AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 24.12.2022

(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: 23-12-2022 to 24 -12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 22 -12-2022 to 23-12-2022 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}					T °C					$PM_{2.5}$		PM_{10}					T °C			
	Today	Yesterday	Today	Yesterday	RH %	WS m/s	WD	Max	Min	SR W/m^2	RF mm		Today	Yesterday	Today	Yesterday	RH %	WS m/s	WD	Max	Min	SR W/m^2	RF mm
4 / 97	112 (27%↓)	149	55 (65%↓)	70	70	0.6	WNW	23.3	8.7	112	0	Sanjay Place	129 (21%↓)	153	73 (19%↓)	85	63	1.6	ENE	22.9	9.3	23	0
3 / 34	102 (26%↓)	134	47 (28%↓)	59	70	0.6	WNW	23.3	8.7	112	0	Avas Vikas	129 (24%↓)	154	58 (34%↓)	76	72	0.8	E	23.1	9.9	57	0
Science Faculty	124 (13%↓)	149	46 (28%↓)	58	70	0.6	WNW	23.3	8.7	112	0												

Views of AQI Research Group: Concentrations of Particulate matter have further decreased 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. PM_{10} it remains in the *Moderate* category at Vidyut Nagar and has improved to the *Good* category at Prem Nagar and Science Faculty.

Average Visibility yesterday was 1.5 Kms, it increased to 1.9 Kms today.

Concentrations of Particulate matter have decreased at Sanjay Place and Avas Vikas, Bodla also. The Air Quality Index w.r.t $PM_{2.5}$ at both these sites has improved to the *Unhealthy for Sensitive Groups* category while w.r.t PM_{10} 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	Moderate	Unhealthy for Sensitive Groups	Unhealthy for All	Very Unhealthy for All	Hazardous for All	Hazardous for All
0 - 50	51 - 100	101 - 150	151 - 200	201 - 300	301 - 400	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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