AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 28.12.2022
(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/m³   Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

Today: 27-12-2022 to 28 -12-2022 from 9:00 a.m. to 9:00 a.m.   **Yesterday:** 26 -12-2022 to 27-12-2022 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}		RH %	WS m/s	WD	T °C		SR W/m²	RF mm		$PM_{2.5}$		PM_{10}		RH %	WS m/s	WD	T °C		SR W/m²	RF mm
	Today	Yesterday	Today	Yesterday				Max	Min				Today	Yesterday	Today	Yesterday				Max	Min		
4 / 97	119 (41%↓)	160	62 (69%↓)	93	74	0.9	WNW	20.5	6.0	80	0	**Sanjay Place**	129 (19%↓)	152	70 (22%↓)	83	68	1.8	NW	18.6	7.0	21	0
3 / 34	102 (36%↓)	151	49 (46%↓)	74	74	0.9	WNW	20.5	6.0	80	0	**Avas Vikas**	156 (3%↑)	155	73*	73	81	0.6	NE	18.7	6.7	52	0
Science Faculty	134 (29%↓)	158	50 (36%↓)	66	74	0.9	WNW	20.5	6.0	80	0												

Views of AQI Research Group: At the Dayalbagh sites, concentrations of Particulate matter have substantially decreased due to change in Wind Direction and slight decrease in Relative Humidity. Average Visibility yesterday was 0.8 Kms, it increased to 2.4 Kms today. The Air Quality Index w.r.t. $PM_{2.5}$ improved to the *Unhealthy for Sensitive Groups* category while w.r.t. PM_{10} it has improved to the *Good* category at Prem Nagar and Science Faculty and remains in the *Moderate* category at Vidyut Nagar.

* Concentrations of PM_{10} were not available after 10:00 pm yesterday at Avas Vikas, Bodla. Concentrations of Particulate matter have decreased at Sanjay Place and $PM_{2.5}$ values have slightly changed at Avas Vikas, Bodla. The Air Quality Index w.r.t $PM_{2.5}$ has improved to *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_{10} 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

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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