



University : Karunya Institute of Technology and Sciences  
Country : India  
Web Address : <https://karunya.edu>

## [2] Energy and Climate Change (EC)

### [2.3] Smart Building Implementation

The buildings of KITS are provided with adequate natural lighting & ventilation by providing the openings for windows and doors to the extent of 5 to 20% of the wall area ensuring medium permeability as per Indian standards. This reduces the utilization of electrical fittings such as lights, fans and air conditioner. Solar lightings are also provided in the campus which reduces the consumption of conventional electricity. As the Institution is located in the foothills of Western Ghats the environment is free from pollution. The students are restricted from the consumption of Tobacco by ensuring Tobacco free campus resulting in the indoor environmental quality.

The standard safety measures are strictly ensured for the construction labourers in all the building projects. Research on reuse of the demolished building materials are being carried out by the department of Civil Engineering. Priority is given for the faculty using electrical vehicles and solar vehicle to reduce the carbon dioxide emission. All building are provided with the rain water harvesting and recharging of open wells.

Green audit, Environment Audit, Energy Audit and Hygiene Audit are being conducted to monitor the effectiveness of implementation of smart building concepts. Students have taken up innovative projects leading to smart infrastructure concepts.

Smart building implementation

$$\frac{\text{total smart building area}}{\text{total building area}} \times 100\%$$

Total Building Area: 244340 m<sup>2</sup>

$$\frac{233752 \text{ m}^2}{244340 \text{ m}^2} \times 100\% = 95.67\%$$



No.	Name	Place	Automation		Safety				Energy		Water		Indoor environment				Lighting				Building Area (m <sup>2</sup> )
			B1	B2	S1	S2	S3	S4	E1	E2	A1	A2	I1	I2	I3	I4	L1	L2	L3	L4	
1	Civil Engineering Block	University Campus				x	x				x	x					x				4843
2	Admin. Block	University Campus			x	x					x	x					x	x			5379
3	Mechanical Engg Block	University Campus			x	x					x	x					x				2652
4	Computer Science and Technology	University Campus			x	x					x	x					x				5250
5	New Electrical Sciences / BioTech Block	University Campus			x	x					x	x					x				16649
6	New Science & Humanities Block (Agriculture / EEE / Arts & Sciences)	University Campus			x	x					x	x					x				21012
7	Computer Centre (Old DoVE)	University Campus			x	x					x	x					x				1552
8	Computer Centre + Library	University Campus			x	x					x	x					x				6186
9	Aero space Engg. Dept. (KSMS)	University Campus			x	x					x	x					x				2355
10	Agriculture Lab Complex (Old Ebenezer Auditorium)	University Campus			x	x					x	x					x				1149



11	Emmanuel Auditorium	University Campus			X	X			X	X				X				2330
12	Elshadai Auditorium	University Campus			X	X			X	X				X				1212.93
13	Dr. DGS Dhinakaran Centre / Indoor Sports Centre	Gents Hostel Campus			X	X			X	X				X				9449
14	Father Duraisamy Block	Gents Hostel Campus			X	X			X	X				X				7356
15	Edward George Block	Gents Hostel Campus			X	X			X	X				X				4354
16	Hepzibah Block	Gents Hostel Campus			X	X			X	X				X				8942
17	Angeline Block	Gents Hostel Campus			X	X			X	X				X				8151
18	Kitchen and Dining (FDR/EGR Hostels)	Gents Hostel Campus			X	X			X	X				X				1957
19	S.G. Bobraj Residence	Gents Hostel Campus			X	X			X	X				X				9324
20	Jerry Manuel Residence	Gents Hostel Campus			X	X			X	X				X				9324
21	Johnson Victor Residence	Gents Hostel Campus			X	X			X	X				X				9324
22	Bethany Residence	Gents Hostel Campus			X	X			X	X				X				9324



23	Kitchen and Dining	Gents Hostel Campus				X	X			X	X					X				4598
25	Dakshanamoorthy Block	Ladies Hostel Campus				X	X			X	X					X				8935
26	Sevugapandian Block	Ladies Hostel Campus				X	X			X	X					X				4106
27	Sundararaj Block	Ladies Hostel Campus				X	X			X	X					X				10063
28	P.R. Garg Residence	Ladies Hostel Campus				X	X			X	X					X				7758
29	Ladies Staff room/ Shopping complex	Ladies Hostel Campus				X	X			X	X					X				421
30	Evangeline Residence , Kitchen & Dining	Ladies Hostel Campus				X	X			X	X					X				19500
31	Ophra Residence	Ladies Hostel Campus				X	X			X	X					X				6038.6
32	Physical Education Dept	Physical Education				X	X			X	X					X				59
33	Zion Residence	Staff Quarters				X	X			X	X					X				835
34	Alpha	Staff Quarters				X	X			X	X					X				727
35	Bethel	Staff Quarters				X	X			X	X					X				629
36	Cannan	Staff Quarters				X	X			X	X					X				429
37	Carmel	Staff Quarters				X	X			X	X					X				1053
38	Elim	Staff Quarters				X	X			X	X					X				330
39	Kidron	Staff Quarters				X	X			X	X					X				885
40	Pat Robertson	Staff Quarters				X	X			X	X					X				617
41	Hebron	Staff Quarters				X	X			X	X					X				538



42	Frankincense	Staff Quarters			X	X			X	X				X				833
43	Sinai	Staff Quarters			X	X			X	X				X				1535
45	Tabor	Staff Quarters			X	X			X	X				X				1336
46	Antioch	Staff Quarters			X	X			X	X				X				368.22
47	Bethsaida	Staff Quarters			X	X			X	X				X				368.22
48	Bethlehem	Staff Quarters			X	X			X	X				X				368.22
49	Beersheba	Staff Quarters			X	X			X	X				X				368.22
50	Karunya Hospitals				X	X			X	X				X				863
51	Guest House and Restaurant				X	X			X	X				X				6731
52	Guest House (Annexe)/Bank				X	X			X	X				X				998
53	Generator / Power Room				X	X			X	X				X				33
54	Construction & Maintenance Department	Common Facilities			X	X			X	X				X				370.72
55	Old Age Care Home	Care home			X	X			X	X				X				368.49
57	Rehabilitation Centre	Mental Health Centre			X	X			X	X				X				370.17
58	Transport Office	University Campus				X			X	X				X				22.16
59	Desalination Project	University Campus				X			X	X				X				40.7
60	Cafeteria	University Campus				X			X	X				X				114
61	Community Hall for EGR/FDR	Gents Hostel Campus				X			X	X				X				184



62	Hostel Office (Pain Relief Centre)	Gents Hostel Campus				x			x	x				x				369
63	Workers Quarters	Gents Hostel Campus				x			x	x				x				683
64	Students Amenity centre at Hep/Ang Hostels	Gents Hostel Campus				x			x	x				x				357.34
65	Workers Quarters	Gents Hostel Campus				x			x	x				x				307
66	Meditation Hall	Gents Hostel Campus				x			x	x				x				78
68	Workers Quarters	Ladies Hostel Campus				x			x	x				x				461
69	Students Amenities Centre	Ladies Hostel Campus				x			x	x				x				209.11
70	Gymnasium & Department (FDR/EGR)	Physical Education				x			x	x				x				225
71	Servant Quarters					x			x	x				x				194
72	Work Shops (Mechanical Laboratories)	University Campus				x	x		x					x				1835
73	Karunya Media Centre	University Campus				x	x		x					x				2115
74	Smithy Lab	University Campus				x	x		x					x				144
75	Pyrolysis Lab	University Campus				x	x		x					x				337.67
76	Aero Space Engg. Lab -1 & compressor room	University Campus				x	x		x					x				320



77	Aero Space Engg. Lab -11 & compressor room	University Campus				X	X			X					X				332
78	Bio-mass Research Lab	University Campus				X	X			X					X				298.05
79	Animal House	University Campus				X	X			X					X				291
80	Stores Building	University Campus				X	X			X					X				370.63
81	22 kva Power House	University Campus				X	X			X					X				123.61
82	Elohim Auditorium (Meeting Hall)	University Campus				X	X			X					X				360
83	Power House / Generator Room	Gents Hostel Campus				X	X			X					X				151
84	Power House/ Generator Room	Gents Hostel Campus				X	X			X					X				286
85	Hostel office	Gents Hostel Campus				X	X			X					X				369.7
86	Indoor Games (FDR/EGR)	Physical Education				X	X			X					X				877
87	Post Office	Common Facilities				X	X			X					X				56
88	Diesel Storage Yard	Common Facilities				X	X			X					X				1200
89	Visitors Lounge (Hep&Ang)	Gents Hostel Campus					X				X				X				116



