AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 30.12.2022
(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 $\mu g/m^3$ Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

Today: 29-12-2022 to 30 -12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 28 -12-2022 to 29-12-2022 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/m²	RF mm		Today	Yesterday	Today	Yesterday	RH %	WS m/s	WD	Max	Min	SR W/m²	RF mm
4 / 97	114 (51%↑)	99	57 (33%↑)	47	64	0.9	ESE	27.8	9.4	86	0	Sanjay Place	147 (23%↑)	122	85 (19%↑)	75	62	1.3	SSE	25.7	8.3	25	0
3 / 34	127 (18%↑)	110	58 (34%↑)	48	64	0.9	ESE	27.8	9.4	86	0	Avas Vikas	152 (13%↓)	157	67 (18%)	77	62	0.6	E	28	10.7	58	0
Science Faculty	156 (38%↑)	99	62 (48%↑)	48	64	0.9	ESE	27.8	9.4	86	0												

Views of AQI Research Group: Concentrations of both $PM_{2.5}$ and PM_{10} have increased at all sites of Dayalbagh probably due to change in Wind Direction and prevalence of fog today morning that would have favoured stagnation of pollutants (Visibility reduced to 0.5Km between 7- 9 am today). Average Visibility yesterday was 2.6 Kms, it decreased to 2.0 Kms today. The Air Quality Index w.r.t. $PM_{2.5}$ changed to the *Unhealthy for Sensitive Groups* category at Vidyut Nagar and Prem Nagar and to the *Unhealthy for All* category at Science Faculty while w.r.t. PM_{10} it has changed to the *Moderate* category at all the three sites.

Concentrations of Particulate matter have increased at Sanjay Place and slightly decreased at Avas Vikas, Bodla. The Air Quality Index w.r.t $PM_{2.5}$ 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_{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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