Moving Average

Q.1. The production of a soft drink company in thousands of litres during each month of a year is as follows :

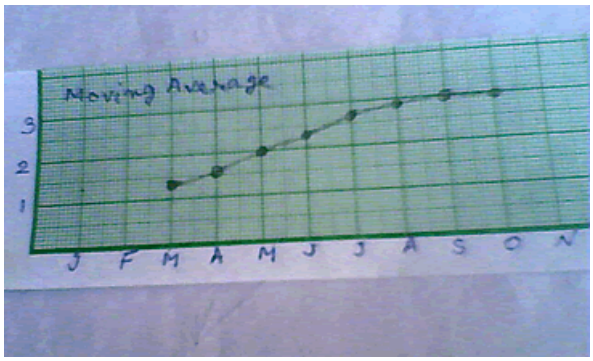
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	oct.	Nov.	Dec.
1.2	0.8	1.4	1.6	1.8	2.4	2.6	3.0	3.6	2.8	1.9	3.4

Calculate the five monthly moving averages and show these moving averages on a graph.

Solution : 1

Moving Averages		
Jan.	1.2	
Feb.	0.8	
March	1.4	1.36
April	1.6	1.6
May	1.8	1.96
June	2.4	2.28
July	2.6	2.68
Aug.	3.0	2.88
Sept.	3.6	2.98
Oct.	2.8	2.24
Nov.	1.9	
Dec.	3.4	

Graph :



Q.2. The table below gives details of the electricity generated in million kilowatt hours in each quarter for the years 2002 to 2004.

	Quarter →			
Year	1st	2nd	3rd	4th
2002	8	7	6	9

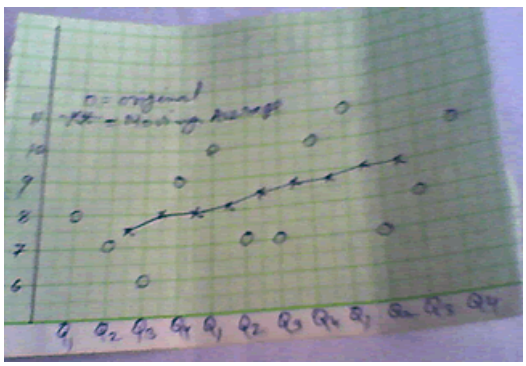
2004	10	7	7	10
2005	11	7	8	10

Calculate the four quarterly moving averages and show these moving averages on a graph. Comment on the general trend.

Solution : 2

Years	Electricity in million kwh	Four Quarterly moving average	Four Quarterly moving Average centred
2002 Quarterly			
1st	8		
2nd	7	7.5	
3rd	6	8.00	7.75
4td	9	8.00	8.00
2003 Quarterly			8.125
1st	10		
2nd	7	8.25	
3rd	7	8.5	8.375
4td	10	8.75	8.625
2004 Quarterly			8.75
1st	11		
2nd	7	8.75	
3rd	8	9.00	8.875
4td	10	9.00	9.00

Graph :



Q.3. The average number, in lakhs, of working days lost in strikes during each year of the period 1981-90 was :

1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
1.5	1.8	1.9	2.2	2.6	3.7	2.2	6.4	3.6	5.4	2.8

Calculate the three-yearly moving average graph.

Solution : 3

Year	Values	Three Yearly Sum	Three Yearly Moving Average
1981	1.5		
1982	1.8	5.2	1.73
1983	1.9	5.9	1.97
1984	2.2	6.7	2.23
1985	2.6	8.5	2.83
1986	3.7	8.5	4.83
1987	2.2	12.3	4.10
1988	6.4	12.2	4.07
1989	3.6	15.4	5.13
1990	5.4		

Graph :