

Radhasoami Dayal Ki Daya Radhasoami Sahai

AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 22.7.2022 (BASED ON US-EPA AQI STANDARDS AND THE DAYALBAGH AQI COLOUR CODE)

Permissible Limits (24 Hour Mean): PM₁₀ = 150; PM_{2.5} = 35, all units are in µg/m³ Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

	Date	DAYALBAGH (TIME WEIGHTED AVERAGE DATA)									Date	SANJAY PLACE (ARITHMETIC MEAN DATA)								
	Today:	Air Quality Index			Meteorological Parameters						Today:	AQI			Meteorological Parameters					
	July 22 – 21	PM _{2.5}	PM ₁₀	RH %	WS m/s	WD	T °C		SR W/m ²	RF mm	July 22 – 21	PM _{2.5}	PM ₁₀	RH %	WS m/s	WD	T °C		SR W/m ²	RF mm
	Yesterday						Max	Min			July 21 – 20						Max	Min		
4 / 97	Today	61	31	78	3.4	ENE	33.9	28.2	120	Trace	Today	84	50	68	1.3	NE	35.1	30.1	152	0
	Yesterday	33	14	79	2.8	S	36.8	27.2	145	Trace										
3 / 34	Today	74	31	78	3.4	ENE	34.6	28.6	120	Trace	Yesterday	61	41	71	3.1	SE	38.6	28.1	149	0
	Yesterday	57	19	80	2.8	S	36.8	27.0	145	Trace										
Science Faculty	Today	68	28	80	3.4	ENE	33.7	28.2	120	Trace	Yesterday									
	Yesterday	50	15	81	2.8	S	36.0	27.2	145	Trace										

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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Views of AQI Research Group: In comparison to yesterday, the concentrations of both PM_{2.5} and PM₁₀ have increased at all locations of Dayalbagh. The Air Quality Index is in *Moderate* category w.r.t. PM_{2.5} while w.r.t. PM₁₀ it remains in the *Good* category at all the three locations of Dayalbagh.

At Sanjay Place also, the concentrations of PM_{2.5} and PM₁₀ have increased. The Air Quality Index remains in the *Moderate* category w.r.t. PM_{2.5} and in the *Good* category w.r.t. PM₁₀.

Inspection of hourly data reveals that both PM_{2.5} and PM₁₀ are < 15 µg/m³ at Relative Humidity < 75% and Temperature > 30 °C, and increase with increase in Relative Humidity (>75%) and decrease in temperature (< 30 °C). PM concentrations exhibit strong positive correlation (r = 0.9) with Relative Humidity and negative correlation with Temperature (r = 0.8).

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 –

$$I = \frac{I_{\text{high}} - I_{\text{low}}}{C_{\text{high}} - C_{\text{low}}} * (C - C_{\text{low}}) + I_{\text{low}}$$

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