

MS(QMS) First Year  
First semester – Statistics for Decision Making 1

Duraion : 3 Hr.s

End-Semester Exam

Date: 7<sup>th</sup> January 2022

Note: Answer as much as you can. Maximum you can score is 100. Use of calculator allowed.

1. The table gives the Mail Order Sales and the Book Store Sales for 15 books published by ABC Publishers.

- Plot a Scatter Diagram to explore the relationship.
- Find the Correlation Coefficient  $r$ .
- Find out the Regression Line.
- Find the R-Sq. and offer your comments.
- If the early Mail Order Sales of a new book is expected to be around 790, Forecast the sales for the same through the Book Store Sales.

Sl.	Mail Order Sale	Book Store Sale
1	710	235
2	713	258
3	720	256
4	722	265
5	738	276
6	747	306
7	755	309
8	760	354
9	764	339
10	776	348
11	784	371
12	796	405
13	800	362
14	805	380
15	809	387

[30]

2. The following data gives the scores obtained by students in the final MBA exam. :

71	87	82	64	72	75	91	69
76	79	65	68	80	73	85	71
70	81	54	62	81	84	77	73
82	74	74	73	89	72	81	65
74	58	64	68	73	82	69	71

Construct the following using the above data:

- Dot Plot
- Histogram, and
- Box and Whisker Plot

[20]

3. The following is the data on height of 30 students (in Cm.):

166.5	165.5	165.1	169.2	164.1	165.7
170.2	167.5	168.4	165.9	167.1	168.1
166.8	162.9	167.8	161.2	167.5	164.9
166.4	162.1	168.0	165.0	166.1	167.7
163.6	165.6	165.6	162.1	168.8	164.2

Find out The Mean, Standard Deviation, Mean Deviation, Skewness and Kurtosis.

[20]

P.T.O.

4. Find the Table values for
- Upper 10% value for "Z" distribution
  - Lower 5% value for "Chi-square" distribution with 8 d.f.
  - Upper 2.5% value for "Chi-square" distribution with 10 d.f.
  - Upper 1% value for "t" distribution with 20 d.f.
  - Upper 1% value for "F" distribution with 7,10 d.f.

[10]

5. Suppose it is known that, in the evening hours, the Mysore Road traffic constitutes of the following:

Type of Vehicle	%
Car	15
2 Wheeler	32
Auto	8
Govt. Bus	12
Private bus	14
Small Truck	10
Large Truck	4
Ambulance	2
Other Veh.	3

If on a particular day, you happen to go to the Mysore Road in the evening,  
 Simulate what are the next 10 vehicles you are likely to see there. [Show steps]

[10]

6. Write a short note on different methods of Sampling.

[15]

--- X ---