AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 10.12.2022 (BASED ON US-EPA AQI STANDARDS AND THE DAYALBAGH AQI COLOUR CODE)

Permissible Limits (24 Hour Mean): $PM_{10} = 150$; $PM_{2.5} = 35$, all units are in $\mu g/m^3$ Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

Today: 9-12-2022 to 10 -12-2022 from 9:00 a.m. to 9:00 a.m. Yesterday: 8 -12-2022 to 9-12-2022 from 9:00 a.m. to 9:00 a.m.

	DAYALBAGH												SANJAY PLACE AND AVAS VIKAS										
L	(TIME WEIGHTED AVERAGE DATA)											О	(ARITHMETIC MEAN DATA)										
0	AQI				Meteorological Parameters							C	AQI				Meteorological Parameters						
C A T I O N	PM _{2.5}		1	PM ₁₀				°C				A T I	PM _{2.5}		PM ₁₀					°	r C		
	Today	Yesterday	Today	Yesterday	RH %	WS m/s	WD	Ma x	Min	SR W/m²	R F m	O N	Today	Yesterday	Today	Yesterday	RH %	WS m/s	W D	Max	Min	SR W/ m ²	RF m m
4 / 97	164 (74%↑)	127	87 (56%†)	64	72	0.3	SSW	28. 6	10.8	118	0	Sanjay Place	192 (141%†)	1 151 1	167 (137%↑	84	65	0.9	NN W	26.6	13.8	115	0
3 / 34	151 (86%↑)	93	63 (70%↑)	44	72	0.3	SSW	28. 6	10.8	118	0												
Science Faculty	165 (67%†)	134	66 (59%†)	50	72	0.3	SSW	28.	10.8	118	0	Avas Vikas	176 (316%†)	78	117 (315%†)	42	76	0.4	NE	24.9	10.1	63	0

Views of AQI Research Group: Concentrations of Particulate matter have increased substantially at all sites of Dayalbagh due to change in Wind Direction (promoting transport of pollutants from the southern sectors of the city) and low Wind Speed favouring stagnation of pollutants. The Air Quality Index w.r.t. PM_{2.5} has changed to the Unhealthy *for All* category while w.r.t. PM₁₀ it remains in the *Moderate* Category at all sites of Dayalbagh.

Concentrations of Particulate Matter have also increased at Sanjay Place and Avas Vikas, Bodla. The Air Quality Index w.r.t $PM_{2.5}$ at Sanjay Place remains in the *Unhealthy for All* category while at Avas Vikas, Bodla it has changed to the *Unhealthy for All* category from the *Moderate* category, w.r.t. PM_{10} also it has changed to the *Unhealthy for All* category at Sanjay Place and in the *Unhealthy for Sensitive Groups* category at Avas Vikas, Bodla.

Values in parentheses indicate the percentage change in the pollutant concentrations with respect to yesterday. \uparrow indicates increase while \downarrow indicates decrease in pollutant concentrations. Percentage change has not been shown w.r.t. AQI values as the breakpoints for the different categories are not evenly distributed.

Good 0 - 50

Moderate 51 - 100 Unhealthy for Sensitive Groups 101 - 150

Unhealthy for All 151 - 200 Very Unhealthy for All 201 - 300 Hazardous for All 301 - 400 Hazardous for All 401 - 500

NOTE: 1 A continuing study conducted as part of Dayalbagh Sigma Six Qualities and Values Model implementation.

2 DEI is using United States Environmental Protection Agency (USEPA) methodology and online calculators to calculate AQI. For fair comparison with UPPCB Sanjay Place Weather Station readings, their PM_{2.5} concentration readings are fed in USEPA online calculator for AQI calculation.

3 Formula for AQI calculation for a Pollutant -

$$I = \frac{I_{\rm high} - I_{\rm low}}{C_{\rm high} - C_{\rm low}} * (C - C_{low}) + I_{low}$$

where: I = Air Quality Index; C = Pollutant Concentration (PM_{2.5}); C_{low} = Concentration Breakpoint \leq C; C_{high} = Concentration Breakpoint \geq C; C_{high} = Index Breakpoint corresponding to C_{low} ; C_{low} = Index Breakpoint corresponding to C_{high} ; *Multiplication Sign