

AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 25.12.2022

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

Permissible Limits (24 Hour Mean): PM₁₀ = 150; PM_{2.5} = 35, all units are in µg/m³ Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

Today: 24-12-2022 to 25 -12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 23 -12-2022 to 24-12-2022 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 _{2.5}		PM ₁₀		RH %	WS m/s	WD	T °C		SR W/m²	RF m m		PM _{2.5}		PM ₁₀		RH %	WS m/s	W D	T °C		SR W/ m²	RF m m
								Ma x	Min											Max	Min		
	Today	Yesterday	Today	Yesterday										Today	Yesterday	Today	Yesterday						
4 / 97	124 (12%↑)	112	62 (20%↑)	55	67	1.1	WNW	22.3	6.9	107	0	Sanjay Place	112 (14%↓)	129	64 (18%↓)	73	66	3.5	ENE	21	6.7	23	0
3 / 34	117 (16%↑)	102	56 (27%↑)	47	67	1.1	WNW	22.3	6.9	107	0	Avas Vikas	127 (2%↓)	129	62 (10%↑)	58	71	1.0	ENE	21.7	7.0	58	0
Science Faculty	129 (4%↑)	124	56 (27%↑)	46	67	1.1	WNW	22.3	6.9	107	0												

Views of AQI Research Group: Concentrations of Particulate matter have increased at all sites of Dayalbagh. The Air Quality Index w.r.t. PM_{2.5} remains in the *Unhealthy for Sensitive Groups* category at all sites of Dayalbagh, while w.r.t. PM₁₀ it is in the *Moderate* category at all the three sites.

Average Visibility yesterday was 1.9 Kms, it increased to 2.2 Kms today.

Concentrations of Particulate matter have decreased at Sanjay Place and Avas Vikas, Bodla except PM₁₀ which has increased at Avas Vikas, Bodla. The Air Quality Index w.r.t PM_{2.5} at both these sites remains in the *Unhealthy for Sensitive Groups* category while w.r.t PM₁₀ it remains in the *Moderate* category.

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 –

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

where: I = Air Quality Index; C = Pollutant Concentration (PM_{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

Communicated by Dr. Anita Lakhani, Professor, Department of Chemistry, Faculty of Science, Dayalbagh Educational Institute, Dayalbagh, Agra.