4.30
25	Can seaming machine	10 can/min	1.25
26	Conveyor belt	12ft*2ft(L*W)	1.12
27	S.S.Slat chain conveyor		4.24
28	Inspection table	5*8 ft	1.61
29	Tray dryer	100Kg/h	2.83
30	Drum dryer	65Kg/h	25.01
31	Spray dryer	65PH/h	40.00
32	Freeze dryer	65 Kg of water evaporation /batch	43.58

33	Small IQF plant	100Kg/h	57.87
34	Plate freezer	100Kg/h	31.59
35	Pre fab walk – chiller	2MT	8.35
36	MA/CA cold storage	1MT	29.67
37	Ripening chamber	550L	4.58
	UTILITY/SERVICE EQUIPMENTS		
38	Boiler (Diesel Operated)	800Kg/h	19.39
	Material handling equipment		
39	Hydraulic lift	500 Kg	0.56

3. Dairy & Milk Processing

Milk and Dairy



A. Cost norms of plant machinery and equipment for Dairy sector

Sr. No.	Particulars	Cost (In Rs. Lac.)
A.1	Automatic Milk Collection Unit	1.50
A.2	Milk Chilling center with utilities	
A.2.1	50 KLPD	535.00
1	Can Milk Reception Section	
2	Milk Chilling Section	
3	CIP System (Single Circuit)	
4	SS Pipes & Fittings for the plant	
5	Steam Generation & Distribution System	
6	Chilled water generation & Distribution system	
7	Water Distribution System	
8	Electrical System (Including HT line and Transformer)	
9	Laboratory & Accessories	
10	ETP	
A.2.2	100 KLPD	765.00
1	Can /Tanker milk reception section	
2	Milk Weighing System (Consist of Weigh Bridge of 50 MT)	
3	Milk Chilling Section	
4	CIP System (2 Circuit)	
5	SS Pipes and Fittings for the plant	
6	Steam Generation & Distribution System	
7	Chilled Water Generation & Distribution System	
8	Water Distribution System	
9	Electrical System (Including HT line and Transformer)	
10	Laboratory & Accessories	
11	ETP	
A.3	Bulk Milk Cooler (Complete Setup)	
1	1 KL	7.00
2	2 KL	10.00
3	3 KL	12.00
4	5 KL	15.00
A.4	5KL Mobile Milk Cooler	40.00

A.5	Milk processing plant	
A.5.1	0.5 LLPD Milk Proc. Plant with White Butter & Paneer manufacturing with utilities	1500.00
1	Milk reception section	
2	Milk processing section	
3	Milk reconstitution section	
4	Cream processing section	
5	Milk packing section	
6	White butter manufacturing section (400kg/hr.)	
7	Paneer manufacturing section (1TPD)	
8	Rinse milk section	
9	CIP Section (3 Circuit) including auto chemical dosing section	
10	Steam generation & distribution system	
11	Chilled water generation & distribution system	
12	Compressed Air generation & Distribution System	
13	Water Treatment & Distribution System	
14	Electrical	
15	Laboratory Accessories	
16	ETP	
A.5.2	1 LLPD Milk Proc. Plant with White Butter, Paneer, Curd, Lassi & Ice cream Manufacturing with utilities (Manual Plant)	2700.00
1	Milk Reception Section	
2	Milk Processing Section	
3	Milk Reconstitution Section	
4	Cream Processing Section	
5	Milk Packing Section	
6	White Butter Manufacturing Section (400kg/h.)	
7	Paneer Manufacturing Section (2 TO 3 TPD)	
8	Curd Manufacturing Section (5 TLPD)	
9	Ice cream Manufacturing Section (3 TLPD)	
10	Rinse Milk Section	
11	CIP Section (3 Circuit) including auto chemical dosing section	
12	Process and Tanker CIP System (3 Module set)	
13	Fermented Products CIP System (Single Circuit)	
14	SS Pipes & Fittings for the plant	
15	Steam Generation & Distribution system	
16	Chilled water generation & distribution system	
17	Compressed Air generation & Distribution system	

18	Water treatment and Distribution System	
19	Electrical	
20	Laboratory Accessories	
21	ETP	
A.5.3 2.5 LLPD Milk Proc. Plant with White butter, Paneer, Curd, Lassi & Ice cream Manufacturing with utilities		
1	Milk reception section	3500.00
2	Milk processing section	
3	Milk Reconstitution section	
4	Cream processing section	
5	Milk packing section	
6	White butter manufacturing section (800kg//hr.)	
7	Paneer manufacturing section (2 to 3 TLPD)	
8	Curd manufacturing section (10 TLPD)	
9	Ice cream manufacturing section(6 TLPD with ice candy)	
10	Rinse milk section	
11	CIP Section (3 Circuit) including auto chemical dosing section	
12	Process and Tanker CIP System (3 Module set)	
13	Fermented products CIP System (1 circuit)	
14	SS Pipes & Fittings for the plant	
15	Steam generation & distribution system	
16	Chilled water generation & distribution system	
17	Compressed air generation & distribution system	
18	Water treatment & distribution system	
19	Electrical Automation & Instrumentation	
20	Laboratory Accessories	
21	ETP	
A.6 Complete Road Milk Tanker (With Chassis)		
1	5 KL	28.50
2	10 KL	34.00
3	15 KL	42.00
A.7 Refrigerated Trucks (-25 to +25°C)		
	5kl	36.00
	10kl	42.00
	15kl	50.00

3.B.Section wise Equipments used in Dairy and Milk Processing:

S. No	Particulars	Capacity	Cost (In Rs. Lac.)
B.1	Milk Reception System		
1	Platform type milk weighing machine		0.60
2	SS Dump tank	500 L	0.55
3	Milk Transfer Pump (indigenous)	2 HP	0.50
4	Milk Transfer Pump (imported)	2 HP	2.00
5	Digital milk flow meter	20000 l/h	2.00
6	Duplex (Nylon) filter		0.33
7	Milk Chiller (plate type),	1000 L /h	0.72
8	Raw milk storage tank	5000L	5.00
9	Can lid washing trough (for lid washing)		0.30
10	Can scrubber		0.60
11	Can steaming block		0.25
12	Can dip saver		0.25
13	Can tipping bar		0.12
14	Instrumentation & Control Panel		1.00
15	SS Pipes, valves and fittings		1.50
B.2	Equipment for Milk Processing		
1	HTST Pasteurizer	1000L/hr	8.00
2	Cream Separator (Local)	1000L/hr	4.00
3	Cream Separator (Imported)	10000L/hr	45.00
4	Milk Homogenizer (Local)	1000L/hr	6.00
5	Milk Homogenizer (Imported)	10000L/hr	50.00
6	Skim milk storage tank	5000L	7.00
7	Milk Transfer Pump (indigenous)	2 HP	0.50
8	Milk Transfer Pump (imported)	2 HP	2.00
9	Instrumentation & Control Panel		1.50
10	SS Pipes, valves and fittings		1.50
B.3	Equipment for Cream Processing, Butter and		

	Ghee Section		
1	Cream Balance Tank	250L	0.30
2	Cream Transfer Pump (indigenous)	2HP	0.50
3	Cream Transfer Pump (imported)	2HP	2.00
4	Cream Chillers	250L/hr	0.60
5	Cream storage tank	500L	3.80
6	Cream Ripening tank	500L	3.80
7	Cream Transfer Pump		0.40
8	Cream Ageing tank	250L	3.50
9	Continuous Butter Making Machine	50Kg/hr	30.00
10	Butter milk transfer pump (indigenous)		0.50
11	Butter trolley	500 kg	0.60
12	Butter Melting Vat	250Kg	2.50
13	Molten butter transfer pump (indigenous)		0.50
14	Butter milk chillers	200L/hr	0.75
15	Ghee Boiler.	200L	3.50
16	Ghee transfer pump (indigenous)	500 L/hr	0.50
17	Ghee strainer	500 L/hr	0.40
18	Ghee transfer pump	500 L/hr	0.50
19	Ghee Settling Tank	250 L	0.50
20	Ghee clarifier	50-100Kg/hr	2.00
21	Ghee granulation System	250 Ltr	3.50
22	Insulated ghee storage tank (Imported)	2000 L	1.00
23	Ghee transfer pump	500 Ltr	0.50
24	Ghee Pouch Filling machine	200pouch/hr	3.00
25	Ghee Pouch Filling machine	500pouch/hr	5.00
26	Instrumentation & Control Panel		1.75
27	SS Pipes, valves and fittings		2.75
B.4	Equipment for Milk Poly Pack Section		

1	Milk Balance tank with Float valve	500 Ltr	0.50
2a	Milk Transfer Pump (indigenous)	2 HP	0.50
2b	Milk Transfer Pump (imported)	2 HP	2.00
3a	Milk Pouch filling machine (local)	1000 pouch/min	6.50
3b	Milk (<i>Lassi</i> , flavoured milk) Pouch filling machine (Imported)	5000 packs (200 ml)/h	10.00
4	Crate washing trough (MS)		0.30
5	SS Packing Table	02 No.	0.50
6	Plastic crates	200	0.50,
7	Crate transporter/trolley	250 L	1.75
8	Instrumentation & Control Panel		1.75
9	SS Pipes, valves and fittings		1.70
B.5	Equipment for Dahi /Chhach /Lassi Section		
1	Curd Setting Tank	500L	3.80
2	Hot water battery for hot water generation for Curd Setting tank		0.60
3a	Milk Transfer Pump (indigenous)	2 HP	0.50
3b	Milk Transfer Pump (imported)	2 HP	2.00
4	Curd Breaker assembly		2.00
5	Cup Filling & Sealing Machine (100/200/400 gm)	25cup/min	8.00
6	AHU for Curd Incubation Room		5.00
7	Hot insulation for incubation room		3.00
8	Instrumentation & Control Panel		1.50
9	SS Pipes, valves and fittings		1.50
B.6	Equipment for Paneer /Cheese Section		
1	Paneer/Cheese Vat	500L	1.70
2	Paneer/Cheese washing cum cooling tank		0.50
3	Paneer/Cheese Press single head		2.00
4	Paneer/Cheese Hooves	1 set	0.35
5	SS Table for Paneer Packing		0.60
6	Paneer/Cheese cutting/slicing knives		0.18
7	Paneer/Cheese Weighing (Platform type).		0.50

8	Paneer Packing with poly liner under Vacuum (Vacuum Pack)		4.50
9	Paneer Cabinet, Vertical cooler (Front opening)		5.00,
10	Instrumentation & Control Panel (PID Based)		0.50
11	SS Pipes, valves and fittings		0.55,
B.7	Equipment for Shrikhand Section		
1	Separator/Basket centrifuge	250L/hr	6.00
2	Shrikhand Mixing Vat		0.76
3	Cup Filling & Sealing Machine	25cup/min	8.00
4	SS Pipes, valves and fittings		0.55
B.8	Equipment for Ice Cream Section		
1	Ageing Vat		3.00
2a	Milk Transfer Pump (indigenous)	2 HP	0.50
2b	Milk Transfer Pump (imported)	2 HP	2.00
3	Ice cream mix Homogenizer (indigenous)		5.00
4	Ice cream Mix Pasteurizer	150L/hr	3.80
5	Milk transfer pump		0.40
6	Mix Ageing Vat	100 L	2.50
7a	Milk Transfer Pump (indigenous)	2 HP	0.50
7b	Milk Transfer Pump (imported)	2 HP	2.00
8	SS Choco -Bar / Mango / other flavour Tunnel		3.50
9	SS Chaco -Bar/ Mango / other flavour Dip Tank		0.25
10	SS Lolly pop defrosting Tank		0.25
11a	Batch Freezer with unit (Local)		6.00
11b	Batch freezer (Imported)	15 l/batch	7.50
12a	Continuous Freezer (Local)	100L/hr	7.00
12b	Continuous Freezer (Imported)	100L/hr	20.00
13	Fruit Feeder		3.00
14	SS Mix Flavouring Tank		1.50
15	Softy (ice cream) making machine	10 l	2.50
16	Instrumentation & Control Panel (PID Based)		1.75
17	SS Pipes, valves and fittings		2.00

B.9	Equipment for Flavor Milk Section		
1	Multipurpose Vat		3.50
2	Hot water battery, Hot water pump for hot water circulation in Multipurpose vat		1.00
3a	Milk Transfer Pump (indigenous)	2 HP	0.50
3b	Milk Transfer Pump (imported)	2 HP	2.00
4	Sugar mixing tank		3.50
5	Sugar Syrup Transfer Pump		0.50
6	Double Head Filling Machine		3.00
7	Shrink wrapping machine		1.75
8	Bottle sleeving Machine		1.00
9	Bottle corking machine		1.00
10	Ink jet printer for coding		2.75
11	Bottle Sterilizer		1.75
12	Crate trolley		0.22
13	Instrumentation & Control Panel (PID Based)		1.00
14	SS Pipes, valves and fittings		1.25
B.10	Equipment for Membrane Processing Section (Local)		
1	Ultra filtration Plant	100 Lt Flux Rate/hr	35.00
2	Microfiltration	100 Lt Flux Rate/hr	32.00
3	Reverse Osmosis	100 Lt Flux Rate/hr	25.00
4	Ion Exchange Plant	100 Lt Flux Rate/hr	12.50
5	Membrane System (RO/NF) (Imported)	100 Lt Flux Rate/hr	20.00
B.11	Equipment for CIP (Local) For Above Capacity plant		6.50
1	Detergent Solution Tank		2.30
2	Acid Solution Tank		2.30
3	Hot water Tank		2.30
4	CIP Supply Pump		1.50
5	CIP Return pump		1.50
6	Duplex Filters		1.50
7	CIP heater		2.75
8	Instrumentation & Control Panel		9.00
9	SS Pipes, Manual Valves and all necessary fittings		12.00

B.12	Utilities such as electrical Works i.e. LT electrical MCC, earthing system as required for the entire job,, water supply system with water softener. Refrigeration system , Steam boiler with complete inter connecting pipes & fittings , Compressed air system and utilities ,process pipe lines requirement, supporting system ,Mechanical & electrical installation comprising:		
1	Complete Refrigeration plant as required		35.00
1.1	Refrigeration system for Milk cold room		8.00
1.2	PUF Insulation panel with door for Milk room		5.00
1.3	Refrigeration system for Frozen cold room		8.00
1.4	PUF Insulation panel with door for Frozen room		5.00
2	Steam boiler with Accessories , Type: oil Fired	2.5 ton/hr	40.00
3	Air compressor System		7.00
4a	Raw Water supply System		4.00
4b	Sand filter for water	1	2.00
5	Water softening plant for boiler (Ion exchange based)		4.00
6	Water drainage system including floor traps & piping up to existing ETP PIT		5.00
7	Diesel generator Set	200 KVA	15.00

3.C Miscellaneous equipment

S. No	Equipment Name	Capacity	Cost (In Rs. Lac.)
B.13	Milk Powder Section	1 TPD	
1	Three Effect Falling Film Evaporating Plant	Suitable for producing 1 TPD (16 hr running basis)	68.00
2	Single Stage Dryer		
3	Powder Pouch Packing Machine	100 pouch /hr	4.50

4.Cereals& Grain Processing

Cereal, Grain & Bakery



A. Cost norms of Plant, Machinery and Equipment for Food Grains Cleaning, Sorting and Grading plant

A.1.Semi Automatic				
Sr.No.	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	1 ton/hr	1 Cleaner 1 Destoner 1 Aspirator 1 Grader 1 Weighing Balance at platform	1000 sq.ft	3.30
2.	2-3 ton/hr	1 Cleaner cum destoner 1 Aspirator 1 Magnetic Separator 1 Intended cylinder 1 Grader 1 Weighing Balance at platform 1 Fork lift (optional)	2000 sq.ft	5.40
A.2. Fully Automatic				
Sr.No.	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	1-2 ton/hr	1 Cleaner 1 Destoner 1 Aspirator 1 Grader 1 Fork lift 1 Weighing Balance at platform 2 Bucket Elevators	2000 sq.ft	18.70
3.	3 ton/hr	2 Cleaner cum destoner 1 Aspirator 1 Magnetic Separator 1 Intended cylinder 1 Grader 1 Fork lift 1 Weighing Balance at platform 4 Bucket Elevators	3000 sq.ft	26.30
4.	4-5 ton/hr	2 Cleaner cum destoner 1 Aspirator 2 Magnetic Separator 2 Intended cylinder 1 Colour sorter 1 Grader 2 Fork lift 1 Weighing Balance at platform 6 Bucket Elevators	4500 sq.ft	74.00

B. Cost norms of Plant, Machinery and Equipment for Wheat Flour (Atta) Mill Machinery

B.1. Semi AutomaticWheat Flour (Atta) Mill				
Sr.No.	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	250 kg/hr	1 Cleaning machine with destoner 1 Storage tank of capacity 2 ton 1 Flour mill 1 Atta grader 1 Wheat crusher 1 Weighing balance 1 Sealing machine	1000 sq.ft	4.30
2.	500 kg/hr	1 Cleaning machine with destoner 2 Storage tank of capacity 2 ton 2 Flour mill 1 Centrifugal atta separator 1 Wheat crusher 2 Weighing balance 2 Sealing Machine	2000 sq.ft	7.65
3.	1 ton/hr	1 Cleaning machine with destoner 2 Storage tank of capacity 4 ton 4 Flour mill 1 Centrifugal atta separator 1 Wheat crusher 1 Gravity separator 1 Semi-automatic packaging Machine 1 Fork lift (optional)	3000 sq.ft	12.50
4.	2 ton/hr	1 Cleaning machine with destoner 4 Storage tank of capacity 4 ton 8 Flour mill 2 Centrifugal atta separator 2 Wheat crusher 2 Gravity separator 1 Semi-automatic packaging Machine 1 Fork lift (optional)	4000 sq.ft	19.80

B.2. Fully Automatic Wheat Flour (Atta) Mill				
Sr.No.	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	1 ton/hr	1 Cleaning machine with de-stoner 3 Bucket and belt elevators 1 Conveyor 2 Storage tank of capacity 4 ton 4 Flour mill 1 Pneumatic system for flour lifting 1 Centrifugal atta separator 1 Wheat crusher 1 Gravity separator 1 Semi-automatic packaging Machine 1 Fork lift (optional)	3,000 sq.ft	14.35
2.	2 ton/hr	1 Cleaning machine with destoner 3 Bucket and belt elevators 1 Conveyor 4 Storage tank of capacity 4 ton 8 Flour mill 2 Pneumatic system for flour lifting 2 Centrifugal atta separator 1 Wheat crusher 2 Gravity separator 1 Form fill and seal Machine 1 Fork lift	4,000 sq.ft	42.00
3.	3-4 ton/hr	1 Vibrio separator 1 Aspiration channel 1 Vibrio destoner 1 Gravity separator 6 Bucket and belt elevators 1 Plan shifter 2 Pneumatic system 12 Flour mills 1 Conveyor 2 Storage tanks of capacity upto 10 tons 1 Atta storage silo 2 Fork lift 1 Form fill and seal machine	6000 sq.ft	85.00

4.	5 ton/hr	<ul style="list-style-type: none"> 2 Vibrio separator 1 Aspiration channel 1 Vibrio destoner 1 Gravity separator 8 Bucket and belt elevators 2 Plan shifter 2 Pneumatic system 18 Flour mills 1 Conveyor 2 Storage tanks of capacity upto 20 tons 1 Atta storage silo 2 Fork lift 2 Form fill and seal machine 	8000 sq.ft	140.00
5.	7-8 ton/hr	<ul style="list-style-type: none"> 1 Pre-cleaner 1 Dry stoner double deck 1 Vibrio separator 3 Aspiration channel 12 Bucket and belt elevators 1 Intensive dampner 1 Intensive scourer 1 Drum sieve 1 Roller Mill 12 Heavy duty chakki 1 Plan sifter 12 Pneumatic lifts 1 Cyclone separator 1 Jet filter 4 Storage tanks of capacity upto 20 tons 2 Atta storage silo 3 Fork lift 3 Form fill and seal machine 	10,000 sq.ft	215.00

C. Cost norms of Plant, Machinery and Equipment for Modern Wheat Flour Mill Machinery including packaging

C.1. Fully Automatic Wheat Flour Mill Machinery				
Sr.No	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	2 ton/hr	1 Drum sieve 1 Pre-cleaner 1 Destoner 1 Vibrio separator 1 Intensive dumpner 2 Pneumatic type aspiration channel 6 Bucket elevators 2 Water dampner 1 Small vibrio separator 4 Airline aspiration channel 4 Roller mills 1 Heavy duty chakki 2 Plan sifter 1 Vibrio purifier 2 Storage tanks of capacity upto 10 tons 1 Fork lift 1 Form fill and seal machine	4000 sq.ft	160.00
3.	3-4 ton/hr	1 Drum sieve 1 Pre-cleaner 1 Destoner 3 Vibrio separator 1 Intensive dumpner 2 Scourer with aspiration channel 6 Bucket elevators 4 Pneumatic lifts 2 Water dampner 1 Small vibrio separator 6 Roller mills 1 Vibrio bran purifier machine 2 Plan sifter 2 Vibrio purifier 4 Storage tanks of capacity upto 20 tons 2 Fork lift 2 Form fill and seal machine	7000 sq.ft	240.00

4.	5-6 ton/hr	<ul style="list-style-type: none"> 1 Reel machines 3 sieves 2 Classifier separator with aspiration channel 6 Dust cyclone 2 Destoner cum gravity selector 2 Intensive scourer with aspiration channel 1 Cockle cylinder 2 Intensive dampner 5 Screw conveyor 6 Bucket Elevators 6 Mechanical roller mills 3 Plan sifter 2 Vibrio purifier triple deck 2 Bran finisher 3 Impact detacher 16 Pneumatic lifts 1 Reverse jet filter 1 Refraction grinding system 6 Storage tanks of capacity upto 20 tons 3 Fork lift 3 Form fill and seal machine 	10000 sq.ft	325.00
5.	7-8 ton/hr	<ul style="list-style-type: none"> 1 Pre-cleaner 1 Drum sieve 2 Dry stoner double deck 2 Vibrio classifier separator 4 Aspiration channel 10 Bucket and belt elevators 2 Intensive dampner 2 Intensive scourer 2 Cockle cylinder 9 Roller Mills 3 Plan sifters 2 Vibrio purifier 2 Vibrio bran finisher 4 Impact detacher double pin system 1 Refraction grinding system 18 Pneumatic lifts 6 Cyclone separator 1 Jet filter 8 Storage tanks of capacity upto 20 tons 4 Fork lift 4 Form fill and seal machine 	14,000 sq.ft	410.00

D. Cost norms of plant machinery, and equipment for wheat flour (Atta) mill machinery (Chakki)

D.1. Semi-Automatic wheat flour (Atta) Plant with Manual Control Chakki					
S.No	Capacity	Particulars	Land Requirement	Power Required	Cost (In Rs. Lac.)
1.	250 kg/hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 1 Chakki 24" with 15 HP Motor (Manual Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	300 sq.ft	28 HP	12.70
2.	500 kg/hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 2 Chakki 24" with 15 HP Motor (Manual Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	300 sq.ft	45.5 HP	13.95
3	350 Kg/ hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 1 Chakki 30" with 25 HP Motor (Manual Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta ● Including All Electric Motors 	300 sq.ft	38 HP	13.20

		<ul style="list-style-type: none"> ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 			
4	700 Kg/ hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 2 Chakki 30" with 25 HP Motor (Manual Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	300 sq.ft	65.5 HP	15.40
5	700 kg/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Separator ● 1 De-stoner ● Conditioning Section with Dampener ● Conditioning Silo ● 2 Chakki 30" with 25 HP Motor (Manual Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● Including all machine accessories ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	1000 sq.ft	109 HP	44.35

6	1400 kg/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Drum Sieve ● 1 Separator ● 1 De-stoner ● Conditioning Section with Dampener ● 2 Conditioning Silo ● 4 Chakki 30" with 25 HP Motor (Manual Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● 1 Stainless Steel Silo for atta storage ● 1 Vibratory separator for Atta ● Including all machine accessories & Centrifugal Fans ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	2500 sq.ft	200 HP	89.00
7	1400 kg/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Drum Sieve ● 2 Separator ● 1 De-stoner ● 3 Silos for Blending ● Conditioning Section with Dampener ● 3 Conditioning Silo ● 4 Chakki 30" with 25 HP Motor (Manual Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● 1 Stainless Steel Silo for atta storage ● 1 Vibratory separator for Atta ● 1 Storage silo for Bran ● Including all machine accessories and Centrifugal Fans ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms 	2600 sq. ft	274 HP	118.80

D.2. Automatic wheat flour (Atta) Plant with Semi-Automatic Control Chakki

S.No	Capacity	Particulars	Land Required	Power Requirement	Cost (In Rs. Lac.)
1.	400 kg/hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 1 Chakki 30" with 25 HP Motor (Semi-Auto Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	300 sq.ft	38 HP	14.30
2	800 kg/hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 2 Chakki 30" with 25 HP Motor (Semi-Auto Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	300 sq.ft	65.5 HP	17.60
3	800 kg/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Separator ● 1 De-stoner ● Conditioning Section with Dampener ● Conditioning Silo ● 2 Chakki 30" with 25 HP Motor (Semi-Auto Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● Including all machine accessories 	1000 sq.ft	109 HP	46.50

		<ul style="list-style-type: none"> ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 			
4	1600 kg/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Drum Sieve ● 1 Separator ● 1 De-stoner ● Conditioning Section with Dampener ● 2 Conditioning Silo ● 4 Chakki 30" with 25 HP Motor (Semi-Auto Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● 1 Stainless Steel Silo for atta storage ● 1 Vibratory separator for Atta ● Including all machine accessories and Centrifugal Fans ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	2500 sq.ft	200	93.40
5	1600 kg/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Drum Sieve ● 2 Separator ● 1 De-stoner ● 3 Silos for Blending ● Conditioning Section with Dampener ● 3 Conditioning Silo ● 4 Chakki 30" with 25 HP Motor (Manual Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● 1 Stainless Steel Silo for atta storage ● 1 Vibratory separator for Atta 	2600 sq.ft	274 HP	123.25

		<ul style="list-style-type: none"> ● 1 Storage silo for Bran ● Including all machine accessories and Centrifugal Fans ● Including All Electric Motors ● Including Electric Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 			
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E. Cost norms of plant, machinery and equipment for fully automatic wheat flour mill machinery

E.1. Automatic wheat flour (Atta) Plant with Automatic Control Chakki					
S.No	Capacity	Particulars	Land Requirement	Power Requirement	Cost (In Rs.Lacs)
1.	500 kg/hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 1 Chakki 30" with 25 HP Motor (Automatic Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta ● Including All Electric Motors ● Including Electric Touch Screen Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	300 sq.ft	38 HP	18.05
2	1 Ton/hr	<ul style="list-style-type: none"> ● Intake Table ● Elevators ● 1 Separator ● 1 De-stoner ● 2 Chakki 30" with 25 HP Motor (Automatic Control) ● 1 HP Fan ● 1 Vibratory Separator for Atta 	300 sq.ft	65.5 HP	23.95

		<ul style="list-style-type: none"> ● Including All Electric Motors ● Including Electric Touch Screen Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 			
3	1Ton/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Separator ● 1 De-stoner ● Conditioning Section with Dampener ● Conditioning Silo ● 2 Chakki 30" with 25 HP Motor (Automatic Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● Including all machine accessories ● Including All Electric Motors ● Including Electric Touch Screen Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 	1000 sqft	109 HP	52.25
4	2 Ton/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Drum Sieve ● 1 Separator ● 1 De-stoner ● Conditioning Section with Dampener ● 2 Conditioning Silo ● 4 Chakki 30" with 25 HP Motor (Automatic Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● 1 Stainless Steel Silo for atta storage ● 1 Vibratory separator for Atta ● Including all machine accessories and Centrifugal Fans ● Including All Electric Motors ● Including Electric Touch Screen Control Panel 	2500 sqft	200 HP	108.10

		<ul style="list-style-type: none"> ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms ● Including Taxes 			
5	2 Ton/hr	<ul style="list-style-type: none"> ● Elevators ● 1 Drum Sieve ● 2 Separator ● 1 De-stoner ● 3 Silos for Blending ● Conditioning Section with Dampener ● 3 Conditioning Silo ● 4 Chakki 30" with 25 HP Motor (Automatic Control) ● 1 HP Fan and filter ● 1 Plansifter for Atta Sieving ● 1 Stainless Steel Silo for atta storage ● 1 Vibratory separator for Atta ● 1 Storage silo for Bran ● Including all machine accessories and Centrifugal Fans ● Including All Electric Motors ● Including Electric Touch Screen Control Panel ● Erection & Commissioning Cost ● Including Iron & Steel for Platforms 	2600 sqft	274 HP	136.35

F. Other Miscellaneous Equipment for Grain Processing

Sr.No	Particulars	Capacity	Cost (In Rs. Lac.)
1	Pulveriser	0.2 To 5 TPH	2.7 /unit
2	Vibro sifter	175-400 kg/h	0.50/unit
3	Seed grader	3.5- 4 TPH	1.8 /unit
4	MS Pre-Cleaner	3 TPH	2.00/unit
5	Automatic paddy parboiling unit	15 - 20 Ton	15.0/unit
6	Automatic rice milling plant	10-20 ton/day	20.0/unit
7	Rice grader	0.75 to 1 TPH	0.52/unit
8	Puff extruder	50-100 kg/h	1.8 /unit
9	Drum sieve	4 - 5 Ton	1.0/unit

10	Grain dryer	3.5 TPH	2.5/unit
11	Screening machine	1	4.71
12	Hammer mill	10 TPH	4.5 /unit
13	Ball mill	100Kg - 10 Ton/Batch	5.0/unit
14	Discharge conveyor (screw)	1 – 50 kg/feet	1.0/unit
15	Pneumatic conveyor	1 – 70 TPH	5.0/unit
16	Gravity separator	4 TPH	2.65/unit
17	Colour sorter	3 TPH	21.5/unit
18	Destoner	2500 – 3000 kg/h	0.65/unit
19	Ribbon mixer	50,100,200 KGS	0.65/unit
20	Planetary mixer	100 litres	2.5 /unit
21	SS Silo	0-50 ton,100-150 ton	3.8/unit
22	Cooking paste mixer with steam jacket	50 gallons	0.50/unit
23	Turbo mixer	80-500 Kg/h	1.67/unit
24	Blending vessel 3 KL	2	8.50
25	Blending vessel 1 KL	5	10.62
26	Blending vessel 6 KL	2	11.33
27	Mixing vessel 2 KL	2	8.25
28	Extractor 5 KL	7	71.00
29	Extractor box condenser 20 m ²	2	9.0
30	Solvent separator- 2KL	2	2.80
31	Mixing vessel 5 KL	3	18.60
32	Mixing vessel 3 KL	2	8.25

G. Cost norms of Plant, Machinery and Equipment for Rice Mill Machinery

G.1. Mini Rice Mill				
Sr.No.	Particular	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	400-500 kg/hr	Single Pass rice mill with husker and polisher 1 Weighing Balance 1 Sealing Machine	600 sq.ft	2.50
2.	700-800 kg/hr	1 Mini rubber roll paddy dehusker 1 Aspirator with precleaner 1 Cone polisher 1 Rice grader 1 Weighing Balance	800 sq.ft	3.80

		2 Sealing Machine		
3.	1000 kg/hr	1 Rubber roll paddy dehusker 1 Aspirator with precleaner 1 Cone polisher 1 Rice grader 2 Weighing Balance 3 Sealing Machine	1200 sq.ft	5.10

G.2. Semi-Automatic Rice Mill

Sr. No.	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	1 ton/hr	1 Paddy cleaner 1 Rubber husker 1 Paddy separator 1 Cone polisher 1 Round motion sieve 2 Bucket elevators 1 Weighing Balance at platform 1 Semi Automatic Packaging machine	1500 sq.ft	13.50
2.	2 ton/hr	1 Paddy cleaner cum destoner 1 Rubber Sheller 1 Aspirator 1 Paddy separator 2 Cone polisher 1 Rice Grader 3 Bucket elevators 1 Fork Lift (Optional) 1 Weighing machine at platform 1 Semi Automatic Packaging machine	3500 sq.ft	21.00
3.	3 ton/hr	2 Paddy cleaner cum destoner 2 Rubber roller paddy dehusker 1 Husk Aspirator 3 Cone polisher 2 Paddy separator 2 Rice sizer 1 Plan Shifter 5 Bucket elevators 1 Fork lift (Optional) 1 Weighing machine at platform 1 Semi Automatic Packaging machine	5000 sq.ft	32.00

G.3. Fully Automatic Rice Mill

Sr.No.	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	1 ton/hr	1 Paddy cleaner cum destoner 1 Rubber roll paddy dehusker 1 Paddy separator	1500 sq.ft	28.50

		<ul style="list-style-type: none"> 1 Cone polisher 1 Drum Grader 6 Bucket elevators 1 Weighing machine at platform 1 Semi automatic Packaging machine 		
2.	2 ton/hr	<ul style="list-style-type: none"> 1 Paddy pre cleaner 1 Paddy dehusker 1 Husk separators 1 Paddy separator 2 Rice Cone polisher 1 Bran Suction and separation system 3 Plan sifter with aspirator 1 Rice grader 9 Bucket elevators 1 Weighing machine at platform 1 Form fill and seal machine 	3500 sq.ft	35.00
3.	3 ton/hr	<ul style="list-style-type: none"> 1 Modernised fine cleaner 2 Fully Automatic Paddy dehusker 1 Husk separator 1 Paddy separator 3 Rice cone polishers 1 Pneumatic bran separation system 1 Plan sifter with aspirator 1 Drum Grader 11 Bucket Elevators 1 Fork lift 1 Weighing machine at platform 1 Form fill and seal machine 	5000 sq.ft	60.00
4.	4 ton/hr	<ul style="list-style-type: none"> 1 Butterfly separator 1 Destoner 1 Paddy dehusker 1 Rubber sheller 1 Patty husker fan 3 Rice whitener 1 Rice drum grader 1 Sizer 1 Rice cyclone 13 Bucket elevator 1 Fork lift 1 Weighing machine at platform 1 Form fill and seal machine 	7500 sq.ft	85.00
5.	5 ton/hr	<ul style="list-style-type: none"> 1 Paddy Cleaner 1 Gravity Selector cum destoner 1 Horizontal cyclone 2 Rubber roll Paddy dehusker 1 Paddy separator 3 Cone polishers 	10,000 sq.ft	160.00

		<ul style="list-style-type: none"> 1 Bran conveying system 2 Rice Grader 1 Length grader 1 Colour sorter 15 Bucket Elevators 2 Fork lift 1 Weighing machine at platform 2 Form fill and seal machine 		
6.	6-7 ton/hr	<ul style="list-style-type: none"> 1 Paddy Cleaner 1 Destoner 1 Pneumatic sheller 1 Husk aspirator 1 Paddy separator 3 White shine polisher 3 Magnetic separator 1 Silk shine polisher 2 Bran cyclone 1 Bran conveying system 2 Rice plan sifter 3 Length grader 2 Colour sorter 18 Bucket Elevators 2 Fork lift 1 Weighing machine at platform 2 Form fill and seal machine 	14,000 sq.ft	210.00
7.	8-10 ton/hr	<ul style="list-style-type: none"> 2 Pre Cleaner 1 Paddy destoner 3 Magnetic separator 2 Pneumatic paddy husker 2 Paddy husk fans 1 Paddy separator 4 Rice whiteners 1 Aspirator 2 Rice silky polishers 1 Rice fine cleaner 1 Bran conveying system 4 Rice plan sifters 6 Rice length grader 3 Colour Sorter 20 Bucket elevator 3 Fork lift 1 Weighing machine at platform 3 Form fill and seal machine 	18,000 sq.ft	360.00

H. Cost norms of plant, machinery and equipment for pulse mill machinery

H.1. Mini Dal/Pulse mill				
S.No	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	100-150 kg/hr	1 Mini Dal mill 1 Pre cleaner 1 Solar dryer 1 Weighing Balance 1 Sealing Machine Including all electric motors Including taxes	500 sq.ft	2.55
2.	250-300 kg/hr	1 Mini Dal mill 1 Destoner 1 Tray dryer 1 Weighing Balance 2 Sealing Machine Including all electric motors Including taxes	800 sq.ft	4.10
3.	500 kg/hr	1 Pre- Cleaner cum Grader 1 Dal mill 1 Dal sheller 1 Dal destoner 1 Dal dryer 2 Weighing Balance 3 Sealing Machine Including all electric motors	1000 sq.ft	7.40

H.2. Semi Automatic Pulse/Dal mill				
S.No	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	500 kg/hr	1 Pre- Cleaner cum Grader 1 Dal mill 1 Dal sheller 1 Pre cleaner 1 Dal destoner 1 Dal grader 1 Dal dryer 1 Dal polisher 1 Weighing Balance at platform 1 Semi Automatic Packaging machine Including all electric motors Including all erection costs and taxes Including electric control panel Including iron and steel platforms	1000 sq.ft	11.25

2.	1 ton/hr	2 Pre cleaner 1 Vibrio destoner 1 Gravity separator 2 Dal grader 2 Emery roll machine 2 Chakki with emery stone 2 Tray drier 2 Dal polisher 1 Fork Lift (Optional) 1 Weighing machine at platform 1 Semi Automatic Packaging machine Including all electric motors Including all machine accessories Including all erection costs Including taxes and commissioning costs Including electric control panel Including iron and steel platforms	1500 sq.ft	28.00
3.	2 ton/hr	2 Vibrio separator 4 Reel grader 2 Gravity separator 1 Double destoner 3 Roll machine with special emery roll 1 Dallchakki 6 Blowers 2 Cyclone separator 4 Dal polisher 1 Fork lift (Optional) 1 Weighing machine at platform 1 Semi Automatic Packaging machine Including all electric motors Including all machine accessories Including all erection costs Including taxes and commissioning costs Including electric control panel Including iron and steel platforms	2500 sq.ft	52.00

H.3. Fully Automatic Pulse/Dal mill				
S.No	Capacity	Particulars	Land Requirement	Cost (In Rs. Lac.)
1.	1 ton/hr	2 Pre cleaner 1 Vibrio destoner 1 Gravity separator 2 Dal grader 2 Emery roll machine 2 Chakki with emery stone 6 Bucket Elevators 2 Tray drier 2 Dal polisher 1 Colour sorter 1 Fork Lift 1 Weighing machine at platform 1 Form fill and seal machine Including all electric motors Including all machine accessories Including all erection costs Including taxes and commissioning costs Including electric control panel Including iron and steel platforms	1500 sq.ft	110.00
2.	2 ton/hr	2 Vibrio separator 4 Reel grader 2 Gravity separator 1 Double destoner 3 Roll machine with special emery roll 1 Dallchakki 9 Bucket Elevators 2 Glass separation channel 6 Blowers 1 Colour sorter 2 Cyclone aspiration channels 3 Dal polisher 1 Fork lift 1 Weighing machine at platform 1 Form fill and seal machine Including all electric motors Including all machine accessories Including all erection costs Including taxes and commissioning costs Including electric control panel Including iron and steel platforms	2500 sq.ft	235.00

3.	3-4 ton/hr	2 Modernised fine cleaner 2 Vibrio separator 2 Double destoner 2 Gravity separator 4 Reel grader 2 Drum Grader 5 Roll machine with special emery roll 2 Dallchakki 14 Bucket Elevators 4 Glass separation channel 8 Blowers 1 Colour sorter 6 Cyclone aspiration channels 4 Dal polisher 2 Fork lifts 1 Weighing machine at platform 2 Form fill and seal machines Including all electric motors Including all machine accessories Including all erection costs Including taxes and commissioning costs Including electric control panel Including iron and steel platforms	3500 sq.ft	380.00
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I. Cost norms of plant, machinery and equipment for Oil mill machinery

I.1. Mini Oil mill				
Sr.No	Capacity	Particulars	Power Requirement	Cost (In Rs. Lac.)
1.	20-25kgs oil seeds/hr	1 Single chamber 4 bolt oil expeller with reduction gear box (Single chamber of size 14 x 2.5 inches and main shaft Dia 30 mm and 60 rpm) 1 Filter press (6 plates of 10 x 10 inch) 1 Steam round kettle for cooking seeds 1 Boiler 1 Oil tank 1 Weighing balance Including all electric motors Including all machine accessories Excluding taxes and commissioning costs Including all erection costs Including iron and steel platforms	3 H.P	2.10

2.	35-40 kgs oil seeds/hr	<p>1 Single chamber 5 bolt oil expeller with reduction gear box (Single chamber of size 18 x 3 inches and main shaft Dia 38 mm and 50 rpm)</p> <p>1 Filter press (10 plates of 10 x 10 inch)</p> <p>1 Steam round kettle for cooking seeds</p> <p>1 Boiler</p> <p>1 Oil tank</p> <p>1 Weighing balance</p> <p>Including all electric motors</p> <p>Including all machine accessories</p> <p>Excluding taxes and commissioning costs</p> <p>Including all erection costs</p> <p>Including iron and steel platforms</p>	5 H.P	2.60
3.	50-60 kgs oil seeds/hr	<p>1 Single chamber 5 bolt oil expeller with reduction gear box (Single chamber of size 22 x 3.5 inches and main shaft Dia 38 mm and 42 rpm)</p> <p>1 Filter press (12 plates of 10 x 10 inch)</p> <p>1 Steam round kettle for cooking seeds</p> <p>1 Boiler</p> <p>1 Oil tank</p> <p>1 Weighing balance</p> <p>Including all electric motors</p> <p>Including all machine accessories</p> <p>Excluding taxes and commissioning costs</p> <p>Including all erection costs</p> <p>Including iron and steel platforms</p>	7.5 H.P	3.15

I.2. Semi automatic Oil mill				
S.No	Capacity	Particulars	Power Requirement	Cost (In Rs. Lac.)
1.	70-80kgs oil seeds/hr	1 Single chamber 6 bolt oil expeller with reduction gear box (Single chamber of size 24 x 4 inches and main shaft Dia 48 mm and 37 rpm) 1 Filter press (10 plates of 14 x 14 inch) 1 Steam round kettle for cooking seeds 1 Boiler 1 Motor Rail 1 Oil tank 1 Weighing balance at platform 1 Semi automatic bottling and capping machine Including all electric motors Including all machine accessories Excluding taxes and commissioning costs Including all erection costs Including iron and steel platforms	10 H.P	5.50
2.	125-150 kgs oil seeds/hr	1 Single chamber 9 bolt oil expeller with reduction gear box (Single chamber of size 27 x 5 inches and main shaft Dia 56 mm and 30 rpm) 1 Filter press (14 plates of 14 x 14 inch) 1 Steam round kettle for cooking seeds 1 Boiler 1 Motor Rail 1 Oil tank 1 Weighing balance at platform 1 Semi automatic bottling and capping machine Including all electric motors Including all machine accessories Excluding taxes and commissioning costs Including all erection costs Including iron and steel platforms	15 H.P	6.65

3.	175-200 kgs oil seeds/hr	<p>1 Single chamber 9 bolt oil expeller with reduction gear box (Single chamber of size 30 x 5.5 inches and main shaft Dia 63 mm and 27 rpm)</p> <p>1 Filter press (14 plates of 14 x 14 inch)</p> <p>1 Steam round kettle for cooking seeds</p> <p>1 Boiler</p> <p>1 Oil tank</p> <p>1 Motor Rail</p> <p>1 Weighing balance</p> <p>1 Weighing balance at platform</p> <p>1 Semi automatic bottling and capping machine</p> <p>Including all electric motors</p> <p>Including all machine accessories</p> <p>Excluding taxes and commissioning costs</p> <p>Including all erection costs</p> <p>Including iron and steel platforms</p>	20 H.P	7.80
4.	300-350 kgs oil seeds/hr	<p>1 Single chamber oil expeller with double reduction gear box (Single chamber of size 33 x 6 inches and main shaft Dia 80 mm and 25 rpm)</p> <p>1 Filter press (18 plates of 18 x 18 inch)</p> <p>1 Steam round kettle for cooking seeds</p> <p>1 Boiler</p> <p>1 Oil tank</p> <p>1 Motor Rail</p> <p>1 Weighing balance</p> <p>1 Weighing balance at platform</p> <p>2 Semi automatic bottling and capping machine</p> <p>Including all electric motors</p> <p>Including all machine accessories</p> <p>Excluding taxes and commissioning costs</p> <p>Including all erection costs</p> <p>Including iron and steel platforms</p>	30 H.P	11.20

5.	400-450 kgs oil seeds/hr	<p>1 Single chamber oil expeller with double reduction gear box (Single chamber of size 36 x 7 inches and main shaft Dia 90 mm and 21 rpm)</p> <p>1 Filter press (18 plates of 18 x 18 inch)</p> <p>1 Steam round kettle for cooking seeds</p> <p>1 Boiler</p> <p>1 Motor Rail</p> <p>1 Oil tank</p> <p>1 Weighing balance</p> <p>1 Weighing balance at platform</p> <p>2 Semi automatic bottling and capping machine</p> <p>Including all electric motors</p> <p>Including all machine accessories</p> <p>Excluding taxes and commissioning costs</p> <p>Including all erection costs</p> <p>Including iron and steel platforms</p>	40 H.P	12.35
6.	500-550 kgs oil seeds/hr	<p>1 Single chamber oil expeller with double reduction gear box (Single chamber of size 39 x 8 inches and main shaft Dia 100 mm and 18 rpm)</p> <p>1 Filter press (24 plates of 24 x 24 inch)</p> <p>1 Steam round kettle for cooking seeds</p> <p>1 Boiler</p> <p>1 Oil tank</p> <p>1 Motor Rail</p> <p>1 Weighing balance</p> <p>1 Weighing balance at platform</p> <p>2 Semi automatic bottling and capping machine</p> <p>Including all electric motors</p> <p>Including all machine accessories</p> <p>Excluding taxes and commissioning costs</p> <p>Including all erection costs</p> <p>Including iron and steel platforms</p>	50 H.P	14.85

I.3. Fully automatic Oil mill				
S.No	Capacity	Particulars	Power Requirement	Cost (In Rs. Lac.)
1.	500-550 kgs oil seeds/hr	1 Single chamber oil expeller with double reduction gear box (Single chamber of size 39 x 8 inches and main shaft Dia 100 mm and 18 rpm) 1 Filter press (24 plates of 24 x 24 inch) 1 Steam round kettle for cooking seeds 1 Boiler 1 Oil tank 3 Bucket elevators 1 Motor Rail 2 Horizontal Conveyors 1 Weighing balance at platform 1 Fully automatic bottling and capping machine Including all electric motors Including all machine accessories Excluding taxes and commissioning costs Including all erection costs Including iron and steel platforms	50 H.P	19.20
2.	600-650 kgs oil seeds/hr	1 Single chamber oil expeller with double reduction gear box (Single chamber of size 44 x 9 inches and main shaft Dia 110 mm and 16 rpm) 1 Filter press (28 plates of 24 x 24 inch) 1 Steam round kettle for cooking seeds 1 Boiler 1 Oil tank 3 Bucket elevators 1 Motor Rail 2 Horizontal Conveyors 1 Weighing balance at platform 1 Fully automatic bottling and capping machine Including all electric motors Including all machine accessories Excluding taxes and commissioning costs Including all erection costs Including iron and steel platforms	60 H.P	21.85

5. Meat & Poultry Products



A. Meat Processing Equipment

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Automatic Mixer Grinder/Mixer	approx. 1000 kg/hr at 13 mm	27.35
2	Hydraulic Filler, Stuffer (Vacuum)	max 300 portions / min for 25 grams or below	30.37
3	Link Cutters	manual	2.89
4	Forming Line, Portioning Machine	1200 pcs / hr max	12.51
5	Heavy Duty Automatic Slicer	variable speed 58 strokes per minute max.	4.84
6	Injector	approx. 500 kg/hr for whole bird or big pieces of meat	13.58
7	Tumbler	approx. 220 kg/batch	46.00
8	Ham cooker	approx. 80 kg/batch	2.89
9	Ice Maker	approx. 1500 kg/24 hr at ambient condition	10.38
10	Gas Flushing Machine (MAP+Vacuum packaging machine)	with gas 2-3 cycles / min	28.23
11	Stewing, Cooking Range, Broiling, Frying, Roasting, machines/equipment	approx. 5 kg or ltr / batch	10.78
12	Metal detector	22 mtr/min with 920 mm width	5.88
13	Trolley stainless steel	N/A	0.25
14	Trolley stainless steel	N/A	0.81
15	Landing Table stainlesssteel	N/A	0.28
16	Boning Table	N/A	0.28
17	Packaging table	N/A	0.28
18	Band saw ST 320 (with table)	manual	3.40
19	Digital thermometer probes for temperature measurement	manual	0.02
20	Boning knife, Serrated knife, Sharpening steels, Scabbards, Meat hooks, Trimming hooks, Knife sterilizer	N/A	0.13
21	Chiller 2 MT Capacity for Meat / Carcass (+4 to -4 or -5 degrees C)	approx. 2 MT	13.88
22	Cold store (for 8MT capacity)	approx. 8 MT	13.88
23	Blast freezer (capacity: 500 kg)	approx. 500 kg / batch	18.32
24	Bowl cutter	approx. 37 kg / batch	26.91
25	Meat skewer machine	manual	2.01
26	Compressed air supply system for suitable size and capacity as per process requirement	9 CFM	0.44
27	Raw and soft water supply of suitable size and capacity as required	approx. 250 LPH	1.00

B. Coated Meat products processing line

Sr. No.	Particulars	Imported/Indigenous	Cost (In Rs. Lac.)
1	Meat mixer: capacity - 50 Kg/batch	Indigenous	2.10
2	Former (Patty/Nugget/Burger forming) machine (200 mm belt width); 1200 pcs/hr max	Imported	12.51
3	Conveyor belt (200 mm belt width)	Imported	3.75
4	Battering machine (200 mm belt width) capacity: 80 Kg/hr	Imported	5.89
5	Breading machine (200 mm belt width) capacity: 80 Kg/hr	Imported	13.86
6	Preduster (200 mm belt width) capacity: 80 Kg/hr	Imported	19.06
7	Automatic Fryer (200 mm belt width) capacity: 80 Kg/hr; 180 ltr tank; sediment removal system	Imported	42.50
8	Vacuumpackaging machine (Table Top) Seal length: minimum 300mm; Digital control panel	Imported	3.50
9	Electric combi-oven: Min. 7 trays Convection, combi and steam cooking	Imported	7.50
10	Chiller - 1 tonne capacity - Assembled	Indigenous	6.50
11.	Band Sealer: Continuous; Horizontal <ul style="list-style-type: none"> • Conveyor loading: 3 Kg • Sealing speed: 0-12 m/min • Sealing width: upto max 12 mm 	Indigenous	0.40

C. Indigenous Poultry bird slaughtering line: Total Cost Rs. 252 Lacs (In Rs.)

Capacity: 1,000 birds/hour

Live Birds Weight Range: average 2kg

Type of Birds: Broiler (Ross/Cobb)

Working time: 8 hours/shift, 6 days/week

Power: 400 V, 3-phase, 50 Hz

Cost is without Boiler and air compressor

Various component of the line is given below-

Sr.No	Particulars	Quantity
1	Live bird craterolling conveyor 5 mtr	1 No
2	Overhead Conveyor:90 mtrs Approx	1 Set
3	Electric stunning unit 1.6 mtr	1 No
4	Halal/Killing Tray	1 No
5	Bleeding Trough	1 No
6	Bird washer big	1 No
7	Scalding Tank/Scalder	1 No
8	48 disk plucker feather plucking machine	1 No
9	Feather conveyor 7.5 mtr long approx	1 No
10	Bird washer big	1 No
11	Evisceration belt conveyor 6.5 mtr	1 No
12	Bird Washer big	1 No
13	Head/Neck puller	1 No
14	Hock cutter	1 No
15	Screw chiller1.6 mtr X 6.0 mtr	1 No
16	Drip drum 2.5 mtr(Excess water separator)	1 No
17	Bird collection table	1 No
18	Portioning machine with table	2 No
19	Cone deboning conveyor 7 mtr	1 No
20	Electrical control panel box	1 No
21	Bird counter	1 No
22	Automatic hock/feet remover	1 No
23	Automatic shackle washer	1 No
24	Gizzard peeler	1 No
25	Bird packing Table	1 No

26	4 Grade Online Weighing and Grading Station	1 No
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D. Frozen sea food processing plant (Prawns, Shrimp, Squid etc.)

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Frozen sea food processing plant (Prawns, Shrimp, Squid etc.)	10.0TPD	250-260
	Preparatory line (washing tank, size grader, sorting table)		
	Plate freezer, cold room, frozen storage		
	De-bonning unit		
	Packaging machines		

E. Frozen poultry products

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Frozen poultry products	5.0TPD	210-220
	Preparatory line (washer, defeathering, deskinning, scalding)		
	Cutting/debonning table		
	Meat mincer		
	Plate freezer, Blast freezer, Chilling/ Frozen storage		
	Packaging machines		

F. Frozen meat products

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Frozen meat products	5.0TPD	210-220
	Rails for storage / transportation of carcasses		
	Cutting and debonning table		
	Meat dicer, Meat mincing , Plate Freezer		
	Chilling/ Frozen storage unit		
	Packaging machines		

6. Ready to Eat & Traditional Indian Food Products

Ready to Eat

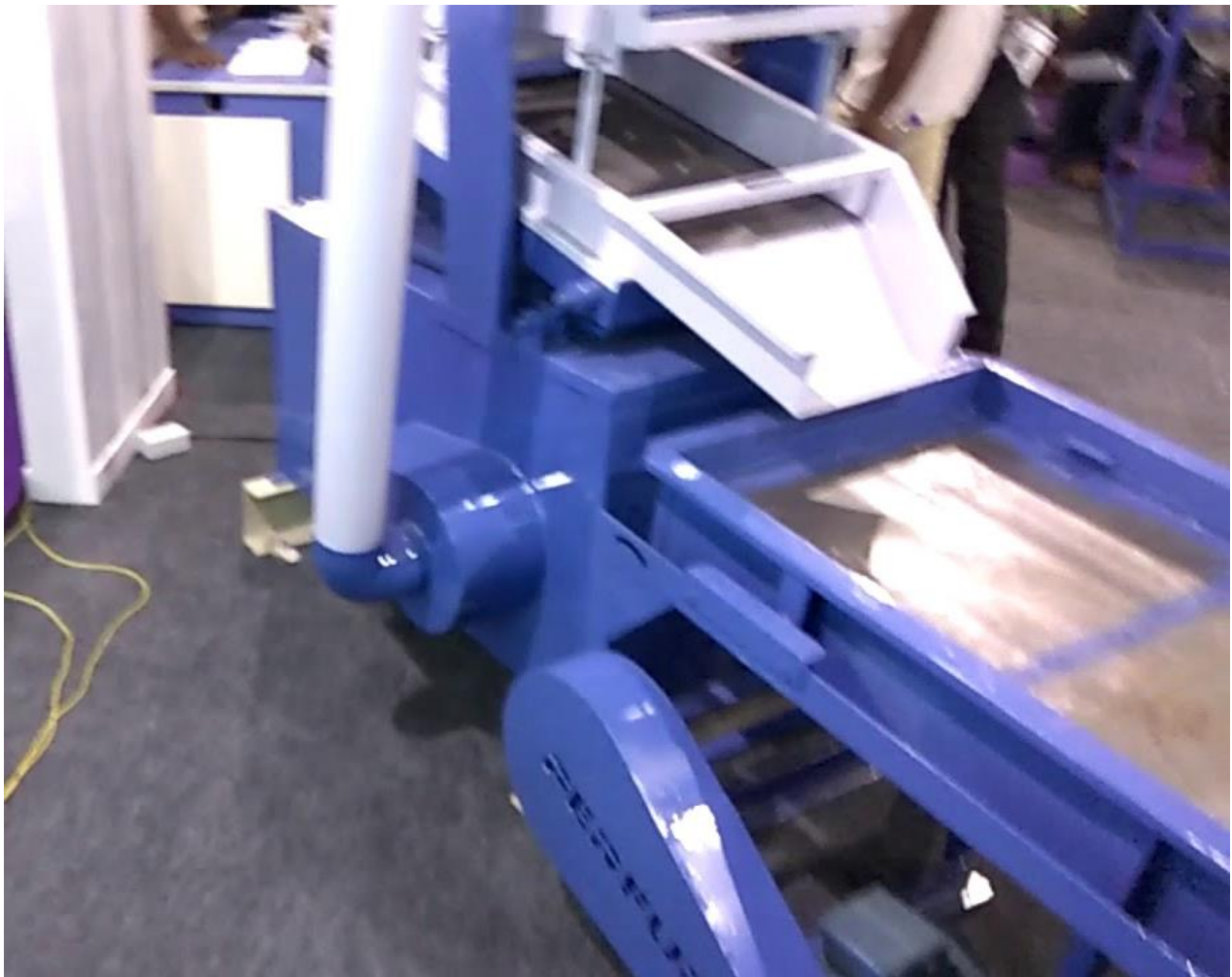


A. Equipment for Traditional Food (Indigenous)			
Sr.No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	All in semi auto Sheeting & Die Cutting Machine	800-1200Pcs/h	7.32
2	Semi Sheeter Machine	50-60 Kg/h	4.04
3	Auto Papad drying machine	1-15 kg/h	9.29
4	5 litre batch fryer	5lts	0.98
5	Auto peeling machine	200Kg/h	1.91
6	Auto chips cutting machine	200Kg/h	1.75
7	Auto hydro dryer machine	200Kg/h	2.29
8	Atta blending Machine	10-12Kg/h	2.24
9	Pulveriser Machine for spice	10-80Kg/h	2.46
10	Pulveriser Machine for Flour	10-40Kg/h	1.64
11	Auto 50 Litre heating Mixing machine	50lt	4.92
12	5 litre heavy duty mixer (wet grinder)	5 Lts	1.36
13	Gravy Making Machine 10-150kg	1-150Kg	1.31
14	Bainmeri Hot pot -4 parts	4Pot	2.29
15	Pop Corn Machine with electrical heating system	250Gm/Batch	2.73
16	Automatic Gulla Cutting & rounding Machine	2000pc/h	14.73
17	Automatic Laddu making machine	2000pc/h	12.56
18	Semi-automatic Chakli Making Machine	40-80Kg/h	9.50
19	Dosavada making Machine	40-80Kg/h	10.38
20	Idly steamer	100Pcs/hr	3.28
21	Hydraulic press tableting machine for RTE various veg. and non-veg. cakes	20Cakes/min	26.22
22	Powder packaging machine		13.11
23	Burger machine	100Kg/h	18.57
24	Battering machine	100Kg/h	18.03
25	Breading machine	100Kg/h	12.02
26	Flouring machine	100Kg/h	8.74

B. Equipment for Traditional Food(Imported)

Sr.No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Ribbon Blender	100-150Kg/h	8.28
2	Screw Conveyer	100-150Kg/h	6.12
3	Hot Extruder (Double Screw)	100-150Kg/h	67.54
4	Cooling Sifter with wheel	100-150Kg/h	7.20
5	Air Conveyor	100-300Kg/h	6.12
6	Five layer oven	100-200Kg/h	33.60
7	Flaker	100-300Kg/h	21.75
8	Hoister	100-200Kg/h	6.12
9	Cooking machine	100-150Kg/h	23.90
10	Sifter	100-180Kg/h	6.12
11	Hoister	100-200Kg/h	6.12
12	Big Compressor	50 lts	5.04
13	Seasoning machine (Two roller Flavouring machinewith oil/Sugar sprayer)	100-150Kg/h	11.24
14	Hoister	100-150Kg/h	6.12
15	Five Layer Dryer	100-150Kg/h	33.60
16	Essential Accessories For Dry Extrusion Processing Line	100-200Kg/h	27.13
	Multi-functional Shaper		
	Core fillingDies(Sticks, biscuit, Round and Square)		
	Various Dies — (Shell shaped, Bulges Shaped, Half-moon Shaped, Star Shaped, Ball shaped, Ring Shaped, Stick Shaped, Foodstuffs, core snacks, Screw shaped, CornFlakes/Raw flakes, Soya processing Dies, etc.,)		
17	Vertical Mixer	100-200Kg/h	9.40
18	Screw Conveyor	100-150Kg/h	5.62
19	Rotatory Head Extruder	100-150Kg/h	51.96
20	Hoister	100-150Kg/h	6.70
21	Tumble Shifter	100-150Kg/h	8.86
22	Vibrator	100-150Kg/h	9.94
23	Continuous Fryer	100-150Kg/h	30.41
24	Vibrator Shifter	100-150Kg/h	11.55
25	Seasoner (Single Roller Flavouring Machine)	100-150Kg/h	8.86

7. Millets Processing



A. Millet Processing Plant

A.1. Primary Processing

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)	
			MS	SS
1	Cleaning	100 Kg/h 1Ton/h	10.50	27.50
2	Sorting			
3	Grading			
4	Drying			
5	Dehulling			
6	Polishing or Pearling			
7	Elevators			
8	Size Reduction or Grinding			
9	Storage (SS 304)			
10	Packaging Machine for Grains	500g to 5 Kg	8.00	8.00
11	Packaging Machine for Powder	500g to 5 Kg	8.00	8.00
		GST	Excluded	
		Installation	Excluded	
		Transportation	Excluded	

A.2. Secondary Processing Roster

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Millet Roaster	100-150 Kg/hr	25.00
		200 Kg/hr	28.00
2	Packaging Machine	50 to 500g Pouch (Single Head)	9.00
		50 to 500g Pouch (Double Head)	13.00
		GST	Included
		Installation	Included
		Transportation	Included

B. RTE Extrusion Food Processing Line

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Pasta Plant	100-150 Kg/hr	55.00
	a. Pasta Making Machine	200-250 Kg/hr	65.00
	b. Drier		
	c. Steamer		

2	Packaging Machine	50 to 500g Pouch (Single Head)	9.00
		50 to 500g Pouch (Double Head)	13.00
		GST	Included
		Installation	Included
		Transportation	Included

C. RTE Extrusion Food Processing Plant

Sr. No.	Particulars	Capacity	Cost (In Rs. Lac.)
1	Extrusion line	100-150 Kg/hr	130.00
	a. Twin Screw Extruder	200-250 Kg/hr	155.00 .
	b. Hammer Mill	300-350 Kg/hr	185.00
	c. Pulveriser		
	d. Flour Mixer		
	e. Conveyor (Air, Cooling)		
	f. Multilayer Drier		
	g. Hoister		
	h. Oil Sprayer		
	i. Flavoring Machine		
	j. Flaker		
k. Roaster			
l. Vibro Sifter			
m. Core Filler			
n. Shaper			
o. Puff Gun Machine			
2	Packaging Machine	50 to 500g Pouch (Single Head)	9.00
		50 to 500g Pouch (Double Head)	13.00
		GST	Included
		Installation	Included
		Transportation	Included

8. Bakery



A. Bakery Plant

Sr.No.	Particulars	Capacity (kW)	Cost (In Rs. Lac.)
1	<p>Spiral Mixer 120 Kg</p> <ul style="list-style-type: none"> • Spiral Mixer With Fixed BowlSeries • Capacity Flour 75kg / Dough 120Kg • <u>Feature-</u> Besidedigitalcontrolpanel,manualpanelisequippedincasetheformeronehasproblem,Excellentmatchbetweenhook and bowl, ABS plastic cover and safety cover for choice, CE approval and ETLapproval • Overall size830x1300x1470mm • Spiral power - 9Kw /Bowl-0.55kw • TwoSpiralSpeed1stspeed-110rpm and2ndSpeed-220rpm • Two Bowl Speed-13rpm and13rpm • NetWeight-610kg 	9.55	4.55
2	<p>Volumetric Dough Divider Single Pocket</p> <ul style="list-style-type: none"> • VolumetricDoughDividerMachineSinglepocket • DoughDividingCapacity:550to1400pcs/hr. • Scaling Range: 200-1200gm • Power:0.78kW(415VAC,50Hz) • Oil Consumption: 0.5 (1000Pcs/h) 	0.78	5.5
3	<p>Conical Rounder</p> <ul style="list-style-type: none"> • ConicalRounder • Doughweighrange-200to1200gms • Motor Power -0.75kw • Rounding trackLength-6740mm 	0.75	4.15
4	<p>Dough Piece Conveyor</p>	1.5	2.5
5	<p>Long Moulder</p> <ul style="list-style-type: none"> • Production Capacity: up to 2400 pcs /hr • Scaling Range: 200-2000gm • Max Dough Length: 100mm to 420mm • Rolled Dough Dia: 30mm to 100 mm • Power: 1 kW (415 VAC, 50 Hz) 	1	5.0
6	<p>Semi-Automatic Bun Divider</p> <ul style="list-style-type: none"> • Semi automatic Bun divider rounder • Dough weight range 30 to 100grms • Number of Division-30 • Standard Attachment-Three Plastic Molding Plates • Power- 0.75kw • Semi automatic Bun divider rounder • Dough weight range 20 to 70grms • Number of Division-36 • Standard Attachment-Three Plastic Molding Plates 	0.75	2.9

	<ul style="list-style-type: none"> Overall size 650x710x2050mm Power- 0.75kw 		
7	<p>Proofer (Customized)</p> <ul style="list-style-type: none"> Four Trolley Construction PUF Insulated Humidity: Ambient to 95% RH Connected Load : 2.5 kW 	2.5	3.8
8	<p>Rotary Rack Oven</p> <ul style="list-style-type: none"> Double Trolley (Wielded) Power :- 440 VAC 50 Hz 5 hp No. of Tray (Tray Size) :- 132 (12" X 18") Biscuit / Hr.:- 100 Kg., Rusk / Day.:- 1000 Kg, Bread/ 25 min. :- 352 Pcs. Diesel/Gas Fired 	3.75	8.5
9	<p>Rotary Rack Oven</p> <ul style="list-style-type: none"> Double Trolley (Wielded) Power :- 440 VAC 50 Hz 5 hp No. of Tray (Tray Size) :- 132 (12" X 18") Biscuit / Hr.:- 100 Kg., Rusk / Day.:- 1000 Kg, Bread/ 25 min. :- 352 Pcs. Diesel/Gas Fired 	3.75	8.5
10	<p>Table-Top Slicer</p> <ul style="list-style-type: none"> Max Dimension of bread - Length- 320mm, Height- 150mm, Thickness of slicer- standard 12mm other thickness 10mm- 48mm can be customized Dimension- 472x720x720mm Power- 0.188kw 	0.4	0.75
11	<p>Floor Model Slicer</p> <ul style="list-style-type: none"> Cutting Speed : 500 loaves/hr Motor : 0.5 hp, 1440 rpm Transmission : V-belt Blade frame width : 390mm Blade frame height : 350mm <p>Features:</p> <ul style="list-style-type: none"> Mild steel body, epoxy coated Blades can be adjusted to required tension Large removable crumb tray 	0.5	1.45
12	<p>Planetary Mixer 10 Ltr</p> <ul style="list-style-type: none"> Planetary Mixer Capacity 10 liter Standard Attachment-One bowl one boatel hook, whipping ball Agitator Speed- 148x307x509rpm, with 3 speeds Lever Power 0.25kw 	0.25	0.70
13	<p>Planetary Mixer 40 Ltr</p> <ul style="list-style-type: none"> Planetary Mixer Capacity 40 liter Standard Attachment- bowl beater, hook, and whipping ball Agitator Speed- 120/239/464rpm, with 3 speeds Level Power 0.75 kw 	0.75	1.15

14	<p>Industrial Planetary Mixer</p> <ul style="list-style-type: none"> • Special heavy duty automatic mixer with variable speed, sturdy body, imported heavy duty bonfiglioli Gear Box & Motor. • There is no manual transmission of gear; it is all electronically controlled by the VF drive. • The mixer is fitted with scraper and the mixer doesn't need manual intermittent hand mixing. • The mixer comes with 2 blades, one for cookies & one for cakes. • The mixer has removable bowl with wheels. • The bowl descends & sits on the floor; it can then be taken to the machine. • Neither the blade, nor the scrapper need to be opened after mixing. • Low maintenance & high productivity mixer for consistent batches. • Special heavy duty all stainless steel movement system assisted with multiple bearing and injection hardened gears, enables trouble free long-lasting performance • Dry Flour Capacity : 8Kg • Dough Capacity: 16Kg • Power : 5kW 	5	3.8
15	<p>Cookie Drop and Wire-cut Machine with Cake Attachment</p> <ul style="list-style-type: none"> • Servo Advanced Model-5 • Operation: Fully Automatic PLC Programmed • Tray Dimension : 12"X18" • Number Nozzles : 5 • Max Production Capacity : 100 Kg per hr • Power Load : 2.5 kw 	2.5	7.5
16	<p>Electric Double Deck Oven</p> <ul style="list-style-type: none"> • Deck Oven- Number of Decks-2 • No. of trays- 3 (Total: 6Trays) Tray size- 400x600mm (16"X24") • Outside Panel-front side Stainless steel plate, others sides- Aluminum coated Steel plate, Door open style- Downward and Outward • Electric Power-7 kw per deck • Temperature range-0-300°C 	14	3.3
17	<p>Automatic "DUAL" Packing Machine</p> <ul style="list-style-type: none"> • Machines Speed Per Minute: 1line – 80, 2 line- 50,3 line - 35 , 4 line- 20 • Drive: A/C drive Schneider • Motor: A/C Motor Siemens • Dia Roller: 6 pieces.(4pieces cold and 2 pieces hot) • Sealer: Two • Sealer quality: E N 31 • PID: 2 Pieces, 2Round heater, 2 cutter heater 	2.5	7.5

	<ul style="list-style-type: none"> • Dia Roller: E N 31 • Electrical panel : Made in India • Motor: 1HP motor • MCB: Havells • Sealer body can be adjusted up and down as per requirement • Feeding Style: Manual. • Packing Style: Pillow Type • Material: Any heat seal able laminated film • Voltage: 220 volts • Gage height: 50 mm to 140 mm • Covering: S.S. covering • Body Quality: Angel With paint. • Product width size: Minimum-50mm, Maximum- 190mm • Product length size: Minimum – 50mm, Maximum- 300mm 		
18	Accessories (Tray, Trolley, Mould, Work Table, Storage Rack, Cooling Rack, Scrapper etc.)		4.5
19	Installation charges		1.5

B. Miscellaneous Equipment for Bakery industry

Particulars	Capacity	Cost (In Rs. Lac.)
Confectionary and snacks	3 Mt/hr	1565.00
Vacuum packaging	500 g- 10 kg	14
Hot air oven	224 lit	0.93
Deep fryer	54 lit	8.02
Cake and cream mixture machine	50 lit	9.0
Bread slice cutting machine	1500/hr	8.0
Cookies drop machine	100/hr	18.0
Sugar grinding machine	80-90 kg/hr	2.0
7 nozzle biscuit mixture machine	50 lit	9.0
Diesel oven	2 hp	2.0
Two head rotary screw capping machine	3500/hr	13.6
Impact pulverizer	200 kg/hr	17.16
Hot air dryer	24 tray	7.58
PS- Paste making machine	1 no	3.50
Multipurpose fryer	200-1000 kg/h	12.5
Rotary rack oven	100 kg/h	5

9. GeneralUtilities

A. Boiler

S.No	Particulars	Capacity	Cost (In Rs. Lac.)
1	Boiler	0.5 MT	20
2	Boiler	1 MT	40
3	Boiler	2 MT	6
4	Boiler	4 MT	260
5	Boiler	10 Ton/hr.	643
6	Boiler Shed	450 SQM	20
7	Boiler Foundation	--	34

B. Electrical Instrument

S.No	Particulars	Capacity	Cost (In Rs. Lac.)
1	DG Set	125 KVA	15
2	DG Set	300 KVA	22
3	DG set	500 KVA	24
4	50 KVA (3 Phase), 40 KW, 80.2 BHP 1500 RPM Silent DG Set comprising of GREAVES engine coupled to CROMPTON make suitable alternator of 50 KVA, 3 Phase, 0.8 PF (lag) both mounted on a common base frame with: - Manual Control Panel Silencer Fuel Tank Inbuilt AVM Pads DG Set in Acoustic First Fill of Lube oil Battery With Leads	50 KVA (3 Phase), 40 KW, 80.2 BHP 1500 RPM	4.95
	Supply of AMF Panel suitable for above DG Set (if required)		0.60
5	100 KVA (3 Phase), 80 KW, 126.4 BHP 1500 RPM Silent DG Set comprising of GREAVES engine coupled to CROMPTON make suitable alternator of 100 KVA, 3 Phase, 0.8 PF (lag) both mounted on a common base frame with: - Manual Control Panel Silencer Fuel Tank Inbuilt AVM Pads DG Set in Acoustic First Fill of Lube oil Battery With Leads	100 KVA (3 Phase), 80 KW, 126.4 BHP 1500 RPM	7.10
	Supply of AMF Panel suitable for above DG Set (if required)		.75
6	200 KVA (3 Phase), 160 KW, 243.1 BHP 1500 RPM Silent DG Set comprising of GREAVES engine coupled to	200 KVA (3 Phase), 160	11.60

	CROMPTON make suitable alternator of 200 KVA, 3 Phase, 0.8 PF (lag) both mounted on a common base frame with: - Manual Control Panel Silencer Fuel Tank Inbuilt AVM Pads DG Set in Acoustic First Fill of Lube oil Battery With Leads	KW, 243.1 BHP 1500 RPM	
	Supply of AMF Panel suitable for above DG Set (if required)		1.45
7	500 KVA (3 Phase), 400 KW, 604 BHP 1500 RPM Silent DG Set comprising of GREAVES engine coupled to CROMPTON make suitable alternator of 500 KVA, 3 Phase, 0.8 PF (lag) both mounted on a common base frame with: - Manual Control Panel Silencer Fuel Tank Inbuilt AVM Pads DG Set in Acoustic First Fill of Lube oil Battery With Leads	500 KVA (3 Phase), 400 KW, 604 BHP 1500 RPM	29.86
	Supply of AMF Panel suitable for above DG Set (if required)		3.15

C. Solar Power

Particulars	Capacity	Cost (In Rs. Lac.)
Solar Power	110 KW	60
Solar power generation	500 KW	265
Solar power generation unit	2 MW	810

D. Water Treatment/ RO / Softening Plant

Particulars	Capacity	Cost (In Rs. Lac.)
R.O. Plant	2 KLH	3.5
R.O. Plant	5 KLH	10
R.O. Plant	25 KLH	29.1
R.O.Plant with added mineral system U.V. system SS Storage Tank	6 KLH	22.2
W.T.P. & R.O. Plant	W.T.P.: 4 KLH, R.O. 10 KLH	45
W.T.P.	55 KLH	211
Effluent Treatment Plant	100 KLD	20
Effluent Treatment Plant	400 KLD	100
Effluent Treatment Plant	700 KLD	150
Sludge Treatment Plant	15 KLD	20
Sludge Treatment Plant	50 KLD	30

E. Other Equipment

Particulars	Capacity	Cost (In Rs. Lac.)
Air compressor	2/ 2CFM@6BAR	2.5
Industrial process chillers	2/ 10 TR	19.2
High pressure air compressor	1/ 75 HP	39.67
Low pressure air compressor	1/ 50 HP	15.13
Online water chiller with storage tank	10 MT	6.45
Thermic fluid heater	1/1000000 KCal/hr.	15.6
Box condenser 10 m ²	1	2.27
Box condenser 20 m ²	3	10.00

F. Miscellaneous Equipment

Sr. No.	Particulars	Type	Capacity	Cost (In Rs. Lac.)
1	Centrifugal Pump	Single Stage	220 LPH	0.28
		Three Stage	100 LPH	0.55
		Radial Flow	4000 LPM	0.32
		Suction	6000LPH	0.40
2	Condensers	Air Cooler	50 – 500 TR	0.80
		Water Cooler	3- 200 TR	0.65
3	Cooling Towers	Forced Draft	5- 1000 TR	1.2
		Counter flow	150 TR	1.5
		Fanless	15- 1000 TR	0.15
		Natural Draft	50 L/sec	0.48
4	Conveyors	Flat Belt	1- 50 kg/m	0.075/m
		Chain	1- 50 kg/ft	0.30
		Pneumatic	50 TPH	2.5
		Screw	160 m ³ / hr	1
		Roller	50 – 100 kg/ft, 100 - 150kg/ft, 150-200 kg/ft	2.5
5	Rainwater Harvesting	Automatic	7000 L	3

Sr. No.	Particulars	Type	Other Detail, if any	Capacity	Cost
1	Crates	Rectangular Plastic Vegetable Crates,	Shape: Rectangular. Outer Dimension:600(L) x400(B)x225(H)mm. Inner Dimension:565(L) x365(B)x215(H)mm	45 Ltr	Rs 456/ Unit
		Perforated Plastic Crates	Size: L650XW450XH355(mm)	Capacity: 76 Ltr	Rs 1,264/ Number
		Industrial plastic crates	Outer Dimension: 400(L)x300B(B)x065(H)mm	5 Ltr	Rs 344/ Number
		pp crates	Size: 600 X 400 X 325 mm	68 Ltr,	Rs 400/ Number
		plastic milk crates	Size: 470 mm x 378 mm x 163 mm	120 Liters	Rs 317.54/ Piece
		jumbo crates	O.D: 650 mm x 450 mm x 485mm	120 Ltrs	Rs 850/ Piece
		plastic bottle crates	Dimensions: 420 x 280 x 140 mm	24 Bottles	185/ Piece
		HDPE crates	Outer Dimension: 600x400x225 mm Inner Dimension: 565X365X215 mm	50 Liters	Rs 425/ Unit
2	MS Pallet	Material: Mild Steel	--	1200-1500 kg	Rs 2,000/ Number

10. Warehouse

A. Warehouse

Sr. No	Particulars	Capacity	BRIEF SPECIFICATIONS	Cost (In Rs. Lac.)
A.1.1	Dry Warehouse	5000 MT/ 2778 sqm	Ordinary soil(10 T/sqm) Brick/stone masonry walls Span of godown =21.80 m Ht. of godown at eves= 5.48 m 20cm thick M-30CC front & rear road 0.60mm galvalume steel roofing 0.75 mm VDC flooring. 1.80 m wide verandah. Electrification CPWD specifications	285
A.1.2		10000 MT/ 5556 sqm	Same as S.No. A.1.1	570
A.1.3		1000 MT/ 556 sqm	Ordinary soil (10 T/sqm) Brick/stone masonry wall Span=10.71 m (C/C). Ht. of godown at eves = 4.88 m 20cm M-30 CC front road 0.60mm galvalume steel roofing 0.75mm VDC flooring Electrification CPWD specifications	46
A.2.1	Dry Warehouse	5000 MT/ 2778 sqm	Same as A.1.1 plus pile foundation in black cotton soil	314
A.2.2		10000 MT/5556 sqm	Same as A.2.1	627
A.2.3		1000 MT/ 556 sqm	Same as A.1.3 plus pile foundation in black cotton soil	50
A.3.1	Dry Warehouse	5000 MT/ 2778 sqm	Same as A.1.1 when located in NE Region & hilly Region of J&K, HP, Uttrakhand, Sikkim, Darjeeling.	356
A.3.2		10000 MT/5556 sqm	Same as A.3.1	712

A.3.3		1000 MT/ 556 sqm	Same as A.1.3 when located in NE Region & hilly Region of J&K, HP, Uttrakhand, Sikkim, Darjeeling.	57
A.4	Dry Warehouse	3000 sqm	Same as A.1.1 with PEB structure above plinth.	345
		5000 sqm	Same as A.1.2 with PEB structure above plinth.	575
A.5	Office building (single storey)	100 sqm	Office building with toilets, electrification etc. with load bearing structure (Plinth area rate of CPWD+ cost index)	18
	Office building (double storey)	200 sqm	Do (GF=100 sqm & FF = 100 sqm).	34
A.6.1	Steel Silos (P&M)	50000 MT	All Plant & Machinery Corrugated galvanized steel sheets with galvanized coating not less than 350 gm/sqm. The costing of land, railway siding & contingencies are not included in this indicated cost.	1596
	Steel Silos (Civil, electrical etc. works)	50000 MT	All civil works, electrical works & other utilities.	1355
A.6.2	Steel Silos (P&M)	25000 MT	All Plant & Machinery Corrugated galvanized steel sheets with galvanized coating not less than 350 gm/sqm. The costing of land, railway siding & contingencies are not included in this indicated cost	798
	Steel Silos (Civil, electrical etc. works)	25000 MT	All civil works, electrical works & other utilities.	678

11.Skill Development

SSC	QPCode	Job Role Name	NSQF Level	Equipment Name	Minimum number of Equipment required (per batch of 30 trainees)	Minimum number of Equipment required (per batch of 25 trainees)	Minimum number of Equipment required (per batch of 20 trainees)	Unit Type	Is this a mandatory Equipment to be available at the Training Center (Yes/No)	Specification	Cost in Rs Lac (Unit Cost)
Food Processing	FIC/Q2001	Dairy Products Processor	5	Pasteurizer (Integrated Line HTST)	1	1	1	Nos	Yes	1000 L/Hr	10
Food Processing	FIC/Q2001	Dairy Products Processor	5	Homogenizer	1	1	1	Nos	Yes	1000L/Hr	6.0
Food Processing	FIC/Q2001	Dairy Products Processor	5	Refrigerator (100 litres (1kw))	1	1	1	Nos	Yes	100 litres (1kw)	0.50
Food Processing	FIC/Q2001	Dairy Products Processor	5	Refrigerator (300 litres (1.5kw))	1	1	1	Nos	No	300 litres (1.5kw)	0.75
Food Processing	FIC/Q2001	Dairy Products Processor	5	Spray Dryer	1	1	1	Nos	No	50 Lit Milk per Hour	15
Food Processing	FIC/Q2001	Dairy Products Processor	5	Blender	1	1	1	Nos	Yes	30-40 Lit/ Batch	0.50
Food Processing	FIC/Q2001	Dairy Products Processor	5	Churner	1	1	1	Nos	No	50 ltr Cream/Batch	0.83
Food Processing	FIC/Q2001	Dairy Products Processor	5	Measuring Cup & spoon(10ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Measuring Cups & Spoon (50ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Measuring Cups & Spoon (100ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Measuring Cups & Spoon (250ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumable

Food Processing	FIC/Q2001	Dairy Products Processor	5	Measuring Cups & Spoon (500ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Thermometer	3	3	3	Nos	Yes	Measuring up to 200 Degree Celsius	Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Separator/Clarifier	1	1	1	Nos	Yes	10 Lit per Batch	0.30
Food Processing	FIC/Q2001	Dairy Products Processor	5	Knives (Set)	2	2	2	Nos	Yes	Of all types	0.02
Food Processing	FIC/Q2001	Dairy Products Processor	5	Spatula	2	2	2	Nos	Yes	Of all sizes	Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Utensils	5	5	5	Nos	Yes	1 to 5 kg capacity SS utensils with lids, 6 – 7 SS plates 12" diameter	0.10 (Set of Utensil, 5 in Nos)
Food Processing	FIC/Q2001	Dairy Products Processor	5	Work table	2	2	2	Nos	Yes	4' x 10' SS tables	0.60
Food Processing	FIC/Q2001	Dairy Products Processor	5	Sinks	2	2	2	Nos	Yes	with water connection	-
Food Processing	FIC/Q2001	Dairy Products Processor	5	Timer	2	2	2	Nos	Yes		0.005
Food Processing	FIC/Q2001	Dairy Products Processor	5	Digital Hygrometer	2	2	2	Nos	Yes		0.05
Food Processing	FIC/Q2001	Dairy Products Processor	5	Bunsen Burner	1	1	1	Nos	No		-
Food Processing	FIC/Q2001	Dairy Products Processor	5	Wire Gauze	2	2	2	Nos	No		Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Test Tubes	5	5	5	Nos	No		Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Burette	3	3	3	Nos	No		Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Pipette	3	3	3	Nos	No		Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Lab chemicals for testing and glassware	1	1	1	Nos	No	Beaker, Test Tube, Measuring Cylinder, Petri Dish, Glass Slides	Consumable
Food Processing	FIC/Q2001	Dairy Products Processor	5	Weighing Scale	1	1	1	Nos	Yes	Min. 5kg	0.1

sing		Processor										
Food Processing	FIC/Q2001	Dairy Products Processor	5	Gas Burner (LPG)	1	1	1	Nos	Yes	Attached to LPG commercial cylinder	0.1	
Food Processing	FIC/Q2001	Dairy Products Processor	5	LPG cylinders	2	2	2	Nos	Yes	Each cylinder should run for 120 hrs (refill cost@Rs1500/ per cylinder)	0.05	
Food Processing	FIC/Q2001	Dairy Products Processor	5	pH Meter	1	1	1	Nos	Yes		0.05	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Muslin Cloth	3	3	3	Nos	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Disinfectant	1	1	1	Nos	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Fire extinguishers	2	2	2	Nos	Yes	Near the gas burner, LPG cylinders and ovens	0.02	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Masks – Head cover, mouth cover	30	30	20	Nos	Yes	Re Usable	Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Gloves	30	25	20	Pairs	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Lab Coat	30	25	30	Nos	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Measuring Cups	3	3	3	Nos	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Feeder	1	1	1	Nos	No		-	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Silos	1	1	1	Nos	No	1000 ltr	3.0	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Mixer	1	1	1	Nos	Yes	If it is Blender	0.5	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Milk Sampling Bottles	3	3	3	Nos	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Measuring Cylinder	2	2	2	Nos	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	Funnel	3	3	3	Nos	Yes		Consumable	
Food Processing	FIC/Q2001	Dairy Products Processor	5	SNF Tester	1	1	1	Nos	No	MilkoScan	0.5	

Food Processing	FIC/Q2001	Dairy Products Processor	5	Fat Tester	1	1	1	Nos	No		
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Refrigerator	1	1	1	Nos	Yes	100 litres (1kw)	0.5
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Scaling machine	1	1	1	Nos	Yes		-
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Skin Peeling Machine	1	1	1	Nos	Yes		
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Grounding machine	1	1	1	Nos	Yes		
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Gutting machine	1	1	1	Nos	Yes		
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Hygrometer	1	1	1	Nos	Yes		0.025
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Trays	4	4	4	Nos	Yes		Consumables
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Sanitizer and Disinfectant	2	2	2	Nos	Yes		Consumables
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Lab Coat	30	25	20	Nos	Yes		Consumables
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Hand Gloves	30	25	20	Nos	Pair		Consumables
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Mouth and Head Cover	30	25	30	Nos	Yes		Consumables
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Heat sealers	2	2	2	Nos	No		0.05
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Cutting / slitting / trimming equipment	2	2	2	Nos	Yes		
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Typing / sieving/ stapling equipment	1	1	1	Nos	No		
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Closing / sealing equip	1	1	1	Nos	No		
Food Processing	FIC/Q4001	Fish and Sea Food Processing	4	Wrappers	2	2	2	Nos	No		Consumables

		Technician										
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Labellers	1	1	1	Nos	No			0.3
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Coding equipment	1	1	1	Nos	No			
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Metal detection equipment	1	1	1	Nos	No			4.0
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Printing equipment	1	1	1	Nos	No			0.5
Food Processing	FIC/Q4001	Fish and Sea Food Processing Technician	4	Container cleaning/ washing/ drying systems	1	1	1	Nos	No			1.0
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	pH Meter (Digital)	1	1	1	Nos	Yes			0.05
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Thermometer (Digital)	1	1	1	Nos	Yes			Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Beakers (50ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Beakers (100ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Beakers (250ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Beakers (500ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Conical flasks (100ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Conical flasks (250ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Conical flasks (500ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Measuring cylinder (50ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumables

Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Measuring cylinder (100ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Measuring cylinder (250ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Measuring flask (100ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Measuring flask (250ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Measuring flask (500ml)	2	2	2	Nos	Yes	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Burette with burette stand	1	1	1	Set	No		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Pipettes (1ml)	2	2	2	Nos	No	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Pipettes (5ml)	2	2	2	Nos	No	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Pipettes (10ml)	2	2	2	Nos	No	Two sets of this capacity	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Test tubes with test tube stand	30	25	20	Pcs	No	Assorted sizes	Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Glass rod	6	6	6	Pcs	No		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Petri dish with cover	12	12	12	Pcs	No		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Glass slides	1	1	1	Box	No		Consumables
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Microscope	1	1	1	Nos	No		0.4
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Weighing balance (Digital)	1	1	1	Nos	Yes	With capacity upto 50 kg	0.5
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Brix meter/refractometer	2	2	2	Nos	Yes		0.1
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Deep fridge	1	1	1	Nos	No	500 Ltr	0.3

Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Refrigerator	1	1	1	Nos	Yes	100 litres (1kw)	0.5
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Gas burner with cylinder	1	1	1	Nos	Yes		0.1
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Fruit tray	6	6	6	Nos	Yes		0.01
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Cutting knives	6	6	6	Nos	Yes	Set	0.01
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Electric mixer	1	1	1	Nos	Yes	Kitchen Mixer, Grinder	0.05
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Pressure cooker	1	1	1	Nos	Yes	5 -10 Lit	0.035
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Coring knives	6	6	6	Nos	Yes	Set	0.005
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Pitting knives	6	6	6	Nos	Yes	Set	0.005
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Juice Extractor (Screw type)	1	1	1	Nos	Yes	1 HP motor (50 Kg per hour)	0.3
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Pulper Electric	1	1	1	Nos	Yes	1/4 Tonne capacity per 8 hrs with 1 HP Motor and two S.S: Seines (1/16 mesh. 1/32 mesh), 50 Kg per Hour	0.3
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Hygrometer	1	1	1	Nos	Yes		0.025
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Mechanical peeler/ Batch type for fruit and vegetable peeling	1	1	1	Nos	Yes	Potato Peeler with Stone	1.0
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Steam jacket kettle	2	2	2	Nos	No	100 Kg	0.5
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Baby Boiler/Diesel fuel/capacity of boiler as per capacity of steam jacket kettle	1	1	1	Nos	No	Capacity as per capacity of steam jacket kettle	4.0
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Sulphuring chamber	1	1	1	Nos	No		
Food	FIC/Q0106	Fruit Pulp	4	Auto claves	1	1	1	Nos	No		0.5

Processing		Processing Technician										
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Lab Coat	30	25	20	Nos	Yes			Consumable
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	Gloves and Head Cover	30	25	20	Nos	Yes			Consumable
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	S.S.Vessels with lids (20 lt capacity)	2	2	2	Nos	No	20 lt capacity		0.1
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	S.S. Vessels with lids (6 lt capacity)	2	2	2	Nos	No	6 lt capacity		0.05
Food Processing	FIC/Q0106	Fruit Pulp Processing Technician	4	S.S.Vessels with lids (10 lt capacity)	2	2	2	Nos	Yes	10 lt capacity		0.07
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	PH Meter (Digital)	1	1	1	Nos	No			0.05
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Thermometer	1	1	1	Nos	Yes			Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Beakers (50ml)	2	2	2	Nos	No	Two sets of this capacity		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Beakers (100ml)	2	2	2	Nos	No	Two sets of this capacity		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Beakers (250ml)	2	2	2	Nos	No	Two sets of this capacity		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Beakers (500ml)	2	2	2	Nos	No	Two sets of this capacity		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Conical flasks (100ml)	2	2	2	Nos	No	Two sets of this capacity		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Conical flasks (250ml)	2	2	2	Nos	No	Two sets of this capacity		Consumable

Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Conical flasks (500ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Measuring cylinder (50ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Measuring cylinder (100ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Measuring cylinder (250ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Measuring flask (100ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Measuring flask (250ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Measuring flask (500ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Burette with burette stand	4	4	4	Set	No		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Pipettes (1ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Pipettes (5ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Pipettes (10ml)	2	2	2	Nos	No	Two sets of this capacity	Consumable

Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Glass funnels of assorted sizes	6	6	6	Pcs	No		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Test tubes with test tube stand	30	25	20	Pcs	No		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Glass rod	6	6	6	Pcs	No		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Petri dish with cover	12	12	12	Pcs	No		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Glass slides	1	1	1	Box	No		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Microscope	1	1	1	Nos	No		0.4
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Brinometer	1	1	1	Nos	No		0.03
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Hygrometer	1	1	1	Nos	Yes		0.025
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Weighing balance (Digital with capacity upto 50 kg)	1	1	1	Nos	Yes		0.5
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Brix meter/refractometer	2	2	2	Nos	Yes		0.1
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Deep fridge	1	1	1	Nos	No	500 lit	0.30

Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Refrigerator	1	1	1	Nos	Yes	100 litres (1kw)	0.5
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Gas burner with cylinder	1	1	1	Unit	Yes		0.15
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Fruit tray	6	6	6	Pcs	Yes		0.01
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Stainless steel mug	2	2	2	Pcs	Yes		0.01
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Cutting knives	6	6	6	Pcs	Yes	Set	0.02
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Electric mixer	1	1	1	Nos	No	Kitchen Mixer, Grinder	0.05
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Water Bath	1	1	1	Nos	Yes		-
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Fruit slicing machine	1	1	1	Nos	Yes		0.025
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Sealing machine	1	1	1	Nos	No		0.05
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Oven (drying)	1	1	1	Nos	Yes		0.15
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Solar dryer (cabinet type) complete with solar box. Size app 6'*3'	1	1	1	Nos	Yes		1.0

Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Mechanical peeler/ Batch type for fruit and vegetable peeling	1	1	1	Nos	Yes		0.10
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Steam jacket kettle	1	1	1	Nos	No	100 kg	0.50
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Baby Boiler/Diesel fuel/capacity of boiler as per capacity of steam jacket kettle	1	1	1	Nos	No		4.0
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Heat Sealing Machine Hand Operated	1	1	1	Nos	No		0.05
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Lab Coat	30	25	20	Nos	Yes		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Gloves and Head Cover	30	25	20	Nos	Yes		Consumable
Food Processing	FIC/Q0105	Fruits and Vegetables Drying/ Dehydration Technician	4	Moisture meter	1	1	1	Nos	Yes		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Cleaner/grader	1	1	1	Nos	Yes		0.50
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Conditioning machine	1	1	1	Nos	No		0.50
Food Processing	FIC/Q1004	Pulse Processing Technician	4	De-husk machine	1	1	1	Nos	Yes		2.0
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Polisher	1	1	1	Nos	Yes		1.0
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Drier	1	1	1	Nos	Yes		0.50
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Packaging machine (Sealer)	1	1	1	Nos	No		0.05
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Packing Wrap Rolls	1	1	1	Nos	No		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Grinding machine	1	1	1	Nos	Yes		Consumable

Food Processing	FIC/Q1004	Pulse Processing Technician	4	Sifter	1	1	1	Nos	Yes		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Lab Coat	30	25	20	Nos	Yes		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Mask and head Cover	30	25	20	Nos	Yes		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Cleaners	2	2	2	Nos	Yes		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Expeller	1	1	1	Nos	No		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Hygrometer	1	1	1	Nos	Yes		Consumable
Food Processing	FIC/Q1004	Pulse Processing Technician	4	Disinfectants	2	2	2	Nos	Yes		Consumable
Food Processing	FIC/Q7005	Purchase Assistant – Food and Agricultural Commodities	4	Pencils/Pens	6	6	6	Box	Yes		Consumable
Food Processing	FIC/Q7005	Purchase Assistant – Food and Agricultural Commodities	4	Computer	6	6	6	Nos	Yes	With ERP and MS Office	1.5
Food Processing	FIC/Q7005	Purchase Assistant – Food and Agricultural Commodities	4	Markers	3-4	3-4	3-4	Nos	Yes		Consumable
Food Processing	FIC/Q7005	Purchase Assistant – Food and Agricultural Commodities	4	Flip charts	3-4	3-4	3-4	Nos	Yes		Consumable
Food Processing	FIC/Q7005	Purchase Assistant – Food and Agricultural Commodities	4	Post-its	3	3	3	Packets	Yes		Consumable
Food Processing	FIC/Q7005	Purchase Assistant – Food and Agricultural Commodities	4	White board	2	2	2	Nos	Yes		Consumable
Food Processing	FIC/Q7005	Purchase Assistant – Food and Agricultural Commodities	4	A4 sheets	1	1	1	Rim	Yes		Consumable
Food Processing	FIC/Q7005	Purchase Assistant – Food and	4	Projector	1	1	1	Nos	Yes		

		Agricultural Commodities										
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Peeler	3	3	3	Nos	Yes			0.10
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Knife	5	5	5	Nos	Yes			0.02
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Extruder	1	1	1	Nos	No			5.0
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Automatic Fryer	1	1	1	Nos	Yes	5L		0.75
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Frying Pan (Flat Base Kadhai)	1	1	1	Nos	Yes			0.02
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Frying Pan (Round Base Kadhai)	1	1	1	Nos	Yes			0.02
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Air Cooling System	1	1	1	Nos	No			0.10
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Spray System	1	1	1	Nos	No			0.2
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Oil and Flavour Spray System	1	1	1	Nos	No			0.20
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Weighing Balance	1	1	1	Nos	Yes	2.5 kg		0.15
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Packing Wrap Rolls	2	2	2	Nos	No			Consumable
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Sealer	1	1	1	Nos	No			0.05
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Different type of strainer	4	4	4	Nos	Yes			0.05
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Ladle	5	5	5	Nos	Yes			NA
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Sieve	2	2	2	Nos	Yes			NA
Food Processing	FIC/Q8501	Traditional Snack and Savoury	4	Sauce Pan	3	3	3	Nos	Yes			NA

		Maker										
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Rolling Pin	2	2	2	Nos	Yes			NA
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Cutter	3	3	3	Nos	Yes			NA
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Muslin Cloth	2	2	2	Nos	Yes			Consumable
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Lab Coat	30	25	20	Nos	Yes			Consumable
Food Processing	FIC/Q8501	Traditional Snack and Savoury Maker	4	Head Cover and Gloves	30	25	20	Nos	Yes			Consumable
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	Pencils/Pens	6	6	6	Box	Yes			Consumable
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	Computer	6	6	6	Nos	Yes	With MS Office		1.50
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	Markers	4	4	4	Nos	Yes			Consumable
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	Calculator	6	6	6	Nos	Yes			Consumable
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	Folders	6	6	6	Nos	Yes			Consumable
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	White board	2	2	2	Nos	Yes			Consumable
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	A4 sheets	1	1	1	Rim	Yes			Consumable
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	Projector	1	1	1	Nos	Yes			NA
Food Processing	FIC/Q9001	Processed Food Entrepreneur	5	Work Table	2	2	2	Nos	Yes	4x10 SS		0.55
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	White board	2	2	2	Nos	Yes			Consumable
Food Processing	FIC/Q7006	Assistant Lab	4	Projector	1	1	1	Nos	Yes			NA

ing		Technician - Food and Agricultural Commoditi es										
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Computers	2	2	2	Nos	Yes			1.5
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Test Tubes	10	10	12	Nos	Yes			Consumabl e
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Round Bottom Flasks	5	5	5	Nos	Yes			Consumabl e
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Wire Gauges	4	4	4	Nos	Yes			Consumabl e
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Bunsen Burner	4	4	4	Nos	Yes			
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Mortar And Pestle	2	2	2	Nos	Yes			NA
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Funnels	5	5	5	Nos	Yes			NA
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Gloves	30	25	20	Pair	Yes			Consumabl e
Food Proces sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Masks	30	25	20	Nos	Yes			Consumabl e

		es									
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Lab coats	30	25	20	Nos	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Vernier Callipers	2	2	2	Nos	Yes		NA
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Beakers	5	5	5	Nos	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Flasks	5	5	5	Nos	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Oven	1	1	1	Nos	No		0.45
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Rectangular Muffle Furnace	1	1	1	Nos	No		0.25
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	pH Metre	1	1	1	Nos	Yes		0.05
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Moisture Metre	1	1	1	Nos	Yes	Analyzer	1.0
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Sieve Shaker	1	1	1	Nos	No		0.10
Food Processing	FIC/Q7006	Assistant Lab	4	Autoclave	1	1	1	Nos	No		0.50

ing		Technician - Food and Agricultural Commoditi es										
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Colony Counter (Electronic Digital)	1	1	1	Nos	No			0.15
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	B.O.D Incubator	1	1	1	Nos	No			0.30
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Microscope	1	1	1	Nos	No			0.50
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Petridish	5	5	5	Nos	No			Consumabl e
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Soxhlet Extraction Unit	1	1	1	Nos	No			0.50
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Laboratory Round Heating Plate	1	1	1	Nos	Yes		With magnetic Stirrer	0.60
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Water Bath	1	1	1	Nos	Yes			
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Kjeldhal Digestion Unit	1	1	1	Nos	No			9.0
Food Proce sing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commoditi es	4	Laminar Air Flow	1	1	1	Nos	No		Imported	0.95

		es									
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Glass Rod/ Stirrer	3	3	3	Nos	Yes		NA
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Filter Paper	2	2	2	Boxes	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Burette with stand	5	5	5	Nos	Yes		NA
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Pipette	5	5	5	Nos	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Titration Flask	5	5	5	Nos	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Measuring Cylinder	5	5	5	Nos	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Spatula	5	5	5	Nos	Yes		Consumable
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Knife	5	5	5	Nos	Yes		0.02
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Weighing Balance	2	2	2	Nos	Yes		0.22
Food Processing	FIC/Q7006	Assistant Lab Technician - Food and Agricultural Commodities	4	Vortex Shaker	1	1	1	Nos	No	2.2 kg	

sing		Technician - Food and Agricultural Commodities										
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Pasteurizer	1	1	1	Nos	Yes			
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Homogenizer	1	1	1	Nos	No			
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Refrigerator	1	1	1	Nos	Yes			0.50
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Churner	1	1	1	Nos	Yes	Butter Churn		1.0
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Blender	1	1	1	Nos	No			0.05
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Measuring Cup & spoon (10ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Measuring Cup & spoon (50ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Measuring Cup & spoon (100ml)	2	2	2	Nos	Yes	Two sets of this capacity		consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Measuring Cup & spoon (250ml)	2	2	2	Nos	Yes	Two sets of this capacity		Consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Thermometer	3	3	3	Nos	Yes	Measuring up to 200 Degree Celsius		Consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Cream Separator	1	1	1	Nos	Yes			0.25
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Knives	2	2	2	Nos	Yes			0.02
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Spatula	2	2	2	Nos	Yes			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Utensils	5	5	5	Nos	Yes			0.005
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Timer	2	2	2	Nos	Yes			NA
Food	FIC/Q2003	Butter and	4	Digital	1	1	1	Nos	Yes			0.25

Processing		Ghee Processing Operator		Hygrometer								
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Bunsen Burner	2	2	2	Nos	No			
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Wire Gauze	2	2	2	Nos	No			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Test Tubes	5	5	12	Nos	No			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Burette	3	3	3	Nos	No			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Pipette	3	3	3	Nos	No			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Weighing Scale	1	1	1	Nos	Yes		2.2 kg	0.22
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Gas Burner (LPG)	1	1	1	Nos	Yes			0.10
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	LPG cylinders	2	2	2	Nos	Yes			0.05
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	pH Meter	1	1	1	Nos	Yes			
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Disinfectant	1	1	1	Nos	Yes			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Fire extinguishers	2	2	2	Nos	Yes			0.02
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Masks – Head cover, mouth cover	30	25	20	Nos	Yes			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Gloves	30	25	20	Pair	Yes			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Lab Coat	30	25	20	Nos	Yes			consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Feeder	1	1	1	Nos	No			NA
Food Processing	FIC/Q2003	Butter and Ghee Processing	4	Silos	1	1	1	Nos	No		1000 ltr	3.0

		Operator									
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Milk Sampling Bottles	3	3	3	Nos	Yes		consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Measuring Cylinder	2	2	2	Nos	Yes		consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Funnel	3	3	3	Nos	Yes		consumable
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	SNF Tester	1	1	1	Nos	No		0.25
Food Processing	FIC/Q2003	Butter and Ghee Processing Operator	4	Fat Tester	1	1	1	Nos	No		0.25
Food Processing	FIC/Q0102	Pickle Making Technician	4	Ph Meter (Digital)	1			pieces	Yes		0.05
Food Processing	FIC/Q0102	Pickle Making Technician	4	Thermometer (Digital)	1			pieces	Yes		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Beakers	6			pcs each	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Conical Flasks	6			pcs each	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Measuring Cylinder	6			pcs each	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Utensils	5			pieces	Yes		
Food Processing	FIC/Q0102	Pickle Making Technician	4	Measuring Flask	6			pcs each	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Burrete with Stands	1			set	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Pipettes Of Assorted Sizes	6			pcs each	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Glass Funnels	6			pcs each	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Test Tubes with Stand	10			pieces	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Glass Rod	6			pieces	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Petri Dish With Cover	12			pieces	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Glass Slides	1			box	No		consumable
Food Processing	FIC/Q0102	Pickle Making Technician	4	Microscope – 1	1			pieces	No		0.40

Food Processing	FIC/Q0102	Pickle Making Technician	4	Brinometer	2			pieces	Yes		0.03
Food Processing	FIC/Q0102	Pickle Making Technician	4	Hydrometer	2			pieces	Yes		0.02
Food Processing	FIC/Q0102	Pickle Making Technician	4	Weighing Balance (Digital)	1			pieces	Yes		0.15
Food Processing	FIC/Q0102	Pickle Making Technician	4	Laboratory Weighing Balance (Digital) - 1 Pc	1			pieces	No	2.2 kg	0.22
Food Processing	FIC/Q0102	Pickle Making Technician	4	Brix Meter/Refractometer	2			pieces	Yes		0.10
Food Processing	FIC/Q0102	Pickle Making Technician	4	Deep Fridge	1			pieces	No		0.30
Food Processing	FIC/Q0102	Pickle Making Technician	4	Refrigerator	1			pieces	Yes	100 litres (1kw)	0.50
Food Processing	FIC/Q0102	Pickle Making Technician	4	Gas Burner With Cylinder	1			pieces	Yes		0.15
Food Processing	FIC/Q0102	Pickle Making Technician	4	Fruit Tray	2			pieces	No		0.01
Food Processing	FIC/Q0102	Pickle Making Technician	4	Stainless Steel Mug	2			pieces	Yes		0.02
Food Processing	FIC/Q0102	Pickle Making Technician	4	Pilfer Proof Capping Machine	1			pieces	No		-
Food Processing	FIC/Q0102	Pickle Making Technician	4	Cutting Knives	3			pieces	Yes	set	0.02
Food Processing	FIC/Q0102	Pickle Making Technician	4	Peelers	3			pieces	Yes	set	0.01
Food Processing	FIC/Q0102	Pickle Making Technician	4	Electric Mixer	1			pieces	Yes	Kitchen Mixer, Grinder	0.05
Food Processing	FIC/Q0102	Pickle Making Technician	4	Water Tank	1			pieces	Yes	100-500 lit	0.05
Food Processing	FIC/Q0102	Pickle Making Technician	4	Fruit Slicing Machine	1			pieces	Yes	Food Processor	0.05
Food Processing	FIC/Q0102	Pickle Making Technician	4	Sealing Machine	1			pieces	No	Hand	0.05
Food Processing	FIC/Q0102	Pickle Making Technician	4	Weighing Balance (Analogue)	1			pieces	No	2.2kg	0.22
Food Processing	FIC/Q0102	Pickle Making Technician	4	Pickle Mixer, Rotary Type And Contact Part Of Stainless Steel	1			pieces	Yes		0.25
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Packing, Wraps Rolls	1			pieces	Yes		Consumable

Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Refrigerator	1			pieces	Yes	100 litres (1kw)	0.50
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Lab Scale Ovens	2			pieces	Yes		1.0
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Baking Sheet & Racks	2			pieces	Yes		0.25
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Commercial Mixers	2			pieces	Yes	Spiral	3.5
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Wire Whiskers	1			pieces	Yes		0.02
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Fryer	1			pieces	Yes	5 lit	2.5
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Baking Pan	2			pieces	Yes		0.10
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Cooling Racks	2			pieces	Yes	SS	1.0
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Bread Slicer Manual/Mechanical	1			pieces	Yes	Table Top	0.75
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Bread Slicer Manual/Mechanical	1			pieces	Yes	Table top	0.75
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Cake Decorative Tools	2			pieces	No		0.10
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Knives	2			pieces	Yes	Set	0.02
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Spatula	2			pieces	Yes		Consumables
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Utensils	5			pieces	Yes	Set	0.10
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Mixing Bowl	2			pieces	Yes	SS	0.03
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Work Table	2			pieces	Yes	4 x 10 SS	0.55

Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Sinks	2			pieces	Yes		NA
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Measuring Cup & Spoon	2			pieces	Yes		Consumables
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Thermometer	3			pieces	Yes		Consumables
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Timer	2			pieces	Yes		0.005
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Digital Hygrometer	2			pieces	Yes		0.025
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Lab Equipment For Testing	1			pieces	No		-
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Lab Chemicals For Testing And Glassware	1			pieces	No		-
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Aprons	30			pieces	Yes		Consumables
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Cleaning Tools	1			pieces	Yes		Consumables
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Weighing Scale	1			pieces	Yes	2.2 kg	0.22
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Gas Burner (Lpg)	1			pieces	Yes		0.10
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Lpg Cylinders	2			pieces	Yes		0.05
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Heat Resistant Gloves, Protective Gloves	1			pieces	Yes		Consumables
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Fire Extinguishers	2			pieces	Yes		0.02
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	High Speed Exhausts	2			pieces	Yes		0.10
Food Processing	FIC/Q5003	Plant Biscuit Production Specialist	4	Masks – Head Cover, Mouth Cover	35			pieces	Yes		Consumables

12. Food Testing Lab

A. Food Testing Lab Equipments with specifications (in alphabetic order)

Sr. No.	Particulars(Indigeno us/Imported)	Specifications	Cost (In Rs. Lac.)
1.	Alveo-Consistograph (Imported)	<ul style="list-style-type: none"> The instrument should measure extensibility, resistance to extension, baking strength, mixing tolerance of the flour. It should have facility of computers and printer interfacing and instrument should be supplied with latest software, printer (HP), computer with international standards such as AOAC, AACC, ICC, etc. 	40.0
2.	Amino acid Analyzer (imported)	<p>Reproducibility of Retention Time: CV 0.3% (Arg), 0.5% (Ala)</p> <p>Reproducibility of Peak Area: CV 1.0% (Gly, His)</p> <p>Detection Limit: 3 pmol (S/N = 2, Asp)</p> <p>Column:Size:4.6mmi.d.x60mm(Resin: 3-μm Hitachi Customer Ion Exchange Resin)</p> <p>InjectionPump:Pressure:0-20Mpa(2900psi) Flow Rate: 0.00 - 0.99 mL/min</p> <p>Autosampler:</p> <p>Injection Methods: Direct injection method</p> <p>Sample Vial Capacity: 1.5 mL</p> <p>Number of Sample Vials Accommodated: 200 (200 when optional cooler installed)</p>	15.0
3.	Atomic Absorption Spectrophotometer with Hydride Generator and vapor generation assembly (imported)	<p>Double Beam</p> <p>Working spectral range: 190nm-900nm</p> <ul style="list-style-type: none"> Detection limit: Detection limit of copper $\leq 0.008\mu\text{g/ml}$ Background calibration ability: Greater than 30 times. <p>GTA (Graphite thermal Analyzer), GTA for up to ppb levels, super lamps for ppt level</p>	30.0
4.	Autoclave	<ul style="list-style-type: none"> Made of SS. Electrically operated. Capacity – about 15 litres. Digital temperature display. 	2.0

		<ul style="list-style-type: none"> • Operating Temperature-125° C and Pressure 10-20 PSI. • Radial locking system. • Supplied with control for pressure and pressure release valve. • Fitted with pressure gauge, safety valve and steam release cock. 	
5.	Automatic Pipette Washer	<ul style="list-style-type: none"> • Stainless steel (SS-304) washing cylinder removable pipette holder to accommodate pipettes upto 375mm. in length. 	0.15
6.	Barbender Farinograph (imported)	<ul style="list-style-type: none"> • Power supply: 220V/380 V AC • 3 phase, 50/60 Hz. 	12.0
7.	Barley pearler (imported)	<ul style="list-style-type: none"> • Automatically aspiration of immature seeds and husk. 	1.0
8.	Biological Oxygen Demand Incubator (BOD)	<p>Temperature Range: 5°C to 60° C Sensitivity: +0.5°C. Be provided with PID temperature controller and data recorder and computer</p>	2.0
9.	Biosafety level 2 cabinet (imported)	<ul style="list-style-type: none"> • Type C HEPA filters should be 99.99% efficient at 0.3 micron for the supply and exhaust airflow and should be tested for microbiological safety (NSF – 49 certified of EN 1822) Certificate must be attached. • The work surface must be made of Stainless Steel only • During operation approximately Airflow Pattern: 70% recirculation / 30% exhaust • Real time filter monitoring system in percentage only on actual and not on hourly or hourly meter basis. The system should be able to compensate automatically in full (no manual compensation allowed) for the filter load and maintains constant, stable airflow despite building supply voltage fluctuations. • A fully configurable microprocessor control with audible and visual alarms for unsafe conditions during the sash opening or closing. • The cabinet should be fitted with illumination facility and germicidal UV-light with timer and more than one electrical receptacles. 	10.0
10.	Bomb calorimeter	Detection of maximum rise of Temperature, calculation of Water equivalent / Calorific values, saving of water	2.50

	(Indigenous)	<p>equivalent / calorific values in each experiment, delivery of result data in report format.</p> <ul style="list-style-type: none"> • Automatic graph plotting between times vs. temperature. <p>Temperature Resolution: ± 0.001 Deg C</p> <ul style="list-style-type: none"> • Memory Storage: 100 data • Battery backup for stirrer and Microprocessor unit (UPS) • RS 232C interface to connect with Computer 	
11.	Brookfield viscometer (imported)	<ul style="list-style-type: none"> • Continuous display of: Viscosity (cP or mPa-s), Temperature ($^{\circ}$C or $^{\circ}$F), Shear Rate, Shear Stress, % Torque, Spindle • 54 selectable speeds provide superior range of viscosity/shear measurements • LV, RV, HA, and HA torque ranges available. • Built-in RTD temperature probe for sample monitoring • Auto Range feature to display viscosity limits • Download custom programs with DV Loader software (included) • Automated program control by PC running optional Rheocalc[®] software; speed control from 0.01 to 200 rpm. • Comes with the appropriate spindles, DV Loader program, viscometer stand, guard leg, temperature probe and carrying case 	2.0
12.	Bursting strength tester (imported)	<p>Capacity: 0—100kg/cm² Adjustable Clamping Diameter (High Pressure)</p> <p>Upper: 31.5\pm0.0mm Lower: 31.5 \pm 0.05 mm</p> <p>Clamping Diameter (Low Pressure): Upper: 30.48\pm0.03mm Lower: 31.75 \pm 0.25 mm</p> <p>Pressurization: High pressure: 170\pm20ml/min</p> <p>Low pressure: 95 \pm 10 ml/min</p> <p>Depressurization: High pressure: 340 \pm 20 ml/min, Low pressure: 190 \pm 10 ml/min</p> <p>Display: Digital kg/cm²</p> <p>Display Resolution: 0.1 kg/cm²</p>	2.50
13.	Centrifuge (Indigenous)	<ul style="list-style-type: none"> • RPM range: 100-10000 min • Model: Bench-top or table-top. • Speed indication: Digital display. • Bath to maintain temperature of up to 60^oC. 	2.0
14.	CHNS analyzer (imported)	<p>Operation Mode-CHNS Preferably with O Detection</p> <p>limits-C: ≤ 0.0004 mg -----> 30 mg.</p> <p>H: ≤ 0.0002 mg -----> 3 mg.</p> <p>N: ≤ 0.001 mg -----> 10 mg.</p> <p>S: ≤ 0.001 mg -----> 2 mg.</p>	20.0

		<p>O: ≤ 0.001 mg -----> 2 mg. Calibration - Matrix free, Multiple point calibration, long term stability Sample size-0 to 800 mg. Sample type- Liquid, solid Carrier gases-Helium/ Argon gas/O₂ Digestion Temperature-300 to 1800⁰C Analysis Time -4 – 8 minutes in CHNS/O mode Power Supply- 230V, 50/60 Hz/1. KW ACCURACY AND PRECISION Accuracy, Precision (%) CHN ≤ 0.3 ≤ 0.2 CHNS ≤ 0.3 ≤ 0.2 Oxygen ≤ 0.3 ≤ 0.2 Detectors : CHNS:TCD O: IR ACCESSORIES: 1. Liquid sample handling set 2. Printer 3. Autosampler 4. Microbalance 5. Column Switching Accessory</p>	
15.	CO ₂ Incubator	<ul style="list-style-type: none"> • Capacity:8.5 cu. ft. (220L) • Sensor :TC • CO2 Concentration Range:0 to 20% • Disinfection Time:180°C/3 hr. • Relative Humidity Range:60 to 95% • Temperature Range Ambient :+5°C to 50°C • Chamber :Stainless steel • No. of Shelves:3 	4.0
16.	Cold Storage Facility		5.0
17.	Colour Meter (Imported)	Spectral Range: 400-700nm, Spectral Resolution: 10nm, Spectral Bandwidth: <12nm, Lamp Life: >500,000 flashes,	8.0
18.	Conductivity meter	<ul style="list-style-type: none"> • Conductivity Testing Range 0.000~1.999uS/cm, 19.99 uS/cm, 199.9 uS/cm, 1999 uS/cm,19.99mS/cm, 200.0mS/cm • Conductivity Testing accuracy ± 1 to 1.5%F.S • Temperature Testing Range -0~100°C • Temperature Testing accuracy ± 1°C • Coefficient of Temperature compensation- 0~3.9% / • Calibration point -1 point, input figure 	0.60

		<ul style="list-style-type: none"> • Electrode constant - 0.1, 1.0, 10, Adjustable continuously • Temperature compensation range- 0~50°C manual or automatic 	
19.	Constant Temperature Water Circulating System	<ul style="list-style-type: none"> • Temperature range from ambient +5 c above to 100c • PID microprocessor controller (touch pad type) achieves accurate temperature control • Memory to store three temperature setting and single button to activate required set temperature. • Electronic programmable timer for setting start and stop automatically,. (max. to 99hr 59min) • Built in over temperature protection device alarms visual and audible and heating stops • Built in high temperature limit in main controller does not allow temperature over setting parameter level • Built in low liquid level protection alarms visually and audibly and heating stops. • Temperature unit display readout: Celsius of Fahrenheit • Lock function protects setting value from unintentional changes • Drain valve to conveniently empty the bath • Seamless stainless steel bath (no welds or rust) for easy cleaning and ergonomic appearance 	2.0
20.	Cryo-bath (indigenous)	<ul style="list-style-type: none"> • Temperature upto -80 deg. C. with an accuracy of +- 0.5 deg. C., 	3.0
21.	Deep Freezers (-20°C and -80°C)	<ul style="list-style-type: none"> • Effective Capacity: 218/328/388/538/828 Liter • Temperature range: -10 C~ -86C (limit temp. is -90C) 	5.0
22.	Dietary fibre kit (imported)	<p>Kit Components:</p> <ul style="list-style-type: none"> (+)-Arabinogalactan D-glucuronic acid sodium salt monohydrate B-d-blucan from barley Pectin Starch, soluble 	0.50
23.	Digital Abbe refractometer (Indigenous)	<ul style="list-style-type: none"> • Measurement range: • Refractive index nD: 1.3000-1.7000 • Dissolved Solids Brix: 0-95% • Refractive index nD: ±0.0002 Dissolved Solids Brix: ±0.1% Temperature Range:(Min. 0.1°C) : 0-50°C 	2.0
24.	Digital pH meter (Indigenous)	LCD display; 3 calibration point; electro holder	0.25

25.	Digital stop Watch	<ul style="list-style-type: none"> • Normal time display: hour (12/24 hour format), minute, second, day, week day, date, and month • Countdown timer function • Alarm function • Battery: CR2025 x 1pc (included) 	0.01
26.	DSC (Digital scanning colorimeter)	<p>Type:</p> <ul style="list-style-type: none"> • Heat flux • Modulation <p>Cell:</p> <ul style="list-style-type: none"> • Material of construction: silver • Sensors: Type and Location • Heat flux plate: constant • Gas purge: Dynamic • Cell constant calibration <p>Temperature:</p> <ul style="list-style-type: none"> • Range: -150 to 700 °C • Heating rate per minuit: min.0.01 °C, maximum 100 °C • Reproducibility: ±0.1°C • Accuracy: ±1% • Cooling using liquid nitrogen programmable: up to 150 °C 0.1 °C/min • Temperature calibration: 5 point. <p>Calorimetric:</p> <ul style="list-style-type: none"> • Sensitivity: ≤3μW • Baseline stability: <25μW • Noise(RMS): 1.5 μW over full range) • Accuracy 1% <p>Future updating facility: should be available Cryogenic accessories with control equipment: should be available System controller interface: computer. Fourier transforms data analysis: controlled system. Data acquisition System:</p> <ul style="list-style-type: none"> • Computer type: 486 computer • Hard disc: 160 MB • Drives: 3.5 floppy. 1.44 mb/USB • Colour monitor: yes • Ram: 1 GB • DOS 5 or above • Real time plot: yes/no • Data aquision: yes/no 	25.0

		<ul style="list-style-type: none"> • Multitasking: simultaneously run experiments: should be available • Data acquisition from different thermal analysis module • Printer plotter: dot matrix or laser. • Software: standard data analysis program. • To analyze multiple transition • Partial areas • Heat of transitions. • % crystallinity • Degree of cure • Calibration. • Time vs temperature profile. • First derivative plot. • Linear or sigmoidal baseline integration. • Customized plot. • Curve overlaying. • Curve subtraction for blank correction. • Curve addition • Normalization • Linear transformation. • Multimodule operation software. • Modulated DSC software: yes • Warranty: 12 months • Sample holder-plate of • DSC cures-one 	
27.	Electronic Analytical Balances	Range 0-200gm Accuracy- 0.0-0.0001 gm	1.15
28.	Electronic colony counter	<ul style="list-style-type: none"> • 110 mm dia. magnifying Glass • Audible Confirmation of Each Count • Uniform Glare Free Illumination • Digital readout from 0 - 9999 • Auto marker pen • Wolff hue gel Glass Grid without Focusing Facility • Automatic retaining of last value in case of power failure. 	0.15
29.	Electronic Open Top loading Balance	<ul style="list-style-type: none"> • Tare Range -FULL to Capacity • Selectable Weight Units -g, ct, lb, oz, ozt, tlb, tlc, tlt, Gn, dwt, mg, parts/lb, tlc, mom, K, tol, bat, and MS • Selectable Application Programs -Mass unit conversion by toggling, tare memory, net total, 	0.50

		<p>weighing in percent, counting, averaging</p> <ul style="list-style-type: none"> • Display Update -0.1 - 0.4 seconds depended upon filter level selected • Display- LCD • Allowable Ambient Operating Temperature -5° C to 40° C (41° F to 104° F) 85% RH or less • Sensitivity Drift- (10° - 30°C/50°F-86°F) ± 2 ppm / °C • Pan Size- ø90 mm / 3.5 in (standard round pan) • Built-in RS-232 Interface- YES - RS-232 interface is standard but the RS-232 cable is optional 	
30.	ELISA reader and kit (imported)	<ul style="list-style-type: none"> • Micro-plates 24, 48, 96 - well micro-plates; Speed: 30 seconds for 96 wells, Wavelength range: 400-750nm ;Filters: 5-cavity wheel, Absorbance range: 0.000-3000 Abs Resolution: 0.001 • Optical System Digital light control, 8-12 measurement channels including 1 reference; kinetic measurement, 8s maximum measurement time, Measurement Range 400-700 nm, Indication Range 0-2.999 abs; Desirable 550 & 690 nm. • With aflatoxin kits 	3.0
31.	Extensimeter (imported)	<ul style="list-style-type: none"> • Strength and characteristic of different wheat and flours. • The effect of heat treatment and conditioning. • Effects of powder and gas improvers. • Effects of varying fermentation time. • Effect of yeast, mineral salts and other additives. 	8.0
32.	Falling number apparatus (imported)	<ul style="list-style-type: none"> • Microprocessor controlled system with built in printer key board, display and RS 232 data out put. • Facility for blend ratio and attitude correction. • Approved by ACC and ICC 	15.0
33.	Fibretech (Indegenous)	Six samples simultaneously; Integral extraction and filtration should be possible, Measuring range : 0.1 - 100%, Repeatability : < 1% relative at 5 - 30 % fiber level, Accuracy: According to official methods	10.0
34.	Flow Cytometer	<ul style="list-style-type: none"> • Single cell interrogation of surface and intracellular protein expression 	15.0

35.	FT-IR Spectrophotometer	<ul style="list-style-type: none"> • Interferometer: Michelson interferometer (30j incident angle) • Optical system :Single-beam optics • Beam splitter :Germanium-coated KBr • Light source: High-energy ceramic light source • Detector: DLATGS detector equipped with temperature control mechanism • Wave number range:7,800 to 350 cm-1 • Resolution:0.5, 1, 2, 4, 8, or 16 cm-1 • S/N ratio:30,000:1 or higher (peak-to-peak, 4 cm-1 resolution, in a neighborhood of 2,100 cm-1, 1-minute accumulation) • Mirror speed:4-step selection of 2.0, 2.8, 5, or 9°mm/sec • Data sampling: He-Ne laser • Gain: Automatic or manual setting (x1 to x128) • ATR techniques • Beam Spectral • Humidity controlled environment 	10.0
36.	Gas chromatographs with, ECD, FID, NPD, TCD, FPD Detector, with head space, pyrolyzer& Auto sampler (Auto sampler to be provided	<ul style="list-style-type: none"> • Temperature range: ambient to 35⁰C min. • Split/splitless capillary column injector. • Column temperature: ambient to min 350 deg.c. • Minimum programme ramps/plateau: 4/5 • Heat up 50-350 ⁰C in less than 15 min. • Cool down 350 to 50 ⁰C in less than 10 min. • Data handling system and computer with dedicated GC software. • GLP/ GMP compliance. • USFDA part II CFR. 	35.0
37.	GC-MS-MS including auto sampler, Headspace analyzer and pyrolyzer (imported)	<ul style="list-style-type: none"> • compact System with highest sensitivity with working mass range of 1.0- 1000 amu minimum or more, with built in Full Scan, Selected Ion Monitoring (SIM) & combination of both the modes. GC-MS with Probe for Direct introduction of Solid/Liquid samples. • Ionization modes: Electronic Ionization i.e. EI and Optional Positive and Negative Chemical Ionization (CI). • Ion Source: Source temperature up to 300°C or more with quick change over for EI/CI mode and Auto aligned with dual Filament • Mass Analyzer / Quadrupole with pre and post filters, high ion transmission efficiency and Pre 	115.0

		<p>filter with facility for active ion beam focusing eliminates neutral noise and offers best sensitivity.</p> <ul style="list-style-type: none"> Resolution: Better than 0.8 Da with mass axis stability of ± 0.1 Da and fast scan rate of 12000 Da/Sec or more. Resolution should be user adjustable with required selectable settings & minimum dwell time should be 1ms . Turbo molecular pump: Turbo molecular pump should be dual stage air cooled with 350 liters / sec or higher capacity for fast vacuum & easy & quick change over from EI to CI and should allow the system to with stand higher carrier gas flow rate of 15ml/min or higher. Electron Energy: 10 to 120 Electron Volt (EV) users selectable or higher. NIST and Wiley mass spectral library of pesticides, flavours, fragrances, drugs, alkaloids, flavanoids, metabolites etc. GC microprocessor controlled GC with built in diagnostics <p>1) Column oven- ambient to min. 350°C</p> <ul style="list-style-type: none"> Prog. Ramps: 415 50-350°C heat up in less than 15 min. 350-50°C cooling less than 15 min. <p>2) Split/splitless injector with temp range from ambient to 300 °C</p> <ul style="list-style-type: none"> Electronic pneumatic control <p>3) GC control with alpha-nimatic display</p> <ul style="list-style-type: none"> Sofwao USFDA 21 CFR compliant IQ, OQ, PQ validated. 	
38.	Gel Electrophoresis System (imported)	<ul style="list-style-type: none"> Temp. Range Input Power Supply: AC100V-110V 50/60Hz, AC220V 50Hz (With conversion transformer) Output Voltage : DC 50V/ DC 100V Volume of Electrophoresis Bath: 250ml Sample Comb's Size (Teeth width \times Thickness \times Teeth Number): 4mm\times1mm\times8 <p>4mm\times1mm\times17 6mm\times1mm\times6 6mm\times1mm\times12</p> <ul style="list-style-type: none"> Gel Chamber Dimension(mm):60\times55,10\times55 Gel Migration Board Size (mm):60\times55 (4 pieces) 	2.50

		110×55 (2 pieces) <ul style="list-style-type: none"> • Conversion Transformer: AC220V (Input)/ AC110V(Output) 	
39.	General Purpose Centrifuge	<ul style="list-style-type: none"> • Maximum speed : 5000rpm 	1.0
40.	Gerber Centrifuge	<ul style="list-style-type: none"> • RPM 1200-3000 	1.0
41.	Glutomatic system (Imported)	<ul style="list-style-type: none"> • Automatic gluten determination of flour, semolina and wheat flour. • Facility for determination of both dry and wet gluten. • As per ICC standard no. 155 and no. 158 and AACC method no. 38-12. 	2.0
42.	GPC (Gel Permeation Chromatograph)	Detector(s)Refractive Index; Flow Rate0.0001 to 10 ml/min; Column Temp. Range[RT + 10C] to 85C	20
43.	Grain counter(imported)	<ul style="list-style-type: none"> • Counting size 0.3 mm up to 15 mm. • Microprocessor based. • Programmable and facility for elimination undersized elements. • Integrated printer. • RS 232 output for computer connection. 	2.0
44.	H.P.T.L.C	<ul style="list-style-type: none"> • Dosing syringe / filling syringe (10-20µL capacity). Further, the applicator should be up-gradable with an auto-sampler (minimum 80 samples). Five separating chambers made of glass of different sizes (preferably for developing, plates of 20x20 cm, 20x10 cm, 10x10 cm, etc.) Chambers should have design to develop two or more plates simultaneously. 	15.0
45.	Haemo-cytometer	<ul style="list-style-type: none"> • Counting chamber with 2 cover slips 	0.025
46.	Heating Mantles	<ul style="list-style-type: none"> • Temperature up to 350°C, Capacity: 500 ml Wattage: 1950.00 • Capacity: 5000 ml Wattage: 2950.00 	0.05
47.	High Performance Liquid Chromatography (Imported)	<p>Quaternary gradient pump with flow range of 0.001 to 10 ml/min or above and operating procedure up to 6000 psi.</p> <p>Programmable flow ramp rate.</p> <p>Injector:</p> <ul style="list-style-type: none"> • Rheodyne injector with injection volume 1-4 liter to 2 ml of sample. • Auto-sampler with injection volume of 1 ml to 2 ml of sample and minimum capacity 50 lials. • Column Oven: set temperature range of ambient to 	30.0

		85 °C. <ul style="list-style-type: none"> • Detectors: All: diode array detectors, fluorescence, RI, ELSD and UV-Vis detector besides DAD detector. • Chromatography software: calculation, control acquire and process data. • Software to be capable of handling 2 or more HPLC handling control system. • GMP/GLP compliance. • IQ, OQ, PQ, validated • Conformance to USFDA part II CFR. • Suitable computer and printer 	
48.	Hot Air Oven (Indigenous)	<ul style="list-style-type: none"> • Sturdy double walled construction and inner chamber made of anodized aluminum or highly polished s.s. • Temperature range: 50 to 250 deg C. • Provided with air circulating fan. • Size 455 *455*455 mm. • Thermometer and indicator lamps. 	0.20
49.	Hot Plate(indigenous)	<ul style="list-style-type: none"> • Single Plate with energy regulator 	0.050
50.	Howard Mold Counting Chamber	<ul style="list-style-type: none"> • 28 W x 33 L x 0.5mm D 	0.035
51.	Ice Cube Making Machine (indigenous)	<ul style="list-style-type: none"> • Body made of M.S. and Stainless steel chamber. • The units are fitted with hermetically sealed compressor for high capacity cooling. • All units are controlled through a highly sensitive temperature control unit. • Double walled storage bin are insulated with PUFF for minimal thermal losses. • Fully Insulated And Sealed Ice Production System: No loss of cooling. • No Use Of Pumps : No disturbance, repair, wear. • No Heating Grids : Low power consumption, No source of deficiencies. • To work in 220/230 VA.C. Supply. 	1.0
52.	Incubator Shaker	<ul style="list-style-type: none"> • Temperature Range: 1. 5°c above ambient to 70°c, 2. 5°c to 70°c. • Temperature Control: Temperature is controlled through, microprocessor based programmable electronic PID temperature controller cum • indicator, which controls the temperature of the orbital shaker with a sensitivity of (+/- 0.5o c or less). • Forced Air Circulation System: The uniformity of 	1.80

		<p>temperature is maintained throughout the chamber of the orbital shaker with an efficient</p> <ul style="list-style-type: none"> • air circulation system, powered by Crompton / perfect motor. • Shaking System: The efficient and diligent shaking system is powered by Crompton / perfect motor • Shaking Speed: The Shaking speed of our variable speed orbital shaker is 250 RPM. • Speed Control: The shaking speed is effectively controller by a variable speed controller fitted with digital RPM meter. • Shaking Platform: The shaking platform is designed to accommodate 25 flaks of 250ml to 500ml.- supplied with one platform. • Platform Size: The size of the platform is 450mm x 600mm. Supplied complete with calibration certificate traceable to NABL. • Flask clamp size- 1000mlx16 	
53.	Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES)	It should have an efficient RF generator by free running with 40 MHz frequency, power output stability should be less than 0.1% and it shall have power output within 750 -1500 Watts, Plasma ignition should be totally automatic and software controlled, Plasma power should be controlled through feedback loop for maintaining true power control, It should contain safety interlocks for water flow, Argon pressure and shear gas flow.	50.0
54.	Ion selective electrode/Specific ion analyzer (imported)	<ul style="list-style-type: none"> • Capable of automating measurements using ion selective and pH electrodes. • Capable of measurement of non titrable species such as sodium, potassium, nitrate, ammonia etc. • Determine poorely defined and multiple end points. • Analyses range: less than 1 ppm for various anions and cations. • Dispensor accuracy: minimum 0.5% • Method storage: minimum storage capacity of 10 methods. • Accessories: automatic sample changer. • Printer: for data handling and processing. • Case: chemically resistant to most aquous solution. • Power requirements: 240 V±10%, 50-60 Htz. 	9.0

		<ul style="list-style-type: none"> Spares: for minimum of 3 years trouble free operation. 	
55.	Karl Fisher Automatic Titrator	<ul style="list-style-type: none"> Microprocessor Karl fischer moisture titrator with built in magnetic stirrer, auto-computation of moisture in ppm, %age, and mg H₂O. Storage of date and time, batch no., final of 20titration. 8 digit display for final results. External printer attachment facility. To be provided with buzzer auto zero burette, adjustable timer, dual platinum electrode and other accessories. 	2.50 (Imported) 0.30 (Indian)
56.	kJeltech (Imported)	<ul style="list-style-type: none"> Fully automatic kjheldal digestion, distillation, titration and calculation system for analysis of Nitrogen and protein. Minimum 12 digestion units with IR/Electrical heating facility. Programmable with suitable software. Provided with maximum safety feature. Self adjusting cooling water control to save water. Interchangeable burette. Automatic tube drainage. Data transfer facility to PC through machine 	9.0
57.	Lab Blender	<ul style="list-style-type: none"> Solid-state speed controller with push-button selection of seven blade speeds from 3,500 to 21,000 rpm Standard 1,250 mL borosilicate glass jar With 3-wire cord and plug for 120 V, 50 or 60 Hz, 0.7-hp. 	0.50
58.	Lab Grinding Mill	<ul style="list-style-type: none"> Powerful size reduction, including heterogeneous materials Feed material: soft, medium-hard, tough, elastic, fibrous Feed size: max. 60 x 80 mm Final fineness: 0.25 - 20 mm Provided with variable speed low heat build-up quick and easy cleaning provided wide range of accessories 	0.10

59.	Laboratory mill (Imported)	<ul style="list-style-type: none"> • Hammer type mill for grinding samples into a fine homogeneous particle size. • Suitable for falling number and NIR Sampling. • Capacity 300 gms in 30-50 seconds. • Suitable for grinding wheat upto 25% moisture. • Power supply 220 volt;50/60 Hz. 	1.0
60.	Laboratory sifter(indigenous)	Adjustable height with hydraulic pressure.	1.0
61.	Laboratory Stirrer	<ul style="list-style-type: none"> • Maximum speed up to 4000 R.P.M. • The height and of the stirrer can be adjusted according to the requirement. • Variable speed motor with 1/20 H.P. Regulator is fitted with S.S. • Stirrer rod to give smooth and noiseless operation. 	0.25
62.	Laminar air flow	<ul style="list-style-type: none"> • Hepa Filter- 99.999 %efficiency for particles >0.3 μm • Pre-Filter -85 %efficiency for particles >0.5 μm • Particle Count -Better than US Fed Std 209B Class10 and VDI 2083 Class 3 • Cabinet Laminated -High Quality Wooden Board , Laminated High Quality Wooden Board /PCRC Sheet Powder • Coated/Stainless Steel -SS 304 • Work Table- AISI 304 Stainless Steel • Airflow Speed Control -Speed Controller (Three Step Speed Controller) • Blower- High efficient centrifugal type with lifetime lubricated bearings • Light- High intensity, low wattage >800 lux • Noise Level- <55 dBA • Standard Accessories -Air/gas cock and .mains power socket (16A) • Power Supply- 220-230 V,50 Hz. 	2.50
63.	LC-MS-MS (imported)	<ul style="list-style-type: none"> • A triple quadrupole LC/MS/MS system for analysis of small molecules with ESI and APCI ionization source. • Mass range:m/z 10 to 2000 • Sensitivity:ESI positive:1 pg/μL reserpine, S/N>200(RMS) • Resolution:R<0.7 FWHM • Mass stability:0.05/12hr • Crosstalk : <0.003% • Minimum pause time:1 msec • Minimum dwell time:1 msec • Scan speed :Ma x 15,000 u/ sec • Polarity switching time:15 m sec 	125.0

		<ul style="list-style-type: none"> • Interface:ESI (Standard),APCI (Option), DUIS (Option) • Applicable flow rate:ESI 1µL/min to 2mL/min • MRM transition speed:Max 500 channels/sec • DL maximum temperature:300°C • Block heater maximum temperature : 500 	
64.	Lovibond Tintometer (imported)	<ul style="list-style-type: none"> • Path Length: 1/2", 1", 5¼" [Upgrade includes 5¼"] • Mode: Transmittance • Range: 0.1 - 20 Red, 0.1 - 70 Yellow • Resolution: 0.1 AOCS-Tintometer Red units, 1.0 AOCS-Tintometer Yellow units • Optical system: 5 glass-filled nylon racks containing a graduated range of AOCS-Tintometer Color standards • Viewing system :Fully adjustable, prismatic with integral blue filter for light standardisation • Light source :2 x 12 Volt, 20 Watt tungsten halogen lamp • Illuminant Approximates to daylight • Power pack: 12 Volt ac, autoranging supply • CE Approved • Instrument housing: Fabricated sheet steel with a tough, textured paint finish • Dimensions: Width 330 mm, depth 100 mm, height 480 mm 	5.0
65.	Magnetic stirrer with hot plate(indigenous)	Hot plate dimension 1'X1' and magnetic Stirrer 2'X1' size	0.20
66.	Melting Point Apparatus	Temp range 400-500 degree cent., with heating oil bath, electronic display	0.25
67.	Micro centrifuge (indigenous)	Max Speed..... 7,2 00 rpm Max RCF..... 2,350 g Power110V, 50/60Hz, 130mA or 220V, 50/60Hz, 65mA Rotors.....6x1.5/2.0ml angle rotor, 2x8 well 0.2ml strip rotor, Six adapters fit 0.5ml tubes, Six adapters fit 0.2ml tubes Dimensions..... (W)142*(D)150*(H)102mm Weight..... 650 g Color..... light gray Ambient operating temperature One year warranty	2.5

68. 2 1	Microscopes	25x - 1500x	0.50
69.	Microwave Digestor	<ul style="list-style-type: none"> • Fast and homogeneous heating • Reduced spontaneous reactions or charring • Temperature controlled reaction • Unpulsed microwave power • Fast built in cooling system to reduce total cycle time improving productivity • Liner material made of PFA or PTFE. • Provided with safety systems to minimize hazard from violent reaction • Built in library method. • Intuitive software for easy routine operation. 	12.0
70.	Mill for rheological studies (Imported)	<ul style="list-style-type: none"> • Breaks: 2 passes between three rolls with spiral flutes and in sharp to sharp position, at differential speeds. Shifting of milling products centrifugal botters with fixed lining and double screens. • Reduction: 1 pass between rolls at different speeds and controlled pressure. • Sifting by centrifugal botter with fixed lining and singular screen. • Suitable for grinding quantities of wheat 25 gm-600gm and maximum up to 4 kg. • Percentage of extraction 60-75% • Granulation of flour 100% less than 170. 	1.0
71.	Moisture Analyzer (Imported)	<ul style="list-style-type: none"> • Non destructive system of measurement of moisture (%) in various food products without any sample preparation. • Should be capable of measuring temp (⁰C or ⁰F). • Calibration: up to 7 standard calibration programmes to be held in memory. • Printer output: Rs-232-C • Memory: EPROM & RAM. • Accuracy (Working) 0.001g • Cap 0-100g • Operating Temp Range Ambient to 160°C • Accuracy (Temp Control) ±1°C • Readability (Moisture) 0.01% • Repeatability(Sample) • Display up to 8 Parameter or more • Power Supply • 220V+22V (50Hz) 	1.25

		<ul style="list-style-type: none"> • 220V-33V (50HZ) 	
72.	Muffle Furnance (Indigenous)	<ul style="list-style-type: none"> • Maximum Temp.1400 °C/1600 °C. • Temperature control unit consists of energy regulator or electronic temperature controller, fitted in front of furnace with two pilot lamps • Muffle size (inside) 150 mm*150 mm*300 mm. • Complete with thermofree/thermocouple. • Outer body made of thick mild sheet duly painted with heat resistant paint. 	2.0
73.	Near infra red (NIR) spectrometer (imported)	<p>Monochromator:</p> <ul style="list-style-type: none"> • Double beam double monochromator. • Pre monochromator diffraction grating • Main monoochromator diffraction grating. • Dectector: UV-VIS photomultiplier tube. • NIR: cooled PbS • Wavelength range(N2 purging below 185 nm):175-3300nm • Wavelength accuracy:UV-VIS range:±0.08nm • NIR range: ±0.30nm • Wavelength reproducibility: UV-VIS range:<0.02nm. NIR range: <0.08 nm • Stray light(%T): at 220 nm, 370 nm and 2340 nm measured according to ASTM E387: <0.00008. • At 1420 nm with water: <0.0004 • At 1690 nm with CHCL3: <0.0015 • At 2365nm with CHCL3, 1 cm path length: <0.001 • Band pass UV-VIS range: -0.05 to 500 nm in 0.01 nm steps. • NIR range: -0.2 to nm in 0.04 nm steps, fixed slit or servo slit slection. • Photometric range(abs)±6A, in increments of 0.001A. • Photometric linearity: better than 0.03 A at 3 absorbance measured additive grey glasses. • Photometric accuracy(abs) (measured with NIST/NBS/930 filter) at 1 A: ±0.003 Aor 0.08% T, at 0.6A: ±0.003Aor0.05%T. • Photometric reproducibility (using NIST/NBS 930 filter) Standrd dev at 1 A: <0.0008, stnddevat 0.5A: <0.0004, stand dev at 0 A: <0.00008 • Light Source:UV-Deuterium lamp(Kinematic mount),VIS/NIR: 50 W halogen lamp. • Baseline stability: <0.0002A/h after warmup (500 nm, oA, 2 nmslit, energy 1 NIR, 2 sec. integration time. • Baseline flatness (abs): ±0.001. 	12.0

		<ul style="list-style-type: none"> Noise level: <0.00004 A RMS at 1500 nm, 0A <0.00100 A RMS at 1500 nm 2A <0.00500A RMS at 1500 nm, 3A Modes: scan, time, drive, wavelength program, concentration calibration, concentration. Beam modes: double beam, single beam sample or reference, interchangeable beams. Scan ordinate mode: Abs,%T,Log Abs, 1st-4th derivative, concentration, %R, Energy S, Energy R. Abscissa modes:wavelength(nm), wave numbers, scan speed: 0.01 to 2150 nmUV/VIS up to 5000 nm/min NIR range. Smooth data interval: 0.04 to 10 sec integration time, 0.01 to 10 nm. Software and user interaction: advance windows operating software. Memory processor: 80486 or higher with minimum 1 Gb memory. Working humidity: 20 to 80% (condensation not allowed) Working temperature:15-35 °C. Power: 100 to 240 VAC 	
74.	Nephelometer/Turbidity meter	<ul style="list-style-type: none"> 0-100NTU, 0.1NTU Resolution +/-3%FS+/-1 digit accuracy, 6V,0.3Amp, tungsten lamp 	0.50
75.	Nuclear Magnetic Resonance(imported)	Bruker 300 & 500 MHz (includes solid-state probe and autosampler)	25.0
76.	Pensky Martin Flashpoint Apparatus (imported)	<ul style="list-style-type: none"> Electrical heating, with gas test jet and electric heater with energy regulator. Suitable for operation on 220, 50 Hz, Single Phase, AC Supply. Thermometer of <ol style="list-style-type: none"> Range : -5° C to +110°C Range: 90°C to +370°C Should be provided with replacement parts-Pensky-Martens Oil Cup & Pensky-Martens Lid shutter with Gas Test Jet 	1.50
77.	Platinum Basin	Platinum crucible	1.0

	(indigenous)		
78.	Polari meter (Imported)	<ul style="list-style-type: none"> • Automatic digital polarimeter to meet the pharmacopoeia requirements as per USP/EP/IP/ having the following specification: • Light source Sodium/Halogen lamp. • Modulator: Faraday cell. • Measurement wavelength: 589 nm/546 nm. • Measurement angular range: ± 900 • Measurement scale: Degree Arc, optical rotation. • Response speed: 60/sec. • Measurement accuracy: ± 0.00200 up to 10, ± 0.20 (above 10) • Measurement Repeatability: 0.0020. • Resolution: 0.00010 Arc Optical rotations. • Concentration sugar scale(2), Brix Purity, optical purity. • Temp measurement range: 0-400C, minimum display temperature: 0.1oC. • Calibration: automatic calibration. 	7.0
79.	Rancimat (imported)	<ul style="list-style-type: none"> • All instrument functions are PC-controlled • Independent start of each measuring position directly on the instrument • Status overview of all measuring positions on the instrument's display • Highest reliability and simple Favorably-priced disposable glass parts • Robust conductivity cell with electrical connections integrated in the cover • 2 heating blocks with 8 measuring positions per instrument. Up to 4 instruments can be connected to a PC • Expanded gas flow range: 1 - 25 L/h • USB connector • Compact dimensions and low weight 	5.0
80.	Real Time PCR System	<ul style="list-style-type: none"> • Operating Noise:< 40 dB(A) • Number of Reactions:32 • Reaction Vessels:LightCycler® 8-Tube Strips, clear, with caps • Reaction Volume:10 - 100 μl • Temperature Cycling System:Peltier-based heating and cooling from 40°C - 99°C, Heating: 5°C/s, Cooling: 4°C/s • Run Time:< 50 min • Sensitivity:Twofold discrimination 	15.0

		<ul style="list-style-type: none"> • Nine log dynamic range • Single copy detection • Fluorescence Excitation:495 - 505 nm (blue LED) • Fluorescence Detection:510 to 750 nm (CMOS camera) • Assay Formats Supported:Intercalating dyes (e.g., SYBR Green I), Hydrolysis probes • Factory-Calibrated Dyes:SYBR Green I/FAM/ResoLight; VIC/HEX/Yellow555; LC RED 610/Texas Red; Cy5 • Multiplexing Capabilities:Dual color assays • Melting peak analysis • Endpoint genotyping analysis 	
81.	Rectangular Hot Plate (indigenous)	<ul style="list-style-type: none"> • Continuous heating up to 350°C. • With Energy Regulator • With Thermostat • With Digital Controller 	0.25
82.	Refrigerated centrifuge	<ul style="list-style-type: none"> • Provided with microprocessor based control. • Soft touch key pads for fast and accurate settings. • Speed control and reproducibility. • Digital speed indicator. • Safety lid interlock. • Menu driven program memory. 	2.0
83.	Refrigerators	<ul style="list-style-type: none"> • 400 L capacity; Double row system; Door cooling technology; Convertible box; Cell fresh Crisper with humidity controller 	0.30
84.	Rotary Vacuum Evaporator (imported)	<ul style="list-style-type: none"> • Heating bath dimensions : 230 x 130 mm • Volume of heating bath: 4 lit.-6l Approx. • Rotation speed :30 to 270 rpm • Bath heater capacity: 1200 Watts • Rotation speed display: Yes • Heating bath controller: PID with display for set & actual temp. • Lift: Motorised • Bath temperature range :Ambient + 5 to 180°C • Manual lift (When power fails) • Temperature accuracy: ± 2°C • Height adjustment :170 mm Approx. • Independent safety cutouts :@ 190 °C • Heating bath material: SS 304 • With Condenser support , Flask ejector, Threaded connectors for utilities • Min / Max flask size: 50 ml / 3000 ml • Foot print: 220 cm² • Cond. cooling area: D, V, VR 1200 cm² 	4.0

85.	Serological water bath	<ul style="list-style-type: none"> • Temperature range from ambient temperature to 100°C. • Thermostatic control with accuracy of plus minus 0.5°C. • Double walled inside stainless steel and outside mild steel sheet painted in epoxy powder coating. • Bath consists two pilot lamp, temp. control knob and ON/OFF switch to work on 220/230 volts A. C. supplied with or without stirring arrangement without racks and thermometer. • Lid of water bath is made of stainless steel 304 Qlty. • PID Controller having 4 ramp & 4 soak profile • Capacity 14l to 32l. 	1.50
86.	Shakers, Vortex, Homogenizer	<ul style="list-style-type: none"> • Homogenizer- RPM 3000-7000, volume range- 1-500ml, viscosity range- about 4500-5000 mPas 	1.0
87.	Soxhlet extraction unit (Indigenous)	<ul style="list-style-type: none"> • Microprocessor based digital temp controller. • Independent loading of sample with individual mechanical controls. • Auto over temperature protection, auto sensor break protection, auto error indication etc. • Six place automatic solvent extraction system with auto-time temperature programming facility and auto phase change over with PC compatibility feature. 	0.50
88.	SPE (Solid Phase Extractor) (imported)	<ul style="list-style-type: none"> • Columns of 3, 6, and 12 ml sizes. • Cartridges for use with a syringe. • SPE discs for hydrophobic extraction from relatively large water samples. • Sample drying devices for removal of water from samples in organic solvent. 	10.0
89.	Spectro fluorometer (imported)	<ul style="list-style-type: none"> • All-reflective for focusing at all wavelengths and precise imaging for microsamples 150 watt Ozone-free xenon lamp eliminates venting • Plane-grating Czery-Turner design maintains focus at all wavelengths • 200–950 nm, optimized in the UV • 200–950 nm, optimized in the visible • 0–30 nm, continuously adjustable from computer± 0.5 nm • 80 nm/s • 1 ms to 160 s 	8.0

		<ul style="list-style-type: none"> • Photomultiplier, range 200–850 nm • Photodiode selected for stability • 400,000 counts/second minimum at 350 nm excitation, 397 nm emission, 5 nm bandpass, 1 s integration time • 3000:1 (steady-state mode) • Lifetime range 200 ps–0.1 ms (100-200 ps - 0.1 ms) • Minimum resolution < 7 ps/channel • Excitation with interchangeable NanoLEDs: 265–785 nm • TCSPC detection • Lifetimes down to 10 μs 	
90.	Supercritical Extractor	<ul style="list-style-type: none"> • Extraction vessel forged from durable stainless steel. • Vessels can range in size from 100 mL to 5 liters. • Operations pressures (up to 10,000 psi) and temperatures (ambient to 200 oC). • Controlled by PID controllers. • Safety interlocks. 	50.0
91.	Temperature-humidity chamber(indigenous)	Stain less steel coating of inner side chamber. Digital temperature and humidity display system.	2.0
92.	Texture analyzer (Imported)	<ul style="list-style-type: none"> • Able to measure precise, objective measurement of textural parameters such as firmness, stickiness and hardness. • Load Cell: 5, 30, 50, 100, 250, 500, and 750 kgf. • Load Accuracy: \pm 0.5% of reading down to 1% of load cell capacity. • Maximum Speed: 20mm/sec at 500Kgf. • Maximum return speed: 0.01 mm/sec. • Speed/drive Accuracy: better than 0.1%. • Range Setting: 0.01 to 524 mm • Repeatability • Operating mode: <ul style="list-style-type: none"> • Measure of force and distance in tension. • Compression • Shear • Extrusion • Puncture • Bending or other deformation according to other textural properties of interest. • Capable of mixing wide range of fixtures for testing many products. 	30.0
93.	TGA (Thermo	Furnace Type : Horizontal or Vertical	20.0

	gravimetric analyzer)	<p>Temperature range : Ambient to 1500 °C Heating rate : 0.1 °C to 100 °C/min. Heating Rate increments : 0.01 °C Gas flow for purging : Horizontal or vertical Furnace cooling : Air or water Purge gases : Air or inert or both Vaccum : Yes or No Temperature calibration : 5 point Gas switching facility : should be available Purge gas rate : Max. 200 ml/min. Sample size : 200 mg max. Sensitivity (Balance) : 0.1 ug DTA Sensitivity : 0.001 °C or 0.01 °C Data Storage memory : 512 KB Data Collection rate : 0.5 to 1000 points/sec. Data Acquisition System : Softwares</p> <ol style="list-style-type: none"> a. Standard TGA-DTA analysis programme : should be available b. TGA Kinetics Program : Optional <p>Spares: sample Holder/4 pkt of 100 each. Pen-4 packet of 100 each. TGA cell –one</p>					
94.	Turbo vap. concentrator (imported)	<p>Ambient to 90oC. Temperatures below ambient can be regulated using the cooling capacity of the evaporation process. Timer Range 1 to 99 minutes or 0.1 to 9.9 hours -- can also be set to 00 for infinite time. Gas Regulator and Gas Gauge Range 0 to 20 psi (0 to 207 kPa) Gas Supply Requirements</p> <table style="margin-left: 40px;"> <tr> <td>Minimum inlet pressure</td> <td>:60 psi (413 kPa)</td> </tr> <tr> <td>Maximum inlet pressure</td> <td>:100 psi (690 kPa)</td> </tr> </table> <p>Exhaust Port 2" (5.1 cm) id; 12.5' (3.8 m) of duct hose provided. Power Requirements 110/120 VAC at 60 Hz (European, 230 VAC at 50 Hz)</p>	Minimum inlet pressure	:60 psi (413 kPa)	Maximum inlet pressure	:100 psi (690 kPa)	4.0
Minimum inlet pressure	:60 psi (413 kPa)						
Maximum inlet pressure	:100 psi (690 kPa)						
95.	UV /vis Spectrophotometer (Imported)	<ul style="list-style-type: none"> • Microprocessor controlled double beam spectrophotometer with scanning, kinetic and multi wavelength facility • Self check, self • Spectral bandwidth: 1 nm (190 to 900 nm) • Diagnostic and auto wavelength calibration facility. • Light source: Deuterium D2 and Tungsten (W), 	5.0				

		<p>halogen lamp</p> <ul style="list-style-type: none"> • Detection mode: Absorbance/ % Transmittance • Band width: less than 2 nm • Absorbance range: -3.000 to 3.000 • Stray light: less than 0.1% at 340 nm. • Large LCD Display • Multi position cell Holder • Wavelength accuracy : ± 1nm minimum • Wavelength scanning speed: Approx. 6000 nm/min or better. • Multi position cell holders. • Data handling system software. • Automatic baseline correction. • Quantitative and kinetic analysis. • Peak pick, point pick. • Expansion of spectra. • First and second derivative. • Averaging of scans. • GLP/GMP compliance • List of cell: UV & Visible optical path length of 1 cm and 10 cm. • Micro cells. • Calibration accessories • Filters (Holmium) and four absorption standards with NIST Traceability. 	
96.	UV Cabinet with long and short wave UV lamps (imported)	<ul style="list-style-type: none"> • Quick start, no flicker, increased lamp life • 4-watt shortwave and longwave tubes and UV filter provide the necessary illumination for fluorescence testing • Viewing cabinet acts like a miniature darkroom minimizing ambient light • Contrast Control Spectacles block ultraviolet radiation • Universal 100V-240V for global electrical compatibility 	0.70

97.	Vacuum oven with vacuum pump (imported)	<ul style="list-style-type: none"> • Operating temperature range from room temperature to 250°C Max <ul style="list-style-type: none"> ○ RT ~ 200°C for continuous ○ 200°C ~ 250°C for <4hrs • 28 segments temperature profile programmable • Vacuum level displayed on gauges from 0 to 30" Hg. • PID precision Digital Power controller controls temperature with a uniformity of +/-5°C @ 100°C; 25" Hg at center hot zone, e.g 6'x6' center area only) and built-in over temperature protection. • CE certificated 	3.0
98.	Vacuumed Filtration Apparatus along with vacuumed pump	With all accessories, Up three points, and single	1.5
99.	Viscometer	<ul style="list-style-type: none"> • PC Integrated controlled viscosity compatibility with Brookfield method opaque and transparent sample with Measurement range: 10mPa-s ~ 100,000 mPa-s; • Rotor types: 1#, 2#, 3# and 4# rotors; • Rotor velocity: Low, medium, high and very high • Operation modes: Manual and automatic; • Measurement error: ±5% (Newton liquid) • Temperature sensor. • Available with various accessories like adapter for low viscosity, adapter for small sample volumes, adapter for hellicoidal movement etc. 	3.0
100.	Vortex Mixer (indigenous)	<ul style="list-style-type: none"> • Mains Input: 230V/50Hz 110V/60Hz A.C. Supply • W x D x H: 160 (W) x 190 (D) x 115 (H) • Body: Metal Body • Weight: 3.0 Kg. Net • Speed: 0 - 2500 RPM (Variable) • Operation modes: Touch Or Continuous 	0.05
101.	Water Activity meter (Imported and indigenous)	High accuracy (± 0.003 aw) and extremely rapid read-time (<5 min, and equilibration time	4.0 (imported) 0.60 (Indigenous)
102.	Water Purification	<ul style="list-style-type: none"> • Microprocessor controlled. • Easy cartridge replacement. 	4.0

	Unit	<ul style="list-style-type: none"> • Tank capacity 10 liter • Out put: 1.5 to 3.0 liter/min. • Conductivity less than 2 micro simen/cm at 25 °C. • Resistivity at 25°C: 18.2 micro ohms-cm 	
103.	Whole grain analyzer (imported)	<p>Sample Configuration : Stand alone or network Temperature range : 0-48°C Wavelength range : 850-1050 nm Data Points : 100 Bandwidth : 7 nm Detector : Silicon Digital signal processor (DSP): Used for internal communication and control. Treatments of scan data A/D converter : 16 bit Data point generator : Scanning Monochromator with diffraction grating Measurement technique : Transmittance Type of Sample : Whole grain and with the optional STM module also flour and semisolid samples as well as crop management. Sample Presentation : Flow through sample system Sample cell : Multigrain cell handles different commodities Communication : Telephone modem LAN (TCP/IP)- Optional Rs-232 Calibration transferability : Yes Data Storage : Flash disk for results and scans Result presentation : Locally on screen and printer as well as on local or central computer Outlier detector : Yes Calibration technique : ANN Approvals : GIPSA and NTEP in USA, PTB in Germany and MI in</p>	1.0
104.	A,β, emmitors (imported)	<p>Alpha, beta and gamma surface contamination measurement Geiger-Mueller detector with a 15 cm² and 2.0 mg/cm² end window Units available: cps, CPM, Bq, Bq/cm², DPM, DPM/100 cm² Compliant with IEC 60325 and ANSI N42.17A Belongs to CSP Family Efficiency over 2Π</p> <ul style="list-style-type: none"> ○ ¹⁴C: 17% ○ ⁹⁰Sr + ⁹⁰Y: 51% ○ ⁶⁰Co: 31% 	10.0

		○ ²⁴¹ Am: 35%	
105.	Y scintillation counter (imported)	<ul style="list-style-type: none"> Powerful detection technologies: Liquid Scintillation Counting, Luminometry and Gamma counting in one compact unit with less than 15 kgs. The Triahler MLT can be equipped with alpha beta separation technology or field case with battery for on site measurements. 	30.0

B. Miscellaneous Lab Equipments (in alphabetic order)

Sr. No.	Particulars	Cost (In Rs. Lac.)
1	Anaerobic Jar ,Model : #8160 + Spares for Anaerobic Jar ,Model : #8160: 1) Gas Pack, 2) Spare Catalyst Pack, 3) Test Strip Pack	0.28
4	BOD Incubator	0.46
5	Autoclave Vertical	2.1
6	Automated Distillation Double Stage	2.48
7	Automated Distillation Single stage	1.49
8	Automatic COD Analyser	0.61
9	Bacteriological Incubator	0.45
10	Binocular Microscope	2.27
11	Bio Safety Cabinet	2.85
13	BOD Incubator	0.74
15	BOD Incubator (CENTROFIX make, 5 degree to 50 degree)	0.92
16	Can Exhaust Box	1.7
17	Centrifuge (spare part)	0.84
18	Circulating Water Bath	0.71
19	Clipper	1.27
20	CO2 Incubator	6975USD
21	Colony Counter	0.13
22	Compound Microscope with micrometrtr facility 10x.20x,40xand100x	0.35
23	Cream Separator	0.72

24-31	Crimper(13mm/20mm dia), Slide holder(Ss-4 grooves 12 long) Decrimper(13mm/20mm dia) Trays 14×10 18×12 13×16×2 deep 24×16×3 deep 24×16×9 10×12 Fumigator Gas burner Slide box	2.73
32	curing machine	3.06
33	Cyclo mixer(Speed:3500rpm)(REMI)	0.08
34	Deep Freezer	0.56
36	Deep Freezer (-80°C)	6000 Euro
37	Deep freezer -20 deg C	0.73
	Digital deep Fryier	0.12
38	DO meter (digital DO meter : range 0-20ppm,resolution 0.1ppm,accuaracy 0.2ppm)	0.14
39	Electronic Balance	0.19
40	Electronic Balance(CTG-1202)	0.45
41	Electronic Balance(Sartorius)	0.77
42	Electrophoresis	0.53
43	Flow cell device	8.9
44	Frozen Block cutter	1.1
45	Gel Documentation System	0.43
46	Gerber Centifuge	69030
47	Gilson Pipetman Neo starter kit	0.15
49	Heating mantle	0.61
50	Hot Air Oven	0.45
51	Hot air oven Ai-011D, 250 deg C +/-1 digital temp indicator cum controller	0.42
52	Hot plate	0.11
53	Hot Plate with magnetic stirrer	0.45
54	Hot plate with magnetic stirrer ,Temp range:Upto 300°C	0.60
55	Inclined Monocular Microscope	1.15
56	Kjeldahl unit	12
57	Laboratory blender/Stomacher	2.14
58	Laminar air flow	2.31
59	LCGC Electronic weighing balance	0.27
60	Lyophilizer	41992USD
61	Meat Mincer	0.99
62	Meat slicer	0.55
63	Micropipette(30-300ul)	0.15

64	Micropipette(0.5-10µl),(10-100µl)	0.30
65	Microscope	0.36
66	Microwave Oven	0.12
67	Microwave oven Whirlpool, 20 ltrs	0.21
68	Mini fermenter	20876 Euro
69	Mini-Lyodel Freeze drying system	2.37
70	Muffle Furnance	24997
71	Multichannel Pippettes	0.30
72	Pasta Making Machine(Extruder Machine)	25
73	PCR(real time)	24204.80USd
74-77	Petriplate Holder , Slants Tray(Aluminium 24 slides), Staining Tray(SS for 25 slides)	0.27
80	pH meter	0.39
82	pH meter (pen type),Make:Hanna,Accuracy: +/-0.2	0.07
83	Pipette controller	0.63
84	Planetary Mixer	0.65
85	power pac universal power supply, 100-120/220-240V	1.67
86	Refrigerator	1.17
87	Refrigerated Centrifuge	7393 Euro
88	Refrigerator	0.23
89	Refrigerator (Whirlpool): 400 ltr	0.49
90	S.S. Table	0.68
91	Sausage filler	2.2
92	Shimadzu Electronic Balance AUX-320	1.52
93	Sonicator	2.9
94	SOXHLET EXTRACTION UNIT "MAC" MSW-436	0.16
95	Spray Dryer	12
96	Suger cane Crusher machine	14700
97	Tissue homogenizer	2.03
98	Tray dryer	15.7
99	Tray dryer with(Spare aluminiumtray+Spare stainless tray)	0.99
100	Trolleys :height 30×18 breadth with three shelf with handle	0.33
101	Trolly	0.45
102	UV Spectrophotometer along with 1pair of quartz cuvette & memory card 4Gb-2 No.	2.68
103	UV Viewing Cabinet	0.55
104	Vaccum Tumbler (BIRO USA make)	2.9
105	Vertical autoclave	0.65
106	Vertical Laminar Air flow	0.95
107	Vortex	0.05
108	Vortex Mixture	0.19
109	Vortex Shaker	0.23/-
110	Walk in Cold room	5.6
111	Water analysis kit pH/EC/TDS Meter with calibration solution	0.83
112	Water Bath	0.17
113	Water Bath Rectangular	0.11
114	water Bath(Sanco)	0.17

115	Water purification system	0.72
116	Weigh Balance (100 kg)	0.13
117	Weigh Balance (1200gm)	0.23
118	Weigh Balance (220 gm)	0.77
119	Weigh balance (6200gm)	0.19
120	Weighing Balance (10mg-300mg(0.001)accuracy, capacity: 360 g, Readability: 0.01 g	0.72

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CIPHET, Ludhiana
Choyal Group
Cheema Boilres Ltd, Mohali
Dodia Dryotech Jamnagar, Gujarat
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Food & Biotech Engineers (India) Pvt. Ltd., Faridabad
Greaves Power, Pune
GreenBay Tech Pvt Ltd. Hosur, Tamilnadu
Hindustan Agro Co-operative
Ice Make Refrigeration Limited
KION India Pvt. Ltd. ,Pune
Kingspan Jindal Pvt. Ltd., rohini, Delhi
K.K Life sciences Chennai
Kailas Engineering Systems, Pune
LAXMI ENTERPRISES, Pune
MNRE, Govt. of India (Solar Plant)
Megastar Engineering, Pune
Metaflex Doors India Pvt. Ltd., Greater Noida, U.P
National Horticulture Board; MoFPI, Gol
NDRI, Karnal; Nilkamal Limited, Mumbai
Omnivent's Storage Solution, Sanghar, India
OVN Trading Engineers Pvt. Ltd. New Delhi
Servotech India Ltd, Borivali (E), Mumbai
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Sanghar Export
Shree Jee Enterprises, Pune; Maharashtra
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