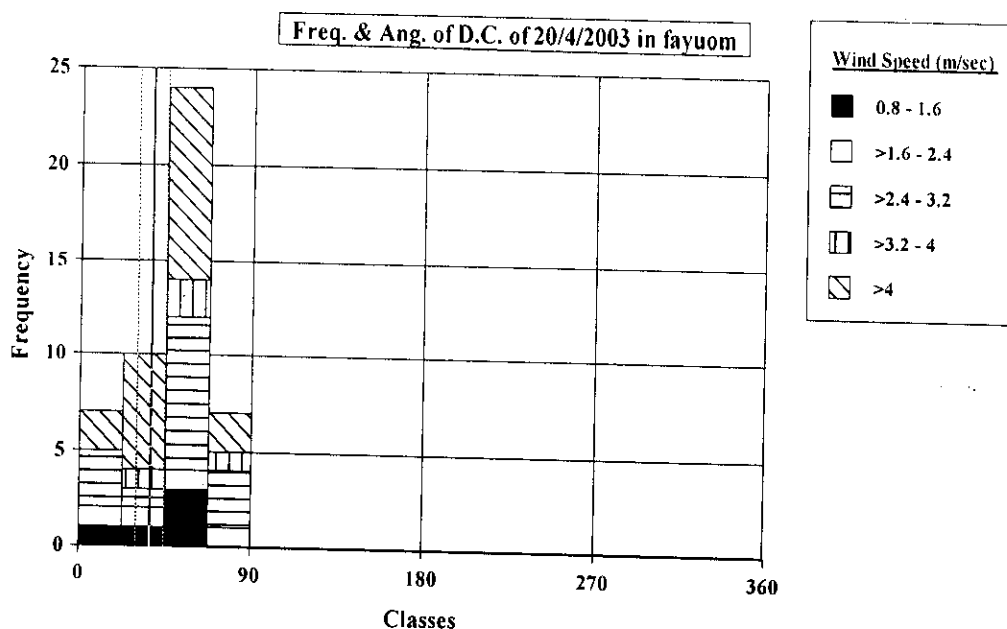


Figure (2-6)



We see in figure (2-6) that the frequency of the wind speeds restricted between  $^{\circ}0$  and  $^{\circ}90$ .

Table (2-4)

Wind Direction Statistics of 20/4/2003 in Fayuom region	
Variable	Direction
Number of Observation	48
Number of Groups	16
Mean Vector	$37.224^{\circ}$
Mean Group	NE
Median	$45^{\circ}$
Median Group	NE

Table (2-5)

Wind Speed Statistics of 20/4/2003 in Fayuom region	
Variable	wind speed (m/s)
Number of Points	48
Maximum Value	5.6
Minimum Value	1
Range	4.6
Average	4.247083
Standard Deviation	1.256174

The variation of the wind speed with the time intervals of 20/4/2003 is shown in Figure (2-7). Figure (2-8) shows the variation of the temperature with the time intervals.

Figure (2-7)

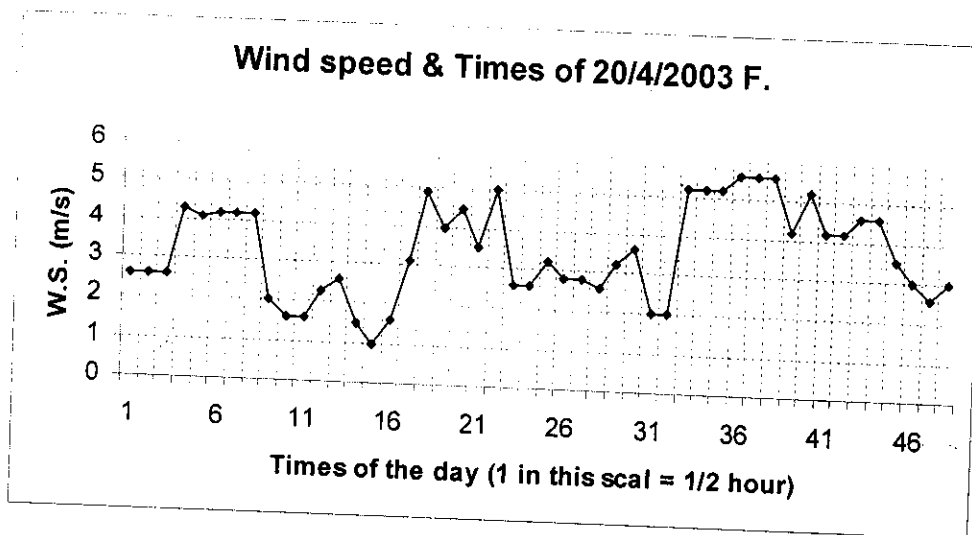


Figure (2-8)

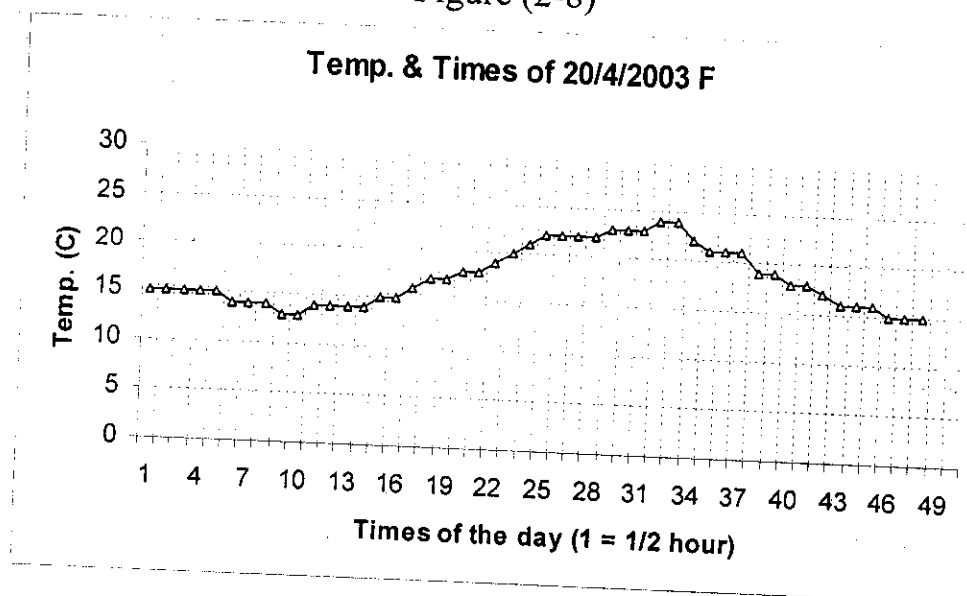


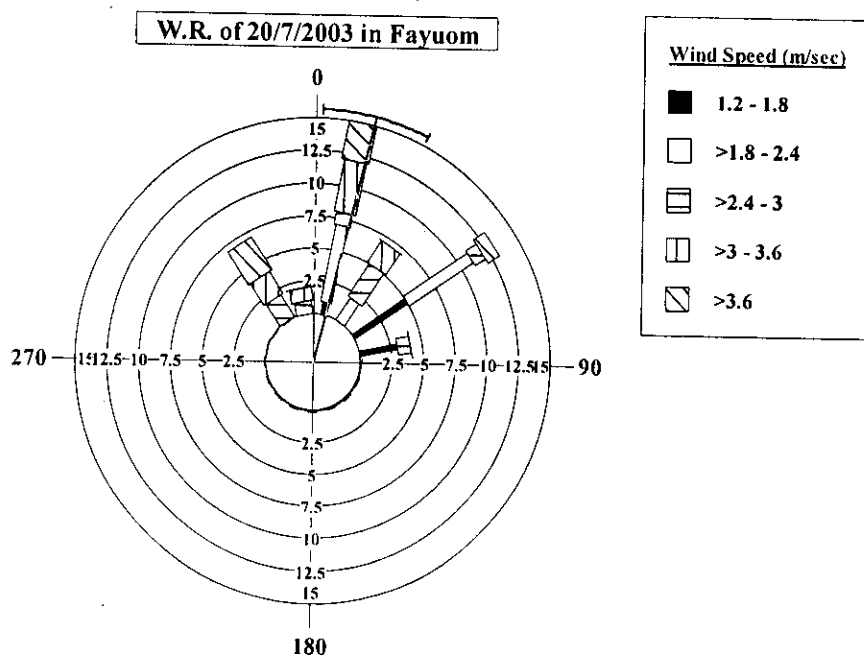
Table (2-6)

Table (2-6) shows the temperature Statistics during 20/4/2003 in Fayuom region. We note that the maximum value is 24 (°c) while the minimum Value is 13 (°c).

Temperature Statistics of 20/4/2003 in Fayuom Region	
Variable	Temperature (°C)
Number of Points	48
Maximum Value	24
Minimum Value	13
Range	11
Average	19.5875
Standard Deviation	3.378003

## (2) Daily W & T in the Summer Season in Fayuom Region

Figure (2-9)



We select the meteorological observations of 20/7/2003 to represent the daily meteorological data of the summer season in Fayuom (F) region, the wind rose (W.R) diagram of this day in Fayuom region is shown in the figure (2-9). This day is a one of the days of the summer season where the wind direction is often North.

The direction average in this day is NNE (about  $14^\circ$  from the North) and the mean wind speed is 2.6 m/s. Tables (2-7) and (2-8) show the wind direction and the wind speed statistics in 20/7/2003, figure (2-10) shows the linear diagram of the variation between the frequency of the wind speeds during the day and the angles of the direction classes (Ang. of D.C).

Figure (2-10)

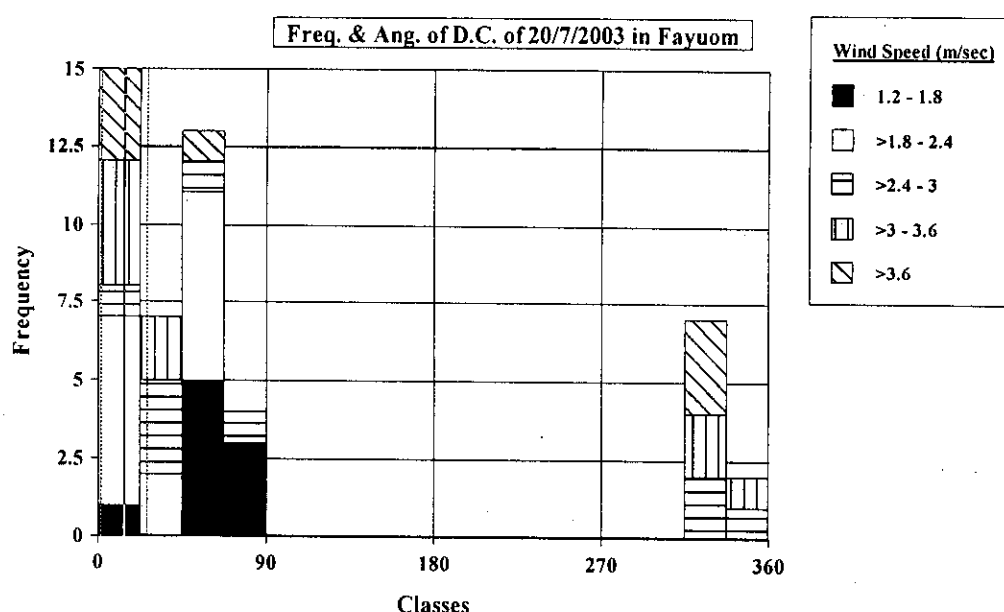


Table (2-7)

Wind Direction Statistics of 20/7/2003 in Fayuom Region	
Variable	Direction
Number of Observations	48
Number of Groups	16
Mean Vector	$14.181^\circ$
Mean Group	NNE
Median	$22.5^\circ$
Median Group	NNE

Table (2-8)

Wind Speed Statistics of 20/7/2003 in Fayuom Region	
Variable	Wind Speed (m/s)
Number of Points	48
Maximum Value	4.6
Minimum Value	1.2
Range	3.4
Average	2.850833
Standard Deviation	0.936939

The variation of the wind speed with the time intervals of 20/7/2003 is shown in the Figure (2-11). Figure (2-12) shows the variation of the temperature with the time intervals.

Figure (2-11)

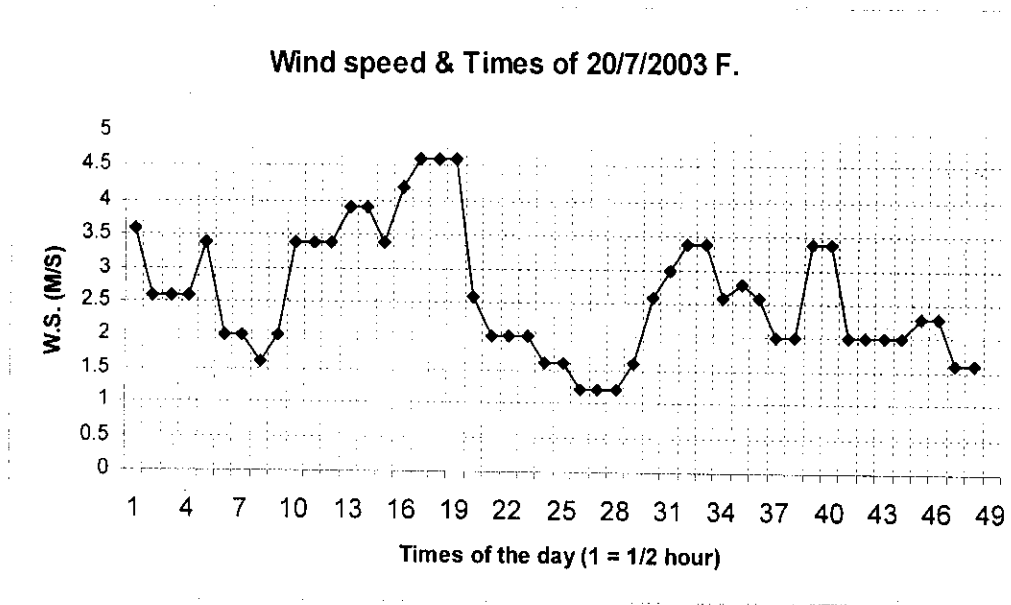


Figure (2-12)

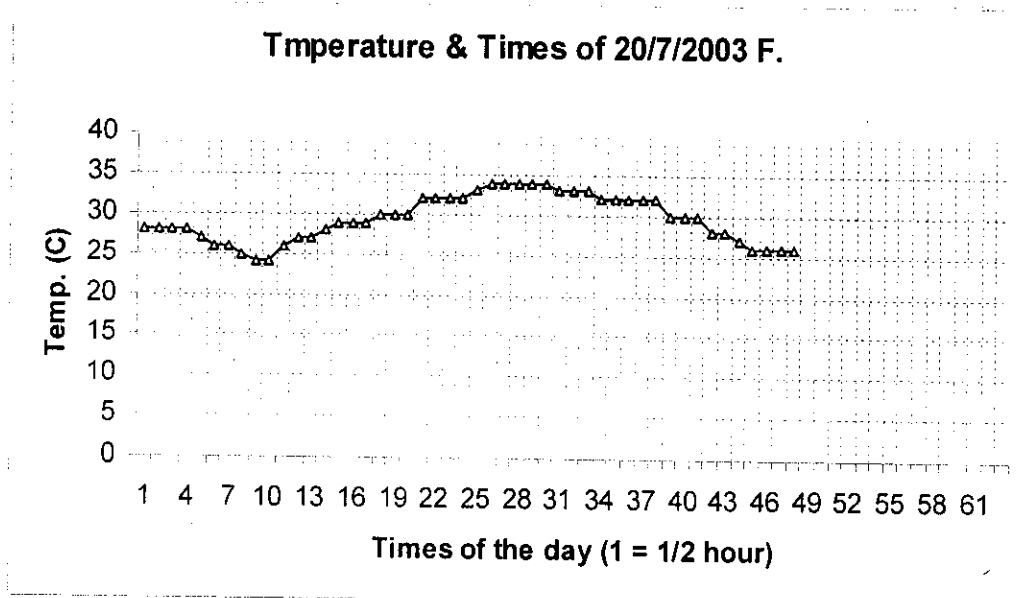


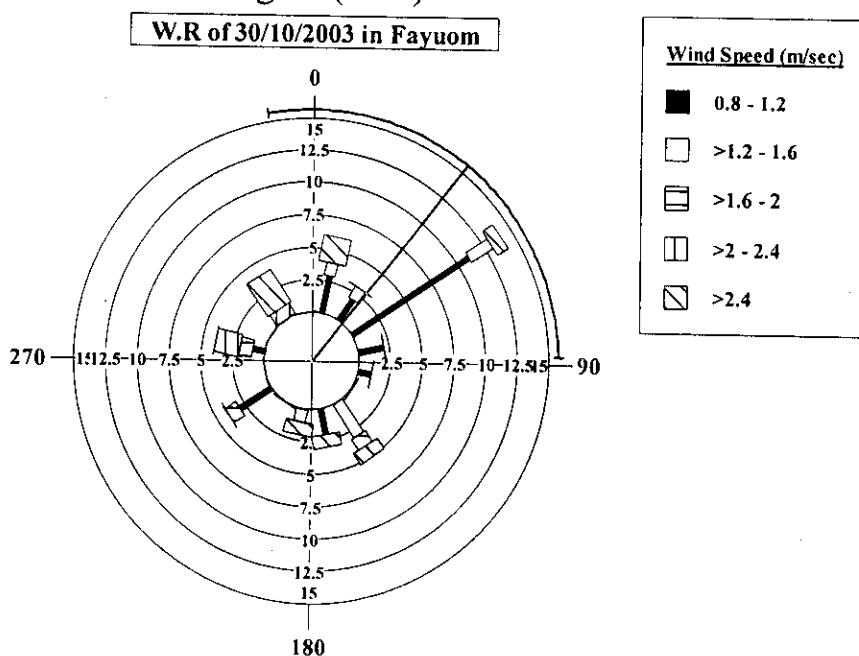
Table (2-9)

Table (2-9) shows the temperature Statistics during 20/7/2003 in Fayuom region. We note that the maximum value is 34 °C while the minimum value is 24 °C

Temperature Statistics of 20/7/2003 in Fayuom Region	
Variable	Temperature (°C)
Number of Points	48
Maximum Value	34
Minimum Value	24
Range	10
Average	29.5
Standard Deviation	2.975074

#### (4) Daily W & T in the Autumn Season in Fayuom Region

Figure (2-13)



Similarly we select the meteorological observations of 30/10/2003 to represent the daily meteorological data of the Autumn season in Fayuom region, where the wind rose (W.R) diagram of this day in Fayuom region is shown in the figure (2-13). This day is a day of the Autumn season where the wind direction is often North-East. The direction average in this day is the NE (about 45° from the North) and the mean wind speed is 3.6 m/s. Tables (2-10) and (2-11) show the wind direction and wind speed statistics in 30/10/2003. Figure (2-14) shows the linear diagram of the variation between the frequency of the

wind speeds during the day and the angles of the direction classes (Ang. of D.C.).

Figure (2-14)

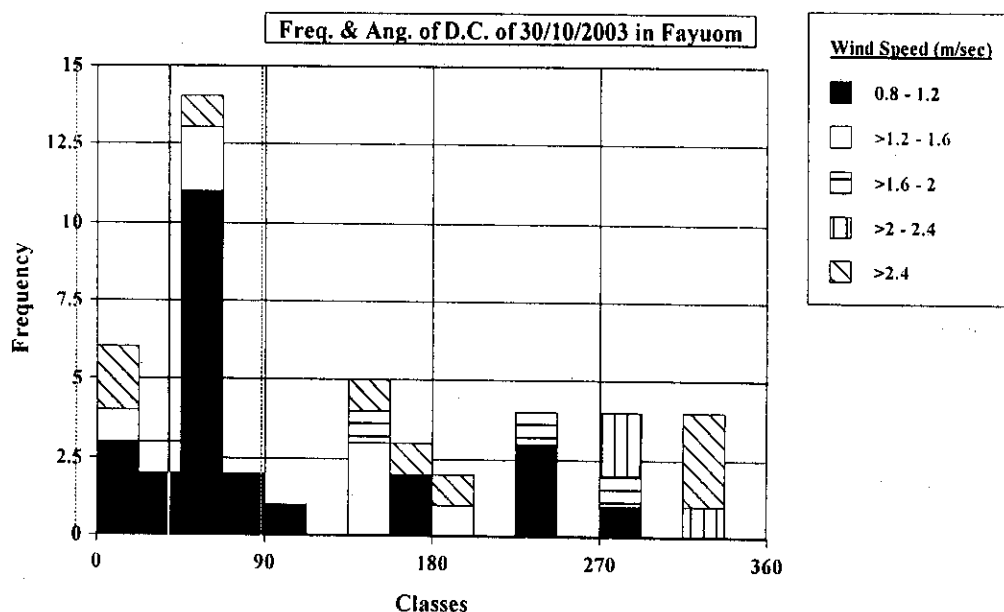


Table (2-10)

Wind Direction Statistics of 30/10/2003 in Fayuom Region	
Variable	Direction
Number of Observations	48
Number of Groups	16
Mean Vector	38.718°
Mean Group	NE
Median	45°
Median Group	NE

Table (2-11)

Wind Speed Statistics of 30/10/2003 in Fayuom Region	
Variable	Wind Speed (m/s)
Number of Points	48
Maximum Value	3
Minimum Value	1
Range	2
Average	3.639583
Standard Deviation	0.677837

Variation of the wind speed with the time intervals of 30/10/2003 is shown by the figure (2-15), figure (2-16) shows the variation of the temperature with the time intervals of that day.

Figure (2-15)

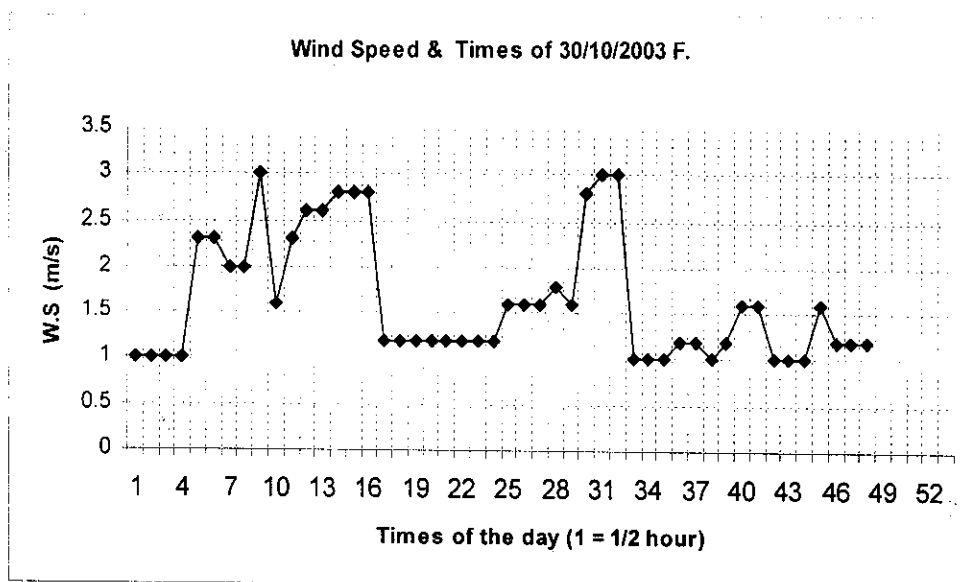


Figure (2-16)

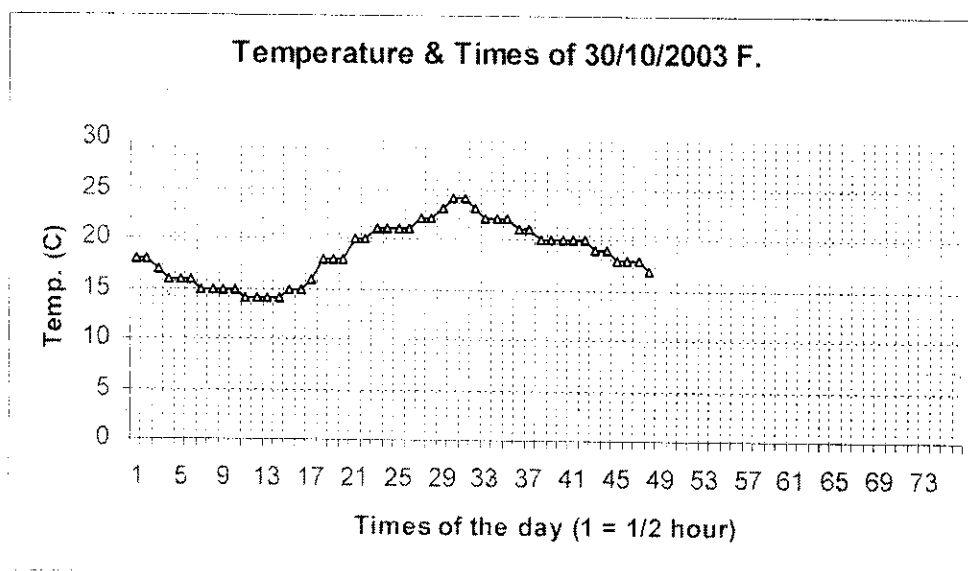




Table (2-12)

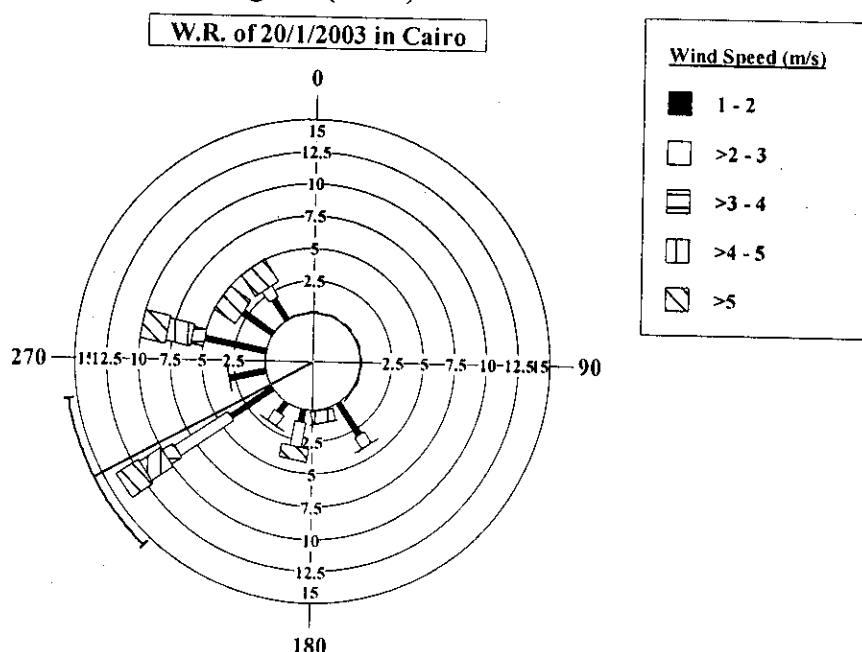
Table (2-12) shows the temperature Statistics during 30/10/2003 in Fayuom region. We note that the maximum value is 24 °C while the minimum value is 14 °C.

Temperature Statistics of 20/10/2003 in Fayuom Region	
Variable	Temperature (°C)
Number of Points	48
Maximum Value	24
Minimum Value	14
Range	10
Average	23.06667
Standard Deviation	2.91973

## (2-2-B) Daily W & T in Cairo Region

### (1) Daily W & T in the Winter Season in Cairo Region

Figure (2-17)



We select the same days in case of Cairo region, where the meteorological observations of 20/1/2003 are selected to represent the daily meteorological data of the Winter season in Cairo region, where the wind rose (W.R.) diagram of this day in Cairo region is shown in figure (2-17). This day is a one of the Winter season where the wind direction is often North-West to West. The direction average in this day is the WSW (about 241° from the North) and the mean wind speed is 3.1 m/s. Tables (2-13) and (2-14) show the wind direction and the

wind speed statistics in 20/1/2003. Figure (2-18) shows the linear diagram of the variation between the frequency of the wind speeds during the day and the angles of the direction classes (Ang. Of D.C.).

Figure (2-18)

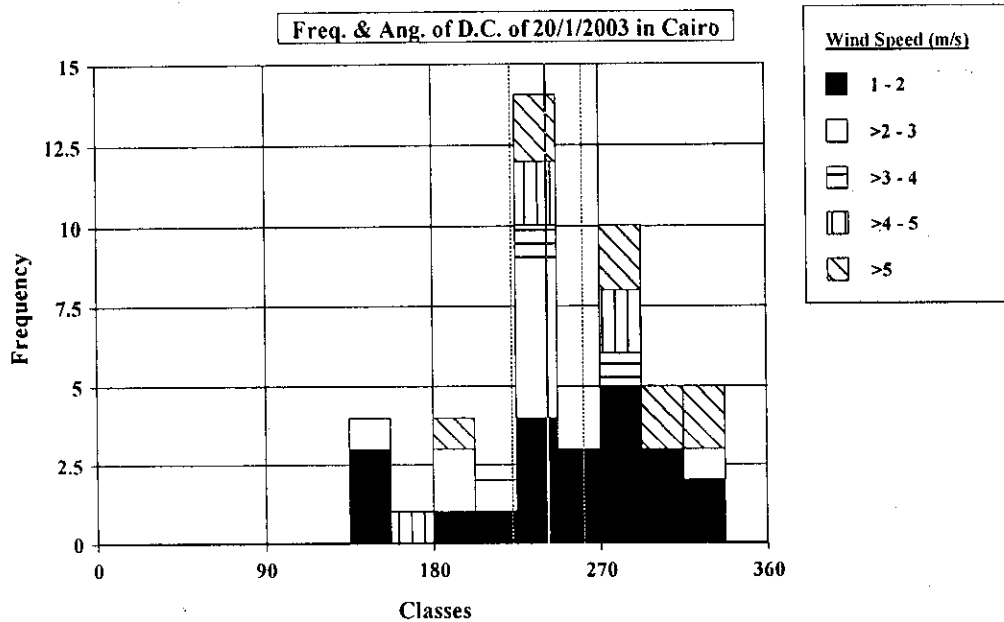


Table (2-13)

Wind Direction Statistics of 20/1/2003 in Cairo Region	
Variable	Direction
Number of Observations	48
Number of Groups	16
Mean Vector	241.829°
Mean Group	WSW
Median	225°
Median Group	SW

Table (2-14)

Wind Speed Statistics of 20/1/2003 in Cairo Region	
Variable	Wind Speed (m/s)
Number of Points	48
Maximum Value	6.7
Minimum Value	1
Range	5.7
Average	3.120833
Standard Deviation	1.612182

Similarly, variation of the wind speed with the time intervals of 20/1/2003 in Cairo region is shown in figure (2-19). Figure (2-20) shows the variation of the temperature with the time intervals of the day.

Figure (2-19)

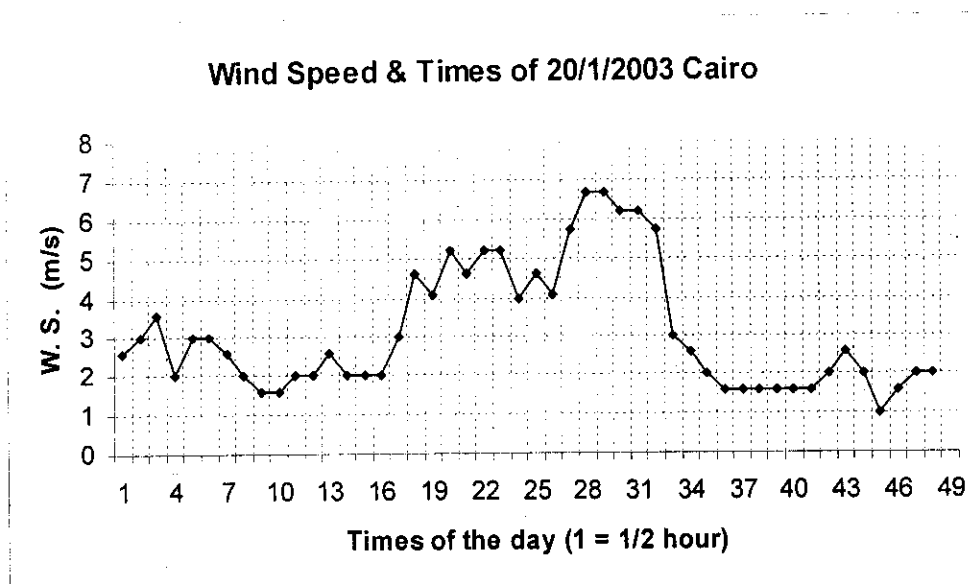


Figure (2-20)

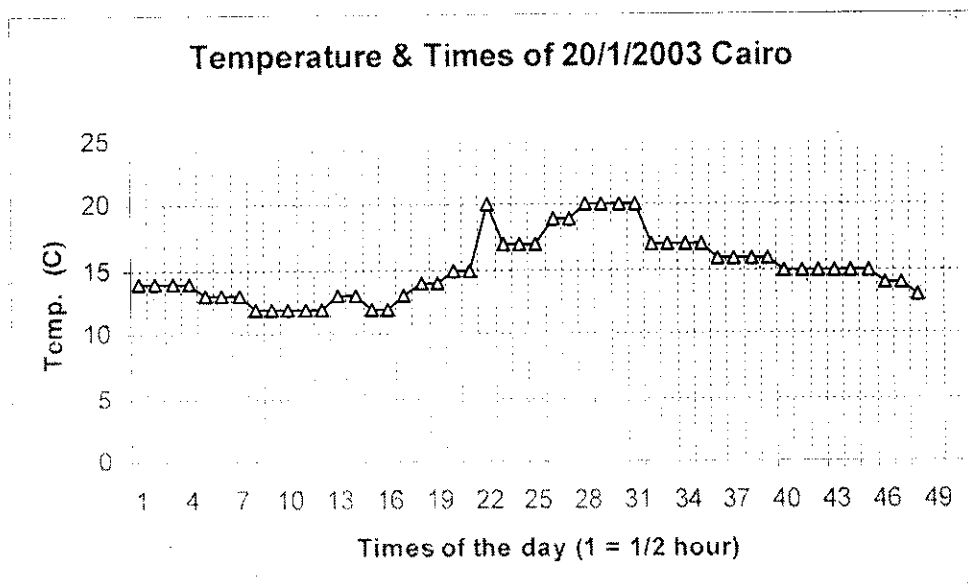


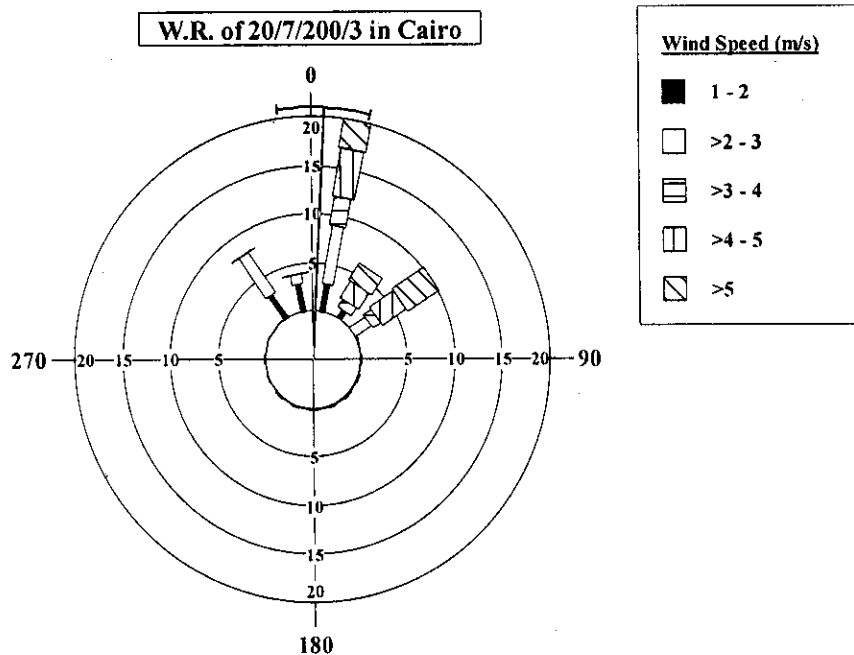
Table (2-15)

Table (2-15) shows the temperature Statistics during 20/1/2003 in Fayuom region. We note that the maximum value is 20 °C while the minimum value is 12 °C.

Temperature Statistics of 20/1/2003 in Cairo Region	
Variable	Temperature (°C)
Number of Points	48
Maximum Value	20
Minimum Value	12
Range	8
Average	15.16667
Standard Deviation	2.469674

## (2) Daily W & T in the Summer Season in Cairo Region

Figure (2-21)



The meteorological observations of 20/7/2003 are selected to represent the daily meteorological data of the summer season in Cairo region, where the wind rose (W.R.) diagram of this day in Cairo region is shown by the figure (2-21). This day is a one of the days of the Summer season, where the wind direction is often North-East. The average direction in that day is N (about 2° from the North) and the mean wind speed is 3.3 m/s. Tables (2-16) and (2-17) show the wind direction and the wind speed statistics in 20/7/2003. Figure (2-22) shows the linear diagram of the variation between the frequency of the wind speeds during the day and the angles of the direction classes (Ang. of D.C.)