AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 22.12.2022
(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: 21-12-2022 to 22-12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 20-12-2022 to 21-12-2022 from 9:00 a.m. to 9:00 a.m.

DAYALBAGH (TIME WEIGHTED AVERAGE DATA)

LOCATION	PM$_{2.5}$ Today	PM$_{2.5}$ Yesterday	PM$_{10}$ Today	PM$_{10}$ Yesterday	RH %	WS m/s	WD	T °C Max	T °C Min	SR W/m^2	RF mm
4 / 97	154 (7%↓)	157	74 (7%↑)	71	75	0.4	WNW	23.7	9.4	102	0
3 / 34	144 (14%↓)	154	61 (6%↓)	65	75	0.4	WNW	23.7	9.4	102	0
Science Faculty	154 (11%↓)	158	59 (7%↓)	62	75	0.4	WNW	23.7	9.4	102	0

SANJAY PLACE AND AVAS VIKAS (ARITHMETIC MEAN DATA)

LOCATION	PM$_{2.5}$ Today	PM$_{2.5}$ Yesterday	PM$_{10}$ Today	PM$_{10}$ Yesterday	RH %	WS m/s	WD	T °C Max	T °C Min	SR W/m^2	RF mm
Sanjay Place	155 (25%↓)	166	89 (30%↓)	117	68	0.9	ENE	22.3	10.7	22	0
Avas Vikas	160*	174	74 (27%↓)	95	76	0.6	ESE	23.1	10.8	54	0

Views of AQI Research Group: Concentrations of Particulate matter have decreased at all sites of Dayalbagh except PM$_{10}$ at Vidyut Nagar which has slightly increased. The Air Quality Index w.r.t PM$_{2.5}$ has improved to Unhealthy for Sensitive Groups at Prem Nagar but remains in the *Unhealthy for All* category at Vidyut Nagar and Science Faculty, while w.r.t. PM$_{10}$ it remains in the *Moderate* category at all sites of Dayalbagh. Average Visibility yesterday was 1.3 Kms, it improved to 1.6 Kms today.

- Data for PM$_{2.5}$ was only available till 4:00 pm yesterday at Avas Vikas, Bodla. Concentrations of Particulate matter have decreased at Sanjay Place and Avas Vikas, Bodla. The Air Quality Index w.r.t PM$_{2.5}$ at both these sites remains in the *Unhealthy for All* category while w.r.t PM$_{10}$ it has improved to the *Moderate* category at Sanjay Place and remains in this 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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