

# AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 29.12.2022

## (BASED ON US-EPA AQI STANDARDS AND THE DAYALBAGH AQI COLOUR CODE)

Permissible Limits (24 Hour Mean): PM<sub>10</sub> = 150; PM<sub>2.5</sub> = 35, all units are in µg/m<sup>3</sup> Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

**Today:** 28-12-2022 to 29 -12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 27 -12-2022 to 28-12-2022 from 9:00 a.m. to 9:00 a.m.

L O C A T I O N	DAYALBAGH (TIME WEIGHTED AVERAGE DATA)											L O C A T I O N	SANJAY PLACE AND AVAS VIKAS (ARITHMETIC MEAN DATA)											
	AQI				Meteorological Parameters								AQI				Meteorological Parameters							
	PM <sub>2.5</sub>		PM <sub>10</sub>		RH %	WS m/s	WD	T °C		SR W/ m <sup>2</sup>	R F m m		PM <sub>2.5</sub>		PM <sub>10</sub>		RH %	WS m/s	W D	T °C		SR W/ m <sup>2</sup>	R F m m	
								Max	Min											Max	Min			
	Today	Yesterday	Today	Yesterday										Today	Yesterday	Today	Yesterday							
4 / 97	99 (19%↓)	119	47 (34%↓)	62	66	0.8	WN W	24.2	8.5	92	0	Sanjay Place	122 (6%↓)	129	75 (11%↑)	70	55	1.6	NW	23	11.0	24	0	
3 / 34	110 (8%↑)	102	48 (2%↓)	49	66	0.8	WN W	24.2	8.5	92	0													
Science Faculty	129 (4%↑)	119	48 (4%↓)	50	66	0.8	WN W	24.2	8.5	92	0	Avas Vikas	157 (1%↑)	156	77 (8%↑)	73	67	0.7	NE	22.7	9.3	62	0	

**Views of AQI Research Group:** Concentrations of both PM<sub>2.5</sub> and PM<sub>10</sub> have substantially decreased at Vidyut Nagar while at Prem Nagar and Science Faculty PM<sub>2.5</sub> has increased and PM<sub>10</sub> has slightly decreased. Average Visibility yesterday was 2.4 Kms, it increased to 2.6 Kms today. The Air Quality Index w.r.t. PM<sub>2.5</sub> improved to the *Moderate* category at Vidyut Nagar but remains in the *Unhealthy for Sensitive Groups* category at Prem Nagar and Science Faculty while w.r.t. PM<sub>10</sub> it is in the *Good* category at all the three sites.

\* Concentrations of PM<sub>10</sub> were available after 2:00 pm yesterday at Avas Vikas, Bodla. Concentrations of PM<sub>2.5</sub> have decreased at Sanjay Place and slightly changed at Avas Vikas, Bodla, while PM<sub>10</sub> has slightly increased at both the sites. The Air Quality Index w.r.t. PM<sub>2.5</sub> remains in the *Unhealthy for Sensitive Groups* category at Sanjay Place and is in the *Unhealthy for All* category at Avas Vikas, Bodla, while w.r.t. PM<sub>10</sub> it remains in the *Moderate* category at both the sites.

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
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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<sub>2.5</sub> concentration readings are fed in USEPA online calculator for AQI calculation.

3 Formula for AQI calculation for a Pollutant –

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

where: I = Air Quality Index; C = Pollutant Concentration (PM<sub>2.5</sub>); C<sub>low</sub> = Concentration Breakpoint ≤C; C<sub>high</sub> = Concentration Breakpoint ≥C; I<sub>low</sub> = Index Break point corresponding to C<sub>low</sub>; I<sub>high</sub> = Index Breakpoint corresponding to C<sub>high</sub>; \*Multiplication Sign