REVISED ANNEXURE-I

PART-A (SUPPLY) of ANNEXURE-I

Sl. No.	Description	Unit	Qty.	Rate in Rs.	Amount in Rs.
1.	Supply of Double Skin type Air Handing Units for replacement of AHU Nos. – 4 & 5 (Ground floor Conference Hall, HRDI) consisting of chilled water 6 row deep Cooling Coil, Centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, GI Filters and other accessories of capacity 6,000 CFM & cooling coil capacity of 12.0 TR with outer skin of 0.6 mm preprinted galvanized st and inner skin of 0.6 mm galvanized sheet, 50 mm static pressure alongwith 15KW tubular strip duct heater and integrating the same with the existing system.	No.	1		
2.	Supply of Double Skin type Air Handling Units for replacement of AHU No. 12 (2nd floor Library & Conference hall) consisting of chilled water 6 row deep Cooling Coil, Centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, GI Filters and other accessories of capacity 4500 CFM & cooling coil capacity of 9.0 TR with outer skin of 0.6 mm preprinted galvanized sheet and inner skin of 0.6 mm galvanized sheet, 50 mm static pressure alongwith 12KW tubular strip duct heater and integrating the same with the existing system.	No.	2		
3.	Supply of double Skin type Air Handling Units for replacement of AHU No. 1 (Ground floor PS NR Side) consisting of chilled water 6 row deep Cooling Coil, Centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, GI Filters and other accessories of capacity 7,500 CFM & cooling cil capacity of 15.0 TR with outer skin of 0.6 mm preprinted galvanized sheet and inner skin of 0.6 mm galvanized sheet, 50 mm static pressure alongwith 18KW tubular strip duct heater and integrating the same with the existing system	No.	1		
4.	Supply of Double Skin type Air Handling Units for replacement of AHU Nos. 8 &9 (2nd I/s CIT) consisting of chilled water 6 row deep Cooling Coil, Centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, GI Filters and other accessories of capacity 15,000 CFM & cooling coil capacity of 30.0 TR with outer skin of 0.6 mm preprinted galvanized sheet and inner skin of 0.6 mm galvanized sheet, 50 mm static pressure alongwith 36KW tubular strip duct heater and integrating the same with the existing system.	No.	1		
5.	Supply of Double Skin type Air Handling Units for replacement of AHU No. 10&11 (2nd floor outside CIT) consisting of chilled water 6 row deep Cooling Coil, Centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, GI Filters and other accessories of capacity 4,000 CFM and cooling coil capacity of 10 TR with outer skin of 0.6 mm preprinted galvanized sheet and inner skin of 0.6 mm galvanized sheet, 50 mm static pressure alongwith 9KW tubular strip duct heater and integrating the same with the existing system.	Nos.	2		
6(I)	Supply of Fan Coil Unit (FCU) of Capacity 2.0 TR with all accessories as specified & integrating the same with the existing system.	Nos.	26		
6(II)	a. Ball value dia. 20 mm for the inlet (with strainer/filter) of 2.O TR FCUs.	Nos.	26		
6(III)	b. Ball valve dia. 20 mm for the inlet (without strainer/filter) of 2.OTR FCUs.	Nos.	26		

Sl. No.	Description	Unit	Qty.	Rate in Rs.	Amount in Rs.
7(I)	Supply of Fan Coil Unit (FCU) of Capacity 3.0 TR with all accessories as specified & integrating the same with the existing systems.	Nos.	5		
7(II)	a. Ball valve dia.25mm for the inlet (with strainer/filter) of 3.0 TR FCUs.	Nos.	5		
7(III)	b. Ball valve dia. 25 mm for the inlet (without strainer/filter) of 3.0 TR FCU's.	Nos.	5		
8	Supply of Supply of Butterfly valve – PN -16				
8(i)	125 NB	Nos	4		
8(ii)	80 NB	Nos.	2		
8(iii)	65 NB	Nos.	2		
8(iv)	50 NB	Nos	6		
8(v)	40 N B	Nos.	6		
9(a)	Supply of 3 – Way valve with actuator linkage + temperature controller				
9(a)(i)	80 NB	No.	1		
9(a)(ii)	65 NB	No.	1		
9(a)(iii)	50 NB	Nos.	3		
9(a)(iv)	40 NB	No.	3		
9(b)	Supply of Balancing Valve				
9(b)(i)	125 NB	Nos	1		
9(b)(ii)	100NB	Nos	1		
9(b)(iii)	80NB	Nos	1		
10	Supply of Piping ('B" Class M. S Pipe)				
10(i)	80 NB	Rmt	30		
10(ii)	65 NB	Rmt	10		
10(iii)	50 NB	Rmt	40		
10(iv)	40 NB	Rmt	20		
10(v)	25 NB	Rmt	150		
11	Supply of Cu Piping				
11(I)	a. 25 NB	Rmt	100		
11(II)	b. 20 NB	Rmt	100		
12	Supply of GSS Zinc Coating 120 GSM factory fabricated ducting complete with hangers/supports & dampers.				
12(I)	18G	Sqm	50		
12(II)	20G	Sqm	50		
12(III)	22G	Sqm	120		
12(IV)	24G	Sqm	50		
13	Supply of Pan type humidifier for each AHU room – 6 kw	Nos.	15		
14	Supply Acoustic insulation of first 5M of ducting from AHU outlets- resin bonded fiber glass of 32 kg/m3 -- 50 mm thick	Sqm	70		
15	Supplying of factory built MV panel board (for AHU's), cubical type made of 2 mm thick CRCA sheet powder coated through seven tank process treatment for pickling & degreasing including connections and inter-connections to all mountings cable alleys as per specifications and with following mountings in (for 5.5 kw AHU Motor with Star Delta/DOL Starter). The panel should be CBRI approved.	Nos.	8		

<table>
<tr><td></td><td>Suitable rating contactors/switch gears to be accommodated in the panel for duct strip heaters and Pan De-Humififier (6KW) as per the following details:
<table>
<tr><th>Item. no.</th><th>AHU No.</th><th>CFM</th><th>Capacity (KW)</th><th>Pan De - Humidfier</th></tr>
<tr><td>1.</td><td>4</td><td>6000</td><td>15</td><td>6KW</td></tr>
<tr><td>2.</td><td>9(2 nos.)</td><td>4500</td><td>2 X 12= 24</td><td>2X6KW</td></tr>
<tr><td>3.</td><td>1</td><td>7500</td><td>18</td><td>6KW</td></tr>
<tr><td>4.</td><td>7</td><td>15000</td><td>36</td><td>6KW</td></tr>
<tr><td>5.</td><td>8(2 nos.)</td><td>4000</td><td>2 X 9 = 18</td><td>2X6KW</td></tr>
<tr><td>6</td><td>13</td><td>6000</td><td>15</td><td>6KW</td></tr>
</table></td><td></td><td></td><td></td><td></td></tr>
<tr><td>16</td><td>Supply of Tubular Strip heaters in AC ducts of following Capacity complete with new panels for heaters and Pan-humidifiers (6KW) having Contactors, Geyserstats along with thermostat, Cabling, Mounting Frames and interlocking & controls with AHU starters suitable for operation with 415 V, 3 phase power supply for each AHU room:
18500 cfm - 45KW - AHU 3,11&12</td><td>Nos.</td><td>3</td><td></td><td></td></tr>
<tr><td>17</td><td>Supply of In Line Fan dia. 200 mm</td><td>Nos.</td><td>2</td><td></td><td></td></tr>
<tr><td>18</td><td>Supply of FRP type cooling tower with all accessories and controls (for replacement of the damaged cooling tower) suitable for the water chilling unit of 100 TR and condenser water flow of 100 CMH.</td><td>Nos.</td><td>2</td><td></td><td></td></tr>
<tr><td>19</td><td>Supply of TFA Double Skin type Air Handing Units for replacement of AHU No 16 (3rd floor Hostel Block, HRDI) consisting of chilled water 6 row deep Cooling Coil, Centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, GI Filters and other accessories of capacity 6,000 CFM . with outer skin of 0.6 mm preprinted galvanized st and inner skin of 0.6 mm galvanized sheet, 50 mm static pressure and integrating the same with the existing system.</td><td>No</td><td>1</td><td></td><td></td></tr>
<tr><td>20</td><td>Supply of Thermal Insulation of ‘B’ Class MS Pipe (NB 40,50, 65 and 80)</td><td>Rmt</td><td>250</td><td></td><td></td></tr>
<tr><td>21</td><td>Supply of Expansion MS Tank (insulated) for chilled water with all accessories. Capacity 1 cubic meter</td><td>No</td><td>1</td><td></td><td></td></tr>
<tr><td>22</td><td>Supply of suitable rating contectors / switchgear to be accommodated in old existing AHU panels for duct heaters of capacity of 45 KW and Pan De-Humidifiers of 6KW.</td><td>Nos</td><td>3</td><td></td><td></td></tr>
<tr><td>NOTE</td><td>Heaters (wherever applicable) will be DASSPASS/SEVCON Make</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>Taxes if any in percentage (%)</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>Total (A)</td><td></td><td></td><td></td><td></td></tr>
</table>

PART-B (Erection & Commissioning) of ANNEXURE-I

	Part B – Erection & Commissioning				
Sl. No.	**Description**	**Unit**	**Qty.**	**Rate in Rs.**	**Amount (Rs.)**
1(a)	Dismantling of old existing piping from Main Header to AHU No. 12 and the existing AHU No. 12 with all accessories and erecting and commissioning of Double Skin type Air handling Units for replacement of AHU No. 12 (2nd floor Library) consisting of Chilled Water Cooling Coil, centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, SS Filers and other accessories of capacity 4500 CFM with cooling capacity of 9.0TR including fabrication of MS Piping from Main Header(125 NB) using 65mm reducer connecting to Hostel Block FCU supply line, installation of Balancing Valve & associated acessories , Blanking where required to make the system complete and integrating with the existing system.	No.	1		
	Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs.				
	Making well all the damaged Civil work to the satisfaction of the Engineer – in – charge.				
1(b)	Erecting & Commissioning of Double Skin type Air handling Units (2nd floor Conference Hall) consisting of Chilled Water Cooling Coil, centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, SS Filers and other accessories of capacity 4500 CFM with cooling capacity of 9.0TR and integrating with the existing system.	No .	1		
	Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs.				
	Making well all the damaged Civil work to the satisfaction of the Engineer – in – charge.				
2	Dismantling of existing AHU and erecting Double Skin type Air handling Units for replacement of AHU No. 1 (Ground floor PSNR side) consisting of Chilled Water Cooling Coil, centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, SS Filers and other accessories of capacity 7500 CFM with cooling coil capacity of 15.0 TR and integrating the same with the existing system. Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs. Making well all the damaged Civil work to the satisfaction of the Engineer – in – charge.	No	1		
3	Dismantling of existing AHU and erecting and commissioning of Double Skin type Air handling Units for replacement of AHU No. 8 & 9 (2nd floor, I/s CIT) consisting of Chilled Water Cooling Coil, centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, SS Filers and other accessories of capacity 15000 CFM with cooling coil capacity of 30.0 TR and integrating the same with the existing system.	No	1		
	Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs.				
	Making well all the damaged Civil work to the satisfaction of the Engineer – in – charge.				
4	Dismantling of existing AHU and erecting and commissioning of Double Skin type Air handling Units for replacement of AHU No. 10&11(2nd Floor, outside CIT)consisting of Chilled Water Cooling Coil, centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, SS Filers and other accessories of capacity 4000 CFM and integrating the same with the existing system.	No	2		

	Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs.				
	Making well all the damaged Civil work to the satisfaction of the Engineer – in – charge.				
5	Dismantling of existing AHUs (2 Nos) and erecting and commissioning of Double Skin type Air handling Units for replacement of AHU No. 4&5(Ground floor Conference hall)consisting of Chilled Water Cooling Coil, centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, SS Filers and other accessories of capacity 6000 CFM and integrating the same with the existing system.	No	1		
	Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs.				
	Making well all the damaged Civil work to the satisfaction of the Engineer – in – charge.				
6	Dismantling of existing FCU's and erecting and commissioning of 2.0 TR Fan Coil with all the accessories (Like Cu-tubing, flair tubing& etc. including 2 way Valve. Valve will be supplied by BHEL) as specification & integrating the same with the existing system.	No	26		
	Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs.				
7	Dismantling of existing FCU's and erecting and commissioning of 3.0 TR Fan Coil with all the accessories (Like Cu-tubing, flair tubing& etc. including 2 way Valve. Valve will be supplied by BHEL) as specification & integrating the same with the existing system.	No	5		
	Storing the dismantled AHU to predetermined site and disposing the malba outside BHEL Premises – with in 100 mtrs.				
8	Electrical work like supply, erection and commissioning of power cabling and MCB Panel to take care of the modification of the MCB Panel to cater the load of the segmented AHU's as required for renovation.	Lot	1		
9	Installation and commissioning of 2 way valve in 2.0 TR FCU's with new Cu-tubing, flair nuts etc. (Valve will be provided by BHEL)	Nos.	53		
10	Erection and commissioning of Expansion MS Tank (insulated) for chilled water with all accessories as required and integrating the same with the existing system . Capacity 1 m3	No.	1		
11	Erection and commissioning of Expansion GSS Zink Coating 120 GSM ducting complete with				
i	18G	Sqm	50		
ii	20G	Sqm	50		
iii	22G	Sqm	120		
iv	24G	Sqm	50		
12	Erection and commissioning of of Pan type humidifier for each AHU ducting from AHU outlets	Lot	15		
13	Fixing Acoustic insulation of first 5M from AHU outlets	sqm	50		
14	Fixing and commissioning of of Relay based control panel (including Local Control panel / Pushbutton stations AHU Rooms) complete for above AC Plant with all controls, interlocks, special cable etc. as specified.	Nos.	8		
15	Mounting and commissioning of of Tubular Strip heaters in AC ducts of following Capacity complete with Contactors, Geyserstats along with thermostat, Cabling, Mounting Frames suitable for operation with 415 V, 3 phase power supply for each AHU room in the existing panels: 18500 cfm - 45 KW - AHU 3,11&12	Sets	3		

16	Dismantling of existing FRP type cooling tower with all accessories and controls (for replacement of the damaged cooling tower), erecting and commissioning of water chilling unit of 100 TR and condenser water flow of 100 CMH & integrating the same with the existing system. Including Electrical works like supply, erection and commission of Power cabling, Instrument cabling and MCC panel to take care the modification of the MCC Panel to cater the load of the Cooling Tower. Storing the dismantling cooling tower to a predetermined site and disposing the malba outside BHEL premises. Making good all the damaged civil work to the satisfaction of Engineer – In charge.	Nos.	02		
17	Dismantling of existing AHU -13 and erecting and commissioning of Double Skin type Air handling Units for replacement of AHU-16(3rd floor Hostel Block)consisting of Chilled Water Cooling Coil, centrifugal Blower, TEFC Squirrel Cage Induction Motor, Drive Set, SS Filers and other accessories of capacity 6000 CFM and integrating the same with the existing system. Including Electrical work like supply, erection and commissioning of power cabling and MCB Panel to take care of the modification of the MCB Panel to cater the load of the segmented AHU's as required for renovation. Making good all the damaged civil work to the satisfaction of Engineer – In charge.	No	1		
18	Repairing and commissioning off Existing 15 Nos Split Units as per Annex-II	Nos	15		
19	Complete Thermal Insulation of 'B' Class MS Pipe(NB 40,50,65&80)	Rmt	250		
20	Installation & commissioning of suitable rating contectors / switchgear to be accommodated in old existing AHU panels for duct heaters of capacity of 45 KW and Pan De-Humidifiers of 6KW	Nos.	3		
NOTE	**Heaters (wherever applicable) will be DASSPASS/SEVCON Make**				
	Taxes if any in percentage (%)				
	TOTAL (B)				

Total (A+B) = Rs. ----------

NOTE: Value in Rs. is to be written in Figures and Words both.

Date:

Name of the Company

(Signature & Seal of the Company)