

STATISTICAL METHODS FOR MANAGEMENT

1. Scores of two golfers for 24 rounds were as follows:

Golfer A: 74, 75, 78, 72, 77, 79, 78, 81, 76, 72, 72, 77, 74, 70, 78, 79, 80, 81, 74, 80, 75, 71, 73.

Golfer B: 86, 84, 80, 88, 89, 85, 86, 82, 82, 79, 86, 80, 82, 76, 86, 89, 87, 83, 80, 88, 86, 81, 81, 87.

Find which golfer may be considered to be more consistent player.

2. Lives of two models of refrigerators turned in for new models in a recent survey are given in the following table:

| Life (No. of years) | Model A | Model B |
|---------------------|---------|---------|
| 0-2 | 5 | 2 |
| 2-4 | 16 | 7 |
| 4-6 | 13 | 12 |
| 6-8 | 7 | 19 |
| 8-10 | 5 | 9 |
| 10-12 | 4 | 1 |

Which model shows more uniformity?

3. Calculate correlation coefficient for the heights fathers (x) and their sons (y) and to comment:

| | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|
| x | 65 | 63 | 67 | 64 | 68 | 62 | 70 | 66 | 68 | 67 | 69 | 71 |
| y | 68 | 66 | 68 | 65 | 69 | 66 | 68 | 65 | 71 | 67 | 68 | 70 |

4. Three Judges in the following order rank ten competitors in a beauty contest. Use rank correlation which pair of Judges has the nearest approach to common tastes in beauty.

| | | | | | | | | | | |
|--------------|---|---|---|----|---|----|---|----|---|---|
| Bipasa Basu | 1 | 6 | 5 | 10 | 3 | 2 | 4 | 9 | 7 | 8 |
| Sharukh Khan | 3 | 5 | 8 | 4 | 7 | 10 | 2 | 1 | 6 | 9 |
| John Abraham | 6 | 4 | 9 | 8 | 1 | 2 | 3 | 10 | 5 | 7 |

5. Obtain two lines of regression Y on X and X on Y from the following table and estimate blood pressure (B.P.) when the age is 45.

| | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Age | 56 | 42 | 72 | 36 | 63 | 47 | 55 | 49 | 38 | 42 | 68 | 60 |
| B.P. | 147 | 125 | 160 | 118 | 149 | 128 | 150 | 145 | 115 | 140 | 152 | 155 |

6. In 2013 there will be three candidates contesting for Mr. MITS – Mahesh babu, Prabhas and Vishal whose chances of winning are in the proportion 4: 2: 3 respectively. The probability that Mr. Mahesh is selected marry to Deepika is 0.3. The probabilities of Mr. Prabhas and Mr. Vishal doing the same are respectively 0.5 and 0.8. If Deepika is married, what are the probabilities that she was married to Mahesh babu, Prabhas, and Vishal.

7. Seven heads are tossed and the number heads are noted. The experiment is repeated 128 times and the following distribution is obtained:

| | | | | | | | | |
|--------------|---|---|----|----|----|----|---|---|
| No. of heads | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Frequencies | 7 | 6 | 19 | 35 | 30 | 23 | 7 | 1 |

8. The burning life of 500 tube lights installed by the Madanapalle Municipality is normally distributed with mean of 4400 hours and standard deviation of 525 hours. Find the number of lights (a) in the first 3000 hours of burning and (b) between 3000 and 5400 hours. Find after what period of time, would you expect only 20% of lights to be still burning?