**Jaipuria Institute of Management, Indore**

Midterm Examination – August, 2019

*Quantitative Techniques* (Solution Sheet)

Ans. 1. Students are required to find the following as a part of data exploration: -

 Arithmetic Mean – 32.8

 Median – 33

 Mode – 33

Standard Deviation – 1.43

Students should comment that the data is nearly normal because Mean, median and mode are nearly equal. However, precisely, the data is Negatively Skewed.

The data supports Chebyshev theorem because more than 75 %values fall between µ ± 2σ and more than 89 %values fall between µ ± 3σ.

MR. Ravi Kumar should make 34 Cakes. Students are required to develop a matrix and arrive at this decision.

Evolution Research should be engaged for market research because EVPI is Rs. 313 per day whereas Research agency is charging Rs. 300/- per day (Opportunity loss cost is assumed to Rs. 400 per cake).

Ans2. Student to use standard normal curve formula to find the desired probabilities: -

 **Z = (X - µ)/ σ**

*Genius Category: -* Probability of completion of training in less than 13 hours is **0.0099** **and 1.98 (or 2)** employees are expected to fall in this category.

*Above Average Category: -* Probability of 13-17 Hrs for training completion is **0.1488 and 30** employees are expected to fall in this category.

*Average Category: -* Probability of completion of training between **17 – 24 Hrs is 0.7495 and 149.9 (or say 150)** employees are expected to fall in this category.

*Laggards Category: -* Probability of completion of training in more than **24 Hrs is 0.0918 and 18.36 (or say 18)** employees are expected to fall in this category.