...res drawn can be shown in colours, so that confusions about different curves can be avoided.

Wind-rose diagrams

These diagrams (fig. 5.10) depict wind conditions in the form of a star-like diagram showing the average frequency and direction of wind at different stations. The wind direction is given in terms of cardinal points, although the ordinal points can be used for greater details.

Simple wind-roses represent the frequency of wind movement in eight directions. They can be prepared for one month each. Twelve diagrams are required to represent one year. Two concentric circles, the circumferences set at 12.5% apart, are drawn initially and the percentage frequency of wind in eight directions is shown by columns. The inner circle contains the number representing the percentage frequency of calm conditions.

For such simple wind roses, data for eight directions in terms of days is required along with the days having calm. The number of days from eight directions are drawn as columns based on the inner circle.

Octagonal wind-roses reflect the total mean monthly conditions for wind frequency as well as wind direction at any station. Here two concentric octagons are prepared at such a distance as to represent a frequency of 12.5% between the corresponding sides of each octagon. Each of the sides represents one of the eight cardinal directions of wind movement. The mean monthly frequencies of wind from eight directions are plotted as columns with their base on the inner octagon and apices on the outer octagon. Frequencies being greater than the average value will extend the columns over the outer octagon. The number of calms is represented diagrammatically in the inner octagon.

N

Draw the windrose diagram of Kolkata, on the basis of data given below and interpret the diagram

No. of days	Reduced to Scale	Wind Coming from
51	5.1	N
22	2.2	NE
17	1.7	E
42	4.2	SE
55	5.5	S
57	5.7	SW
32	3.2	W
52	5.2	NW
37	—	Calm

Construction : We draw a small circle whose radius is 1 cm and divided the circumference of the circle in to eight equal parts such as N, NE, E, SE, S, SW, W and NW. From the surface of the circle we draw perpendicular lines according to the scale ie. 51 days = 5.1 cm (Scale 1cm = 10 days). In this way every wind direction have been drawn by lines, and lastly Every end portion of the lines are joined by dashed line. This Type of polygon diagram is called Wind Rose Diagram

WIND ROSE DIAGRAM (KOLKATA)
Showing winds coming from
different direction in a year
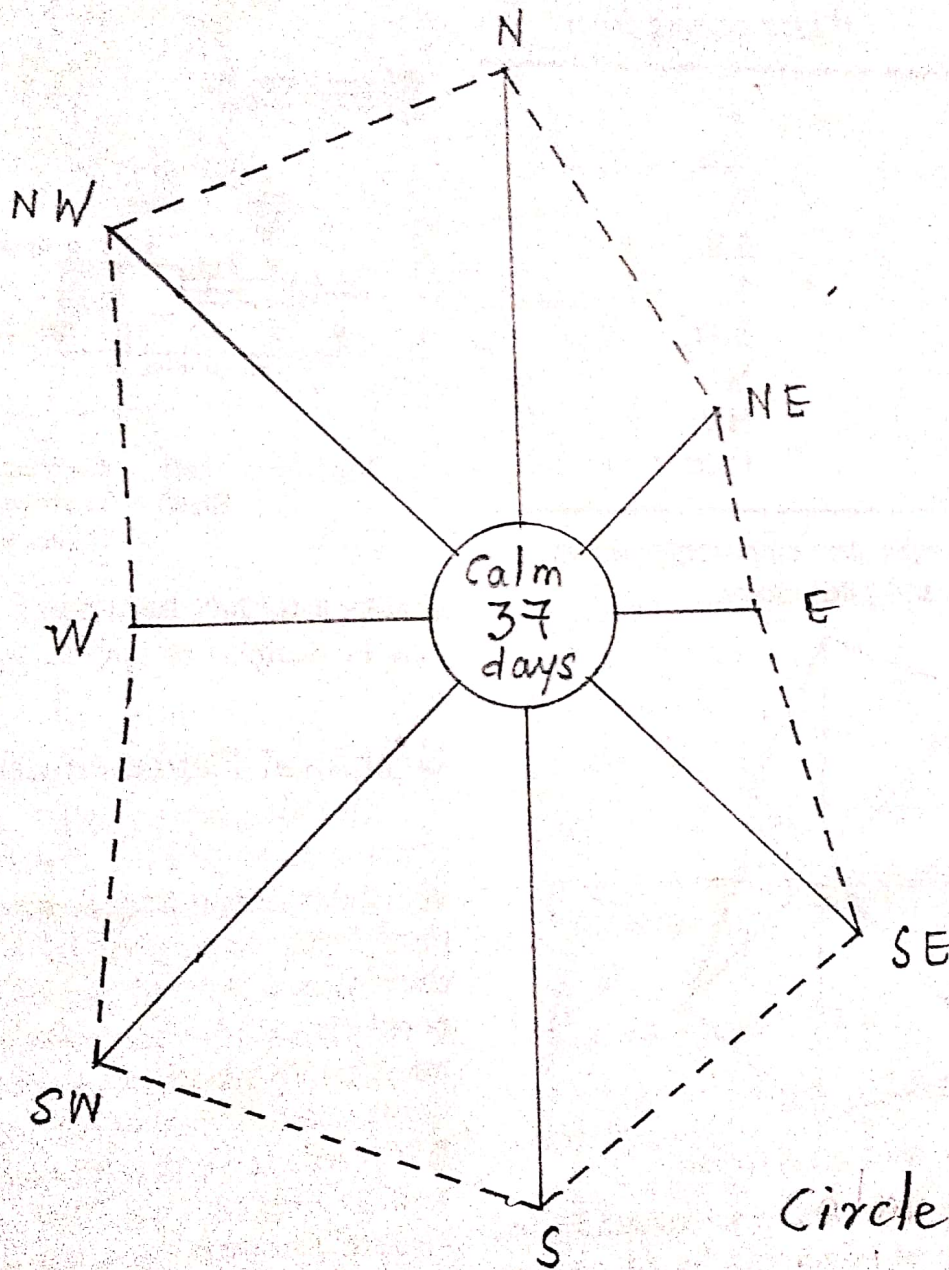
Circle Indicates Calm

Scale 1 cm = 10 days

Interpretation of Wind rose diagram in Kolkata:

Wind rose diagram shows that maximum days of winds come from S, SW, NW and N direction such as 55, 57, 52 and 51 days respectively. SE and West flowing winds come comparatively low amount such as 42 and 32 days respectively. NE and East ward winds come very low amount such as 22 and 17 days respectively. Central part of Wind rose diagram shows calm winds which are denoted by calm circle and its denote 37 days