AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 24.10.2022
(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: 23 -10-2022 to 24 -10-2022 from 9:00 a.m. to 9:00 a.m. Yesterday: 22 -10-2022 to 23 -10-2022 from 9:00 a.m. to 9:00 a.m.

LOCATION	DAYALBAGH (TIME WEIGHTED AVERAGE DATA)											SANJAY PLACE (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	160	158	113	89	58	0.7	WNW	35.0	18.5	141	0	197	177	148	136	50	0.2	W	33.1	21.1	6.8* (97)	0
3 / 34	158*	158	107	79	58	0.7	WNW	35.0	18.5	141	0											
Science Faculty	167	160	135	96	58	0.7	WNW	35.0	18.5	141	0											

Views of AQI Research Group: Particulate matter concentrations have increased at all sites of Dayalbagh probably due to stagnant weather and some contribution from firecrackers. The Air Quality Index w.r.t. $PM_{2.5}$ remains in the *Unhealthy for All* category while, w.r.t. PM_{10} it has changed to the *Unhealthy for Sensitive Groups* category at all sites of Dayalbagh.

The pollutant concentrations have increased at Sanjay Place also, the Air Quality index still remains in the *Unhealthy for All* category w.r.t. $PM_{2.5}$, and in the *Unhealthy for Sensitive Groups* category w.r.t. PM_{10}. *SR value recorded at Sanjay Place appears to be erroneous. Value in parentheses is the SR value of Avas Vikas, Bodla, Agra.*

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.