

Radhasoami Dayal Ki Daya Radhasoami Sahai

AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 7.7.2022

(BASED ON WHO GUIDELINES - 2021)

Permissible Limits (24 Hour Mean): $PM_{10} = 45$; $PM_{2.5} = 15$, all units are in $\mu g/m^3$

	<div>Date</div> <div>Today: July 7 – 6</div> <div>Yesterday</div> <div>July 6 – 5</div>	DAYALBAGH (TIME WEIGHTED AVERAGE DATA)									<div>Date</div> <div>Today: July 7 – 6</div> <div>Yesterday</div> <div>July 6 – 5</div>	SANJAY PLACE (ARITHMETIC MEAN DATA)								
		Concentration (µg/m³)		Meteorological Parameters								Concentration (µg/m³)		Meteorological Parameters						
		PM _{2.5}	PM ₁₀	RH %	WS m/s	WD	T °C		SR W/m²	RF mm		PM _{2.5}	PM ₁₀	RH %	WS m/s	WD	T °C		SR W/m²	RF mm
							Max	Min									Max	Min		
4 / 97	Today	20↑	34↑	74	4.1	SSE	37.9	30.7	201	2	Today	44↑	71↑	64	2.5	NE	41	32.1	206	0
	Yesterday	31	47	68	4.5	SSE	38.5	31.1	243	0										
3 / 34	Today	34↑	41↑	75	4.1	SSE	37.4	30.4	201	2	Yesterday	53	81	59	2.9	N	41.8	32.4	252	0
	Yesterday	40	50	69	4.5	SSE	37.9	31.0	243	0										
Science Faculty	Today	28↑	36↑	74	4.1	SSE	37.6	30.2	201	2										
	Yesterday	35	48	70	4.5	SSE	38.1	31.0	243	0										

COLOUR-CODE:

Within WHO 2021 Limits

Outside WHO 2021 Limits

Views of AQI Research Group: In comparison to yesterday, at all the three locations of Dayalbagh, the concentrations of both $PM_{2.5}$ and PM_{10} have decreased. Inspection of the hourly data shows a decline in the concentrations of particulate matter after the rain event yesterday at 12:00 pm. Concentrations of $PM_{2.5}$ are outside the WHO permissible limits while PM_{10} are within the WHO permissible limits at the three locations.

At Sanjay Place also, the concentrations of both $PM_{2.5}$ and PM_{10} have decreased, but both are still outside the WHO permissible limits.

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Since WHO (World Health Organization) Guidelines only provide a single value for permissible $PM_{2.5}$ and PM_{10} pollutant concentrations and do not provide concentration bands for the different Air Quality Index (AQI) categories ranging from **Good to Hazardous for All**, as does the US EPA (United States Environmental Protection Agency), the Report 2 annexed based on US EPA norms may be referred to, for Air Quality Index (AQI) & Water Quality Index (WQI) categories.

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AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 7.7.2022 (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 7 – 6										Today:									
	Yesterday	PM _{2.5}	PM ₁₀	RH %	WS m/s	WD	T °C		SR W/m ²	RF mm	Yesterday	PM _{2.5}	PM ₁₀	RH %	WS m/s	WD	T °C		SR W/m ²	RF mm
July 6 – 5						Max	Min			July 6 – 5						Max	Min			
4 / 97	Today	68	31	74	4.1	SSE	37.9	30.7	201	2	Today	122	59	64	2.5	NE	41	32.1	206	0
	Yesterday	91	44	68	4.5	SSE	38.5	31.1	243	0										
3 / 34	Today	97	38	75	4.1	SSE	37.4	30.4	201	2	Yesterday	144	64	59	2.9	N	41.8	32.4	252	0
	Yesterday	112	46	69	4.5	SSE	37.9	31.0	243	0										
Science Faculty	Today	84	33	74	4.1	SSE	37.6	30.2	201	2	Yesterday	144	64	59	2.9	N	41.8	32.4	252	0
	Yesterday	99	44	70	4.5	SSE	38.1	31.0	243	0										

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

Views of AQI Research Group: In comparison to yesterday, at all the three locations of Dayalbagh, the concentrations of both PM_{2.5} and PM₁₀ have decreased. Inspection of the hourly data shows a decline in the concentrations of particulate matter after the rain event yesterday at 12:00 pm. The Air Quality Index w.r.t. both PM_{2.5} is in the *Moderate* category and w.r.t. PM₁₀, it is in the *Good* category at all the three locations of Dayalbagh.

At Sanjay Place also, the concentrations of both PM_{2.5} and PM₁₀ have decreased. The Air Quality Index w.r.t. PM_{2.5} is in the *Unhealthy for Sensitive Groups* and w.r.t. PM₁₀, it is in the *Moderate* category.

Requisite enhanced spraying may be taken recourse to speedily.
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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_{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