Frequently Asked Questions

1. What do you mean by Probability? Give some example where the word Probability is used in our day to day life.

Answer: The term Probability is the likelihood or chance of occurring of a particular event. For example: In our day to day conversation we use the word Probability as:

- 1) It may probably rain today
- 2) It is possible that life exists on other planet
- 2. What are the scenarios where Theory of Probability is applied?

Answer: The Theory of Probability is applied in various scenarios, such as:

- 1) Taking investment decisions
- 2) Setting targets in business
- 3) Quality control etc.
- 3. State the basic terminologies in Probability.

Answer: Basic terminologies in Probability are:

- 1) Random Experiment
- 2) Sample Space
- 3) Events
- 4. What do you mean by Sample Point? Explain with the help of example.

Answer: Members of the Sample Space is known as Sample Point. For Example: If we toss two coins the possible outcome will be (H, H), (H, T), (T, H), (T, T). Thus the Sample Point is (H, H).

5. Define Event. State an example of rolling a dice.

Answer: Event is a set of possible outcomes of the experiment in which we are interested. For example: On rolling a dice we are interested in getting an "even number". Thus, (2, 4 or 6) is an event.

6. Explain Equally Likely Events.

Answer: Two or more events are said to be equally likely if each has an equal chance of occurrence. For example: When a coin is tossed, the outcomes head and tail have an equal chance of occurrence.

7. What is Compound Event?

Answer: Compound Event is a collection of more than one outcome for an experiment. For example: When 2 balls are picked randomly from a bag containing 3 red balls and 3 white balls the event of pulling one red and one white ball is a compound event.

8. State the different types of Events.

Answer: There are six different classifications of Events:

- 1) Compound Event
- 2) Independent and Dependent Event
- 3) Mutually Exclusive Event
- 4) Collective Exhaustive Event
- 5) Equally Likely Event
- 6) Complementary Event
- 9. What is Collective Exclusive Event?

Answer: A list consisting of all the possible outcomes of an experiment is called collective exhaustive events. For example, when rolling a six-sided die, the outcomes 1, 2, 3, 4, 5, and 6 are collectively exhaustive, because they encompass the entire range of possible outcomes.

10. What is the Classical Approach to Probability? What are its limitations?

Answer: The Classical Approach does not need any actual experiment for computation. It is not based on previous experience. It is obtained by logical reasoning.

Limitations of Classical Approach are:

- 1) If N, the exhaustive number of outcomes of the random experiment is infinite.
- 2) If the various outcomes of the random experiment are not equally likely.
- 3) If the actual value of N is not known.

11. What do you mean by Empirical Approach to Probability?

Answer: The relative frequency approach depends on probability obtained objectively by repetitive empirical observation and is known as Empirical Probability. The Empirical Probability provides validity to the classical theory of a Probability.

12. What is Subjective Approach to Probability?

Answer: The subjective approach is based on the accumulation of knowledge, understanding and experience of an individual. It is the degree of confidence that a rational

person has on a specific outcome of an event. The approach is highly flexible and can be applied in any situation.

13. Define Classical Approach.

Answer: By James Bernoulli "If a Random Experiment results in 'N' Exhaustive, Mutually Exclusive and Equally likely Outcomes (cases) out of which 'm' are favorable to the happening of an event 'A', then the probability of occurrence of 'A', usually denoted by p(A) and is given by - P(A) = m/n".

14. Define Subjective Approach.

Answer: By Professor Savage "Personalistic views hold the probability measures the confidence that a particular individual has in the truth of a particular proposition." Professor Savage uses the term Personalistic instead of Subjective.

15. Define Relative Frequency Approach.

Answer: By Von Mises "If an experiment is performed repeatedly under essentially homogeneous and identical conditions then, the limiting value of the ratio of the number of times the event occurs to the number of trials, as the number of trials becomes indefinitely large, is called the probability of happening of the event."