

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS  
DEPARTMENT OF MATHEMATICS & STATISTICS  
DHAHRAN, SAUDI ARABIA

MATH 131: FINITE MTHEMATICS

*Semester 152*  
*Major Exam Three*  
*Monday, April 25, 2016*  
**Allowed time 75 minutes**

Name :

ID# :

Serial # :

Section :

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**Directions:**

- 1) You must **show all your work** to obtain full credit.
- 2) You are allowed to use electronic calculators and other reasonable writing accessories that help write the exam.
- 3) Do not keep your mobile with you during the exam, turn off your mobile and leave it aside.

Question No	Full Marks	Marks Obtained
<i>Q1</i>	<i>2</i>	
<i>Q2</i>	<i>2</i>	
<i>Q3</i>	<i>5</i>	
<i>Q4</i>	<i>11</i>	
<i>Q5</i>	<i>8</i>	
<i>Q6</i>	<i>6</i>	
<i>Q7</i>	<i>6</i>	
<i>Total</i>	<i>40</i>	





5. A box of 500 computer chips contains 10 that are defective. Three chips are selected, at random, without replacement, from the box. (3+3+2 marks)
- What is the probability that the third one selected is defective?
  - What is the probability that the third one selected is defective given that the first one selected was defective and the second one selected was not defective?
  - What is the probability that all three are defective?
6. A survey by KRC Research for U. S. News reported that 37% of people plan to spend more on eating out after they retire. If eight people are selected at random, then determine the probability that two or fewer in the sample indicate that they actually plan to spend more on eating out after retirement. (6 marks)

7. An electronics store sells a particular model of Tablet PC. The table below shows the probability distribution of the daily demand ( $x$ ) for this Tablet PC.

$x$	0	1	2	3	4	5
$f(x)$	0.1	0.4	0.2	0.15	0.1	0.05

- a. Find the average amount of daily demand for this Tablet PC. (2 marks)
- b. Determine the standard deviation of the amount of daily demand for this Tablet PC. (4 marks)