

# AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 21.10.2022

## (BASED ON US-EPA AQI STANDARDS AND THE DAYALBAGH AQI COLOUR CODE)

Permissible Limits (24 Hour Mean): PM<sub>10</sub> = 150; PM<sub>2.5</sub> = 35, all units are in µg/m<sup>3</sup> Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

Today: 20 -10-2022 to 21 -10-2022 from 9:00 a.m. to 9:00 a.m. Yesterday: 19 -10-2022 to 20 -10-2022 from 9:00 a.m. to 9:00 a.m.

L O C A T I O N	DAYALBAGH (TIME WEIGHTED AVERAGE DATA)											SANJAY PLACE (ARITHMETIC MEAN DATA)										
	AQI				Meteorological Parameters							AQI				Meteorological Parameters						
	PM <sub>2.5</sub>		PM <sub>10</sub>		RH %	WS m/s	WD	T °C		SR W/ m²	RF mm	PM <sub>2.5</sub>		PM <sub>10</sub>		R H %	WS m/s	WD	T °C		SR W/ m²	R F m m
								Max	Min										Ma x	Min		
	Today	Yesterday	Today	Yesterday				Max	Min			Today	Yesterday	Today	Yesterday				Max	Min		
4 / 97	95	119	61	53	58	0.4	SSW	37.9	20.0	140	0	156	152	105	96	50	0.2	N	36.4	23.6	7.3* (104)	0
3 / 34	99	95	53	60	58	0.4	SSW	37.9	20.0	140	0											
Science Faculty	129	144	60	58	58	0.4	SSW	37.9	20.0	140	0											

**Views of AQI Research Group:** Particulate matter concentrations have decreased at Vidyut Nagar and Science Faculty and slightly increased at Prem Nagar. The meteorological parameters are also nearly constant except Solar Radiation which has decreased. The Air Quality Index w.r.t. PM<sub>2.5</sub> has improved to the *Moderate* category at Vidyut Nagar and the value has slightly increased at Prem Nagar but still remains in the *Moderate* category. It remains in *Unhealthy for Sensitive Groups* category at Science Faculty, while w.r.t. PM<sub>10</sub> it remains in the *Moderate* category at all sites of Dayalbagh.

The pollutant concentrations have increased at Sanjay Place, the Air Quality index still remains in the *Unhealthy for All* category w.r.t. PM<sub>2.5</sub>, but has changed to *Unhealthy for Sensitive Groups* category from the *Moderate* category w.r.t. PM<sub>10</sub>. \*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
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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<sub>2.5</sub> 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<sub>2.5</sub>); C<sub>low</sub> = Concentration Breakpoint ≤C; C<sub>high</sub> = Concentration Breakpoint ≥C; I<sub>low</sub> = Index Break point corresponding to C<sub>low</sub>; I<sub>high</sub> = Index Breakpoint corresponding to C<sub>high</sub>; \*Multiplication Sign