

# AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 15.12.2022

## (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:** 14-12-2022 to 15 -12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 13 -12-2022 to 14-12-2022 from 9:00 a.m. to 9:00 a.m.

L O C A T I O N	<b>DAYALBAGH</b>											L O C A T I O N	<b>SANJAY PLACE AND AVAS VIKAS</b>										
	(TIME WEIGHTED AVERAGE DATA)												(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>	RF m m		PM <sub>2.5</sub>		PM <sub>10</sub>		RH %	WS m/s	WD	T °C		SR W/ m <sup>2</sup>	RF m m
Today	Yesterday	Today	Yesterday	Ma x				Min	Today			Yesterday	Max	Min	Today	Yesterday				Max	Min		
<b>4 / 97</b>	99 (20%↑)	87	54 (22%↑)	46	64	0.9	WNW	26.2	9.8	129	0	<b>Sanjay Place</b>	105 (19%↑)	91	72 (24%↑)	63	52	2.4	WNW	25.6	13.0	134	0
<b>3 / 34</b>	63 (5%↓)	66	24 (3%↓)	25	64	0.9	WNW	26.2	9.8	129	0	<b>Avas Vikas</b>	93 (28%↑)	78	57 (34%↑)	46	59	0.8	ENE	26.4	11.3	67	0
<b>Science Faculty</b>	76 (7%↓)	80	26 (9%↓)	29	64	0.9	WNW	26.2	9.8	129	0												

**Views of AQI Research Group:** Concentrations of Particulate matter have marginally decreased at Prem Nagar and Science Faculty while have increased at Vidhut Nagar yet the Air Quality Index w.r.t. PM<sub>2.5</sub> remains in the *Moderate* category while w.r.t. PM<sub>10</sub> it remains in the *Good* category at Prem Nagar and Science faculty but has changed to the *Moderate* category at Vidhut Nagar. Concentrations of Particulate Matter have increased at Sanjay Place and Avas Vikas, Bodla. The Air Quality Index w.r.t. PM<sub>2.5</sub> at Sanjay Place has changed to the Unhealthy for Sensitive Groups category and remains in the *Moderate* category and at Avas Vikas, Bodla, while w.r.t. PM<sub>10</sub> it remains in the *Moderate* category at both 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

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 –

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

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