ANNEXURE-B

Specifications of the Ice Cream making Unit:

The ice cream making Unit should be complete and fully functional and should have the following units like Multipurpose Vat, Homogenizer, Ice cream freezer, Hardening Unit and Storage Unit. The detailed specifications of the units are given below:

a) Multipurpose Vat Containing ice cream mix batch pasteurizer with cap 50 lt. having electrical heating arrangement, along with Mix transfer pump of 1 Hp and Tube in tube filter:
   - Should be capable of pasteurizing the mix 35 to 70 °C. Should be triple jacketed with inner vessel made from AISI 304 and intermediate vessel from mild steel. The vessel will be insulated with 50 mm thick glass wool and clad with AISI 304 sheet. The tank should be provided with outlet valve of butterfly valve type and will have top cover and agitator, along with suitable motor and reduction gear. All required nozzles should be provided. The heating by electrical heater at the bottom which should heat the water and for further heating the mix.
   - Should use electrical heating system with proper safety accessories and earthing
   - Should be provided with mix transfer pump of 1 HP
   - Should be provided with a tube in tube filter suitable to above tank and pump
   - Should be provided with the interconnecting SS pipe lines

b) Homogenizer of 50 lph capacity
   - The operative pressures to be two stages of 1st Stage 2500 psi and 2nd stage 500 psi
   - Should be provided with suitable pressure gauge and safety valve
   - All wet parts should be made from SS 316.
   - The homogenizer valves should be made of stellite material
   - Should have suitable drive mechanism and have a 2-HP 3-phase motor.

c) Ice Cream Freezer unit :
   - Plate chiller with double section with capacity of 50 lph to chill Ice cream mix from 70 °C to 40 °C by using raw water in the first section and chilled water in the second section. The mix from 40 °C will be chilled to 6 °C in the second section. The plates are of SS 316 assembled in a common frame and provided with tightening arrangement. The frame may be carbon steel, but must be suitably claded with SS 304 . The cooling tower for the water to be cooled at 400 lph. The chilled water flow rate to be 400 lph with inlet temperature of 1.5 °C and outlet temperature of 9 °C.
   - Ageing vat of 50 lit capacity will have double jacketed for the purpose of direct expansion system for cooling. The tank to be made of AISI 304, with outer tank made from steel and tank being insulated and clad with SS sheet. The tank should have separate refrigeration system for direction expansion cooling of the product. Should be provided with suitable agitator, reduction gear and motor.
   - Centrifugal pump of capacity 50 lph with suitable motor drive attached and with mechanical seal assembly. All parts coming in contact with milk should be of AISI 304.
• Flavor tank of capacity 50 lts to add required flavor in the mix, and should be fitted with suction line for the centrifugal pump with valve. Should be able to pump both flavor and mix. Should be provided with suitable agitator, reduction gear and motor.
• Continuous freezer of 50 lph capacity to make ice cream with 100% overrun. It should have mix pump, dasher, outlet control valve and refrigeration unit. All the product contact parts should be made from SS 304. The product outlet temperature should be less than minus 7°C. The unit should have control panel. The equipment should be skid mounted assembly.
• Cooling tower of 20 TR, cooling tower pump of 3000 lph capacity, Instant glycol chilling unit of 1 TR capacity.
• Supply electrical power cable, control panel cable, supply line cable tray, required earthing for the entire equipment should be provided.
• Supply of service piping for the above equipments

D) Hardening Unit:
1. Hardening tunnel of 4 moulds per batch capacity
2. Should be able to achieve temperature of below minus (-) 20°C on full product load
3. Should be provided with the suitable power line with switches and controls.

E) Storage Unit:
1. Deep freeze cabinet of capacity 400 lts.
2. Should be able to achieve temperature of below minus (-) 20°C on full product load
3. Should be provided with the suitable power line with switches and controls.