Set Theory

Q.1. Define experiment.

A.1) The word experiment means an operation which can produce some well-defined outcome(s). There are two types of experiments viz.:

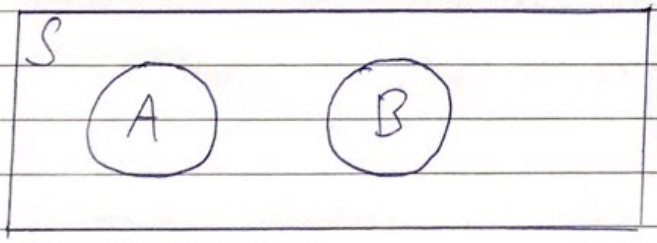
a. Deterministic experiments
b. Random or Probability experiments

Q.2. What is a sample space?

A.2) The set of all possible outcomes of a random experiment is called the sample space. It is denoted by S.

Q.3) Give an example of an event which is a collection of elements (subset A, B, etc) contained in the sample space (S). Also show it using a Venn Diagram.

A.3) $A = \{1, 3, 5\}$
$B = \{2, 4, 6\}$
$A \cup B = \{1, 2, 3, 4, 5, 6\}$
$A \cap B = \emptyset$



Q.4) $d \in D$: The outcome d belongs to the sample space D. The contrary is defined by the symbol $\notin$. (comment)

A.4) We can find the element of d in set D.