



Ministry of Higher Education and
Scientific Research
University of Technology
Computer Sciences Department



Date: / /2016
Time: 3 hours
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Final Exam 2015-2016
First Term

Subject: **Statistic**
Class: First year
Branch: **AI/CS**

NOTE:- answer only Six question each question is of 10 degrees

Q1:- Suppose an box contains 8 red balls and 4 white balls. We draw two balls **without replacement**. If we assume that at each draw each ball in the urn is equally likely to be chosen, what is the probability that both balls drawn are red?

Q2:- two dice are thrown

- Find the sample space S .
- Find the event “ A ” the sum of the dots on the dice equal 5 .
- Find the event “ B ” the sum of the dots on the dice is greater than 4 .
- Find the event “ C ” the sum of the dots on the dice is greater than 10 .
- Evaluate find \bar{B} , \bar{A} and $\bar{C} \cap B$.

Q3:- Q1 :-The random variable X has PMF

$$\rightarrow P(x) = \begin{cases} Cx^2 & x = 1,2,3,4 \\ 0 & \text{o.w} \end{cases}$$

- (a) find the value of constant c
- (b) find the $P(X=3)$, $P(X=2.5)$, $P(X= -1)$, $P(2 \leq X \leq 4)$

Q4:- two coins are thrown once, let the following event

$A = \{\text{getting two heads}\}$, $B = \{\text{getting two tails}\}$:-

- i. Are A and B mutually exclusive
- ii. Are A and B complement

Q5: if X binomially distributed with 6 trials and probability of success equal to $(1/4)$ at each attempt , what is the probability of (a) exactly 4 successes (b) at least one success?

Q6:- Three coin are thrown once . let X be the r.v represented the number of head appear . find :- (a) the p.m.f of X (b) the c.d.f of X

Q7:- what is the probability of drawing an ace from a well – shuffled deck of 52 plying cards?

Do well