AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 16.12.2022

(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: 15-12-2022 to 16 -12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 14 -12-2022 to 15-12-2022 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	119 (23%↑)	99	56 (6%↑)	54	65	0.6	WNW	24.9	7.9	119	0	Sanjay Place	137 (35%↑)	105	83 (21%↑)	72	55	1.7	WNW	23.5	11.4	131	0
3 / 34	76 (33%↑)	63	29 (19%↑)	24	65	0.6	WNW	24.9	7.9	119	0												
Science Faculty	91 (29%↑)	76	31 (21%↑)	26	65	0.6	WNW	24.9	7.9	119	0	Avas Vikas	127 (30%↑)	93	64 (21%↑)	57	64	0.6	E	25.3	9.3	66	0

Views of AQI Research Group: Concentrations of Particulate matter have increased at all sites of Dayalbagh due to low Wind Speed. The Air Quality Index w.r.t. $PM_{2.5}$ remains in the *Moderate* category at Prem Nagar and Science Faculty but has changed to the Unhealthy for Sensitive Groups category at Vidyut Nagar while w.r.t. PM_{10} it remains in the *Good* category at Prem Nagar and Science Faculty and in the *Moderate* category at Vidyut Nagar.

Concentrations of Particulate Matter have increased at Sanjay Place and Avas Vikas, Bodla also. The Air Quality Index w.r.t $PM_{2.5}$ at Sanjay Place remains in the *Unhealthy for Sensitive Groups* category and has changed to *Unhealthy for Sensitive Groups* category at Avas Vikas, Bodla, while w.r.t. PM_{10} 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.

Perused By Way of Information Only,
Subject To Legalise/Legalese/"Laws of the Land".

Friday, 16-12-2022, 04:32 PM
Received, Friday, 16-12-2022, 01:09 PM

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

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