

conditional probability measure on  $(\Omega, \mathcal{A}, P)$ , then we say that  $(\Omega, \mathcal{A}, P_B)$  is the probability space obtained by conditioning  $(\Omega, \mathcal{A}, P)$  by the event  $B$

[STT311] In general, if an event  $B$  depends on occurrence of events,  $(A_1, A_2, \dots, A_n)$ . Then \_\_\_\_\_  

$$P(B) = \sum_{i=1}^n P(A_i) P\left(\frac{B}{A_i}\right)$$

[STT311] A probability measure  $P$  on a field of subset  $\mathcal{A}$  of set  $(\Omega, \mathcal{A}, P)$  is a real-valued function having domain  $\mathcal{A}$  satisfying the property \_\_\_\_\_  

$$P(\Omega) = 1$$

[STT311] Let  $(A_n)$  be a sequence of independent measurable sets. If  $\sum_{i=1}^{\infty} P(A_i) = \infty$ , then  

$$P\left(\bigcap_{i=1}^{\infty} A_i\right) = 0$$

[STT311] A random variable is a function whose domain of definition is the simple space  $S$  of a random \_\_\_\_\_ and whose range is a set of real numbers.  
 experiment

[STT311] Given that probability  $P(a < x < b)$  defined as  $P(a \leq x \leq b) = \int_a^b f(x) dx$ , the function  $f$  is called the \_\_\_\_\_ Probability function of  $X$   
 continuous

[STT311] The sample space denoted by  $(\Omega)$  is the collection or totality of all possible outcomes of a conceptual \_\_\_\_\_  
 experiment

[STT311] The class of all events associated with a given experiment is defined to be the \_\_\_\_\_  
 event space

[STT311] Let  $x$  be a random variable whose image set  $(S)$  is a continuous numbers such as an interval. Then the set  $(a \leq x \leq b)$  is an \_\_\_\_\_ in  $S$   
 event

[STT311] If an event  $B$  depends on occurrence of event  $(A_1)$  or  $(A_2)$ , then  

$$P(B) = P(B \cap A_1) + P(B \cap A_2)$$