

AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 30.11.2022

(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)

Today: 29-11-2022 to 30-11-2022 from 9:00 a.m. to 9:00 a.m. **Yesterday:** 28-11-2022 to 29-11-2022 from 9:00 a.m. to 9:00 a.m.

| L O C A T I O N | DAYALBAGH (TIME WEIGHTED AVERAGE DATA) | | | | | | | | | | | L O C A T I O N | SANJAY PLACE AND AVAS VIKAS (ARITHMETIC MEAN DATA) | | | | | | | | | | |
|--------------------------------------|---|-----------|------------------|-----------|---------------------------|--------|-----|------|------|---------------------|-------|--------------------------------------|---|-----------|------------------|-----|---------------------------|--------|-----|-------|-----------|---------------------|-------|
| | AQI | | | | Meteorological Parameters | | | | | | | | AQI | | | | Meteorological Parameters | | | | | | |
| | PM _{2.5} | | PM ₁₀ | | RH % | WS m/s | WD | T °C | | SR W/m ² | RF mm | | PM _{2.5} | | PM ₁₀ | | RH % | WS m/s | WD | T °C | | SR W/m ² | RF mm |
| | Today | Yesterday | Today | Yesterday | | | | Max | Min | | | | Today | Yesterday | Max | Min | | | | Today | Yesterday | | |
| 4 / 97 | 156 (17%↑) | 151 | 83 (26%↑) | 70 | 68 | 0.4 | WNW | 28.6 | 11.7 | 112 | 0 | Sanjay Place | 177 (2%↑) | 176 | 146 (11%↑) | 133 | 62 | 1.0 | WNW | 26.9 | 14.8 | 116 | 0 |
| 3 / 34 | 149 (12%↑) | 134 | 63 (16%↑) | 58 | 68 | 0.4 | WNW | 28.6 | 11.7 | 112 | 0 | Avas Vikas | 149 | NA | 71 (46%↓) | 113 | 68 | 0.4 | ENE | 29.1 | 12.9 | 67 | 0 |
| Science Faculty | 157 (15%↑) | 156 | 72 (27%↑) | 61 | 68 | 0.4 | WNW | 28.6 | 11.7 | 112 | 0 | | | | | | | | | | | | |

Views of AQI Research Group: Particulate matter concentrations have marginally increased at all sites of Dayalbagh due to stagnant atmospheric conditions associated with moderate Relative Humidity and low wind speed resulting in less dispersion. The Air Quality Index w.r.t. PM_{2.5} remains in the *Unhealthy for Sensitive Groups* category at Prem Nagar and in the *Unhealthy for All* category at Vidyut Nagar and Science Faculty while w.r.t. PM₁₀ it is in the *Moderate* category at all sites of Dayalbagh. At Sanjay Place, the Air Quality Index w.r.t. PM_{2.5} remains in the *Unhealthy for All* category while w.r.t. PM₁₀ it remains in the *Unhealthy for Sensitive Groups* category. At Avas Vikas, Bodla the Air Quality Index w.r.t. PM_{2.5} is in the *Unhealthy for Sensitive Groups* category and has improved to the *Moderate* category w.r.t. PM₁₀.

Values in parentheses indicate the percentage change in the pollutant concentrations with respect to yesterday. ↑ indicates increase and ↓ 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.



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