EDO UNIVERSITY, IYAMHO, EDO STATE
FACULTY OF SCIENCE
DEPARTMENT OF MATHEMATICS/ICT
Second Semester Examination, 2016/17 Session
Course Title: **Statistics** Course Code: **MTH 125**
Time allowed: **2hours, 30 minutes** Instruction: **Answer any five (5) questions** Date: **14-09-2017**

1(a) List and explain the requisite (guidelines) of a statistical unit. (5 Marks)
(b) The monthly income of a worker is allocated as follows:

Items	**Naira(₦)**
Feeding	9625
Rent	4125
Education	6500
Savings	6875
Others	1375
Total	**27,500**

(i) Represent the above data on a pie chart (show all your workings). (9 Marks)

2(a) In how many ways can a real estate agent select 10 properties to place in an advertisement, if he has 15 listings to choose from. (7 Marks)
(b) A lot of 12 Oxygen tanks contains 3 defective ones. If 4 tanks are randomly selected and tested, find the probability that exactly one will be defective. (7 Marks)

3(a) If there are 150 typographical errors randomly distributed in a 600-page manuscript, find the probability that any given page has exactly two errors. (7 Marks)
(b) A coin is tossed 3 times. Find the probability of getting two heads and a tail in any given order. (7 Marks)

4 (a) A company has three(3) departments A, B, C from where sales are made and the annual records of the net profit of the departments for three consecutive years are as presented below:

Years	**Net Profits in the Departments (in Millions of Naira)**		
	A	**B**	**C**
1999	3.2	3.4	2.8
2000	2.8	3.0	2.6
2001	4.0	3.2	3.6

Represent the values of the Net profits with the aid of a Component and Multiple bar Charts. (10 Marks)
(b) Find x, if the mean of $x,\ 2,\ 3,\ 4,\ 8\ is\ \ 4$. (4 Marks)

5(a) The table below shows the distribution of 50 spectators in a secondary school sports competition. You are required to represent the data with a histogram. (8 Marks)

Age(years)	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Frequency	2	3	5	7	11	8	6	5	3

(b) From the histogram, show the mode of the distribution. (2 Marks)

(c) Compute the arithmetic mean and median of the following data: (4 marks)

$7, 5, 5, 8, 10, 11, 6, 3, 4, 10, 13, 2, 2, 3, 4, 4, 4, 5, 6, 7, 2, 2$

6(a) When two dice are rolled, find the odds in favor of getting a sum of 12. (4 Marks)

(b) An archer hits the bull's eyes 80% of the time. If he shoots 5 arrows, find the probability that he will get 4 bull's eyes. (5 Marks)

(c) In a classroom, there are 8 women and 5 men. A committee of 3 women and 2 men is to be formed for a project. How many different possibilities are there? (5 Marks)

7(a) An Engineering student has a choice of selecting three(3) elective courses for the next semester. He can choose from six(6) Arts or four(4) Science courses. Find the probability that all the three(3) courses selected will be Arts courses assuming he selects them at random.

(b) A committee of 3 people is formed from 6 Nurses and 4 Doctors. Find the probability that the committee contains 2 nurses and one doctor. The committee members are selected at random. (4 marks)

(c) Find the mean deviation of $4,\ 6,\ 8,\ 9,\ 11,\ 12\ and\ 13$. (5 marks)