

## End-Semester Examination : Statistics for Decision Making - 1

Duration: 2 Hrs.

Date: 25<sup>th</sup> Nov. 2017

- Note:** 1. Answer as much as you can. Maximum you can score is 50.  
2. Use of calculator, RMMR Tables allowed.

1. State and briefly explain different methods of Sampling [10]
2. State and briefly explain different methods of generating Random Numbers. [10]
3. a) Using Random Number Table in "RMMR Tables", Generate 20 Random numbers (4-digit).  
b) Use these random numbers to generate 20 Random Samples from a Normal distribution with a Mean of 20 and a Std. Dev. of 3. [15]
4. An airline tries to predict the cost of flying one certain type of aircraft between two particular cities. Among many possible predictor variables, they chose "Number of passengers" as one possible explanatory variable.

The following data were collected for 12 different Passenger loads :

Number of Passengers	Cost (Thousands)
61	4280
81	4700
74	4300
97	5560
69	4170
86	5110
76	4820
63	4080
91	5130
95	5640
67	4420
70	4480

- a) Plot the Scatter Diagram to explore the relationship and offer your comments.
- b) Find the Correlation Coefficient.
- c) Find out the Regression Line.
- d) Using the Regression Line, estimate that  
If on a certain day, there are 90 passengers on the flight, what can you predict as the estimated cost of that flight?

[20]

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

Type of Vehicle	%	Type of Vehicle	%	Type of Vehicle	%
Car	15	Govt. Bus	12	Large Truck	4
2 Wheeler	32	Private Bus	15	Ambulance	2
Auto	7	Small Truck	10	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.

[10]