AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 5.12.2022
(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)
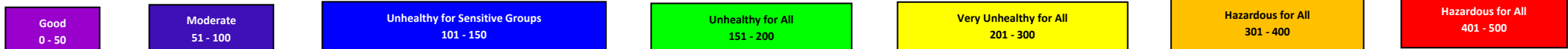
Today: 4-12-2022 to 5 -12-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 3 -12-2022 to 4-12-2022 from 9:00 a.m. to 9:00 a.m.

DAYALBAGH (TIME WEIGHTED AVERAGE DATA)

LOCATION	PM$_{2.5}$ Today	PM$_{2.5}$ Yesterday	PM$_{10}$ Today	PM$_{10}$ Yesterday	RH %	WS m/s	WD	T °C Max	T °C Min	SR W/m^2	RF mm
4 / 97	163 (36%↑)	152	81 (21%↑)	71	74	0.3	WNW	27.6	11.3	105	0
3 / 34	152 (24%↑)	127	64 (23%↑)	56	74	0.3	WNW	27.6	11.3	105	0
Science Faculty	162 (22%↑)	152	69 (11%↑)	71	74	0.3	WNW	27.6	11.3	105	0

SANJAY PLACE AND AVAS VIKAS (ARITHMETIC MEAN DATA)

LOCATION	PM$_{2.5}$ Today	PM$_{2.5}$ Yesterday	PM$_{10}$ Today	PM$_{10}$ Yesterday	RH %	WS m/s	WD	T °C Max	T °C Min	SR W/m^2	RF mm
Sanjay Place	190 (22%↑)	178	150 (20%↑)	128	67	0.6	NW	26.2	14.0	106	0
Avas Vikas	149* (48%↑)	105	68 (33%↑)	57	89	0.3	NE	27.5	12.6	61	0

Views of AQI Research Group: Concentrations of Particulate Matter have increased at all sites of Dayalbagh probably due to change in Wind Direction, high Relative Humidity and low Wind Speed. The Air Quality Index w.r.t. PM$_{2.5}$ is in the *Unhealthy for All* category while w.r.t. PM$_{10}$ it remains in the *Moderate* category at all sites of Dayalbagh.

*At Avas Vikas, Bodla PM$_{2.5}$ concentrations are available after 5:00 pm yesterday. The Air Quality Index w.r.t PM$_{2.5}$ at Sanjay Place remains in the *Unhealthy for All* category while at Avas Vikas, Bodla on the basis of available values it remains in the *Unhealthy for Sensitive Groups* category, w.r.t. PM$_{10}$ it remains in the *Unhealthy for Sensitive Groups* category at Sanjay Place and in *Moderate* category at Avas Vikas, Bodla.

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

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