AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 8.12.2022
(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 µg/m^3 Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)
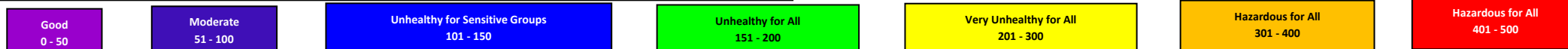
Today: 7-12-2022 to 8-12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 6-12-2022 to 7-12-2022 from 9:00 a.m. to 9:00 a.m.

LOCATION	DAYALBAGH (TIME WEIGHTED AVERAGE DATA)											LOCATION	SANJAY PLACE AND AVAS VIKAS (ARITHMETIC MEAN DATA)										
	AQI				Meteorological Parameters								AQI				Meteorological Parameters							
	PM$_{2.5}$		PM$_{10}$		RH %	WS m/s	WD	T °C Max	T °C Min	SR W/m^2	RF mm		PM$_{2.5}$		PM$_{10}$		RH %	WS m/s	WD	Max	Min	SR W/m^2	RF mm
	Today	Yesterday	Today	Yesterday									Today	Yesterday	Today	Yesterday							
4 / 97	110 (29%↓)	149	58 (30%↑)	74	68	1.0	WNW	25.9	9.8	126	0	Sanjay Place	134 (25%↓)	156	78 (19%↓)	91	58	2.4	WNW	25.5	13.1	123	0
3 / 34	84 (28%↓)	110	40 (32%↑)	55	68	1.0	WNW	25.9	9.8	126	0	Avas Vikas	72 (21%↓)	84	38 (13%↓)	44	67	0.8	NE	24.7	11.0	67	0
Science Faculty	119 (27%↓)	149	44 (28%↑)	74	68	1.0	WNW	25.9	9.8	126	0												

Views of AQI Research Group: Concentrations of Particulate matter have significantly decreased at all sites of Dayalbagh probably due to moderate Relative humidity and Wind Speed favouring dispersion of particulate matter. The Air Quality Index w.r.t. PM$_{2.5}$ has improved to the Moderate category at Prem Nagar and remains in the *Unhealthy for Sensitive Groups* category at Vidyut Nagar and Science Faculty, while w.r.t. PM$_{10}$ it has improved to the *Good* category at Prem Nagar and Science Faculty and remains in the *Moderate* category at Vidyut Nagar.

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

Values in parentheses indicate the percentage change in the pollutant concentrations with respect to yesterday. ↑indicates increase while ↓ 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 –

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

where: I = Air Quality Index; C = Pollutant Concentration (PM$_{2.5}$); C$_{low}$ = Concentration Breakpoint ≤C; C$_{high}$ = Concentration Breakpoint ≥C; I$_{low}$ = Index Break point corresponding to C$_{low}$; I$_{high}$ = Index Breakpoint corresponding to C$_{high}$; *Multiplication Sign

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