20161225_Batch 24_CSE 7315c_Probablity Distributions _WUQ02

1. Obtain the error metrics (listed below) from the table (4 Marks)

	Actual True	Actual False
Predicted True	a	b
Predicted False	c	d

solution: Accuracy = (a+d)/(a+b+c+d)
Precision= a/(a+b)
Recall = a/(a+c)
Specificity = d/b+d

2. You rolled two dice. The first die has "one" on it and the second die rolled under the table and you could not see what is on it. What is the probability that it has "one" on it (1 Mark)
   a. 1/3
   b. 1/6
   c. 1/36
   d. 9/36

3. There are 5 red balls, 3 white balls and 6 green balls in a bag. (1 Mark)

   A: One ball is taken out of the bag, seen the color of the ball and was put back in the bag. Then another ball was draw out of the bag
   B: One ball is taken out of the bag, seen the color of the ball but was not put back in the bag. Then another ball was draw out of the bag.

   a. Both A and B are dependent events
   b. A is independent and B is dependent
   c. A is dependent and B is independent
   d. Both A and B are independent events

4. Here is the information about the favorite food item survey conducted for school children and the values are tabulated (3 Marks)

Grade	Pasta	Pizza	Biryani	Total
8th	68	41	46	155
9th	84	56	70	210
10th	59	74	47	180
Total	211	171	163	545

   a. If the student selected is 9th grade, what is the probability that Biryani is his favorite item?
      Ans: 70/210
   b. If a student prefers pasta, what is the probability that he is an 8th grade student?
      Ans: 68/211
   c. If the student selected is of 10th grade, what is the probability that he prefers either Pizza or Biryani?
      Ans: (74+47)/180

5. State True or False for the following statements (3 Marks)
   a. Mutually exclusive events are always independent. F
   b. The condition to check if two events are independent is P(Event1)*P(Event2)=P(Event1 ∩ Event2). T
   c. A is the event of having 6 on a die and B is the event that it is Tuesday. A and B are independent. T