

# Radhasoami Dayal Ki Daya Radhasoami Sahai

## AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 19.6.2022 (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  $\mu g/m^3$  Sampling Duration = 24 hrs (9:00 to 9:00 AM)

|                 | Date      | DAYALBAGH<br>(TIME WEIGHTED AVERAGE DATA) |                  |                   |                  |                           |           |    |         |      |                |              | Date      |                   |                  | SANJAY PLACE<br>(ARITHMETIC MEAN DATA) |                  |         |           |                           |         |      |                |              |  |
|-----------------|-----------|---|------------------|-------------------|------------------|---------------------------|-----------|----|---------|------|----------------|--------------|-----------|-------------------|------------------|--|------------------|---------|-----------|---------------------------|---------|------|----------------|--------------|--|
|                 |           | Concentration<br>(µg/m³)                  |                  | AQI               |                  | Meteorological Parameters |           |    |         |      |                |              |           |                   |                  | Concentration<br>(µg/m³)               |                  | AQI     |           | Meteorological Parameters |         |      |                |              |  |
|                 |           | PM <sub>2.5</sub>                         | PM <sub>10</sub> | PM <sub>2.5</sub> | PM <sub>10</sub> | RH<br>%                   | WS<br>m/s | WD | T<br>°C |      | SR<br>W/<br>m² | RF<br>m<br>m |           | PM <sub>2.5</sub> | PM <sub>10</sub> | PM <sub>2.5</sub>                      | PM <sub>10</sub> | RH<br>% | WS<br>m/s | WD                        | T<br>°C |      | SR<br>W/<br>m² | RF<br>m<br>m |  |
|                 |           |   |                  |                   |                  |                           |           |    | Max     | Min  |                |              |           |                   |                  |  |                  |         |           |                           | Max     | Min  |                |              |  |
|                 |           |   |                  |                   |                  |                           |           |    |         |      |                |              |           |                   |                  |  |                  |         |           |                           |         |      |                |              |  |
| 4 / 97          | Today     | 21↓                                       | 28↓              | 70                | 26               | 77                        | 4.0       | N  | 34.8    | 26.1 | 122            | 2            | Today     | 27↓               | 51↑              | 82                                     | 47               | 70      | 3.4       | SE                        | 35.9    | 26.7 | 166            | 2            |  |
|                 | Yesterday | 07  | 23               | 29                | 21               | 73                        | 3.1       | N  | 39.7    | 24.5 | 144            | 35           |           |                   |                  |  |                  |         |           |                           |         |      |                |              |  |
| 3 / 34          | Today     | 19↓                                       | 25↓              | 66                | 23               | 77                        | 4.0       | N  | 35.1    | 25.6 | 124            | 2            | Yesterday | 23                | 63               | 74                                     | 55               | 65      | 3.1       | ES<br>E                   | 40.8    | 24.1 | 208            | 32           |  |
|                 | Yesterday | 12  | 21               | 50                | 19               | 75                        | 3.2       | N  | 39.2    | 23.4 | 144            | 35           |           |                   |                  |  |                  |         |           |                           |         |      |                |              |  |
| Science Faculty | Today     | 19↓                                       | 28↓              | 66                | 26               | 77                        | 4.0       | N  | 34.8    | 25.6 | 122            | 2            | Yesterday | 23                | 63               | 74                                     | 55               | 65      | 3.1       | ES<br>E                   | 40.8    | 24.1 | 208            | 32           |  |
|                 | Yesterday | 12  | 19               | 50                | 18               | 76                        | 3.1       | N  | 38.9    | 23.4 | 145            | 35           |           |                   |                  |  |                  |         |           |                           |         |      |                |              |  |

|                |                      |   |                                |                                     |                                |                                |
|----------------|----------------------|---|--------------------------------|-------------------------------------|--------------------------------|--------------------------------|
| Good<br>0 - 50 | Moderate<br>51 - 100 | Unhealthy for Sensitive Groups<br>101 - 150 | Unhealthy for All<br>151 - 200 | Very Unhealthy for All<br>201 - 300 | Hazardous for All<br>301 - 400 | Hazardous for All<br>201 - 300 |
|----------------|----------------------|---|--------------------------------|-------------------------------------|--------------------------------|--------------------------------|

**Views of AQI Research Group:** In comparison to yesterday, the concentrations of  $PM_{2.5}$  and  $PM_{10}$  have slightly increased at all the three locations of Dayalbagh. This increase may be due to increase in finer water droplets in the atmosphere associated with increase in Relative Humidity and lowering of Temperature. The Air Quality Index w.r.t.  $PM_{2.5}$  is in the *Moderate* category and w.r.t.  $PM_{10}$  it is in the *Good* category at all the three locations of Dayalbagh.

For Sanjay Place, data was available only till 7:00 am today morning. The mean values therefore represent 22 hour mean values. The concentration of  $PM_{2.5}$  has increased and concentration of  $PM_{10}$  has decreased. The Air Quality Index w.r.t.  $PM_{2.5}$  remains in the *Moderate* category and has improved to the *Good* category w.r.t.  $PM_{10}$ .

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  $\leq C$ ;  $C_{high}$  = Concentration Breakpoint  $\geq C$ ;  $I_{low}$  = Index Break point corresponding to  $C_{low}$ ;  $I_{high}$  = Index Breakpoint corresponding to  $C_{high}$ ; \* Multiplication Sign