Solve the following multiple-choice problems and write the answers (using a PEN) on a separate sheet. Please write your name and the word “Stat” on the sheet. (Each problem is worth 2 points).

1. **The main purpose of inferential statistics is to:**
   (a) Determine if the data adequately represents the population
   (b) Compare the characteristics of various samples
   (c) Present data in a meaningful graphical form
   (d) Make conclusions about a population

2. **A survey asked clients at a hotels to rank the services of the hotels from “0” (terrible) to “5” (excellent). What level of data is this?**
   (a) Nominal
   (b) Interval
   (c) Ordinal
   (d) Ratio

3. **Which of the following is an example of a discrete variable?**
   (a) The number of wins that the Chanticleers have each season
   (b) The temperature at Myrtle Beach International Airport
   (c) The number of acers that each farmers in Idaho owns
   (d) The distance between two cities in the United States

4. **Which of these pairs of variable is most likely to have a strong correlation but NOT a causation (one variable is not likely to affect the other variable).**
   (a) Years of work experience that people have and their chance of getting a heart attack
   (b) The income that individuals earn and the amount of tax that they pay
   (c) The amount of education that people have and their income
   (d) The amount of coffee people drink and their height

5. **What type of variable is the number of questions that students get correct on an exam?**
   (a) Qualitative and continuous
   (b) Qualitative and discrete
   (c) Quantitative and continuous
   (d) Quantitative and discrete

6. **Professor Nelson selects every fifth student on her class roster? She is creating:**
   (a) A distribution
   (b) A sample
   (c) A tally
   (d) A range
7. Monthly commissions of first-year insurance brokers are $1,270, $1,310, $1,680, $1,380, $1,410, $1,570, $1,180 and $1,420. These figures are referred to as:
   (a) Frequency distribution
   (b) Frequency polygon
   (c) Ordered data
   (d) Raw data

8. A survey asked individuals if they earn more than $20,000 or less than $25,000. These categories are:
   (a) Not mutually exclusive and not exhaustive
   (b) Mutually exclusive but not exhaustive
   (c) Exhaustive but not mutually exclusive
   (d) Mutually exclusive and exhaustive

Refer to the following distribution of ages to answer problems 9 through 11:

<table>
<thead>
<tr>
<th>Ages</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 up to 50</td>
<td>10</td>
</tr>
<tr>
<td>50 up to 60</td>
<td>28</td>
</tr>
<tr>
<td>60 up to 70</td>
<td>12</td>
</tr>
</tbody>
</table>

9. For the distribution of ages above, what is the relative class frequency for the class with the highest frequency?
   (a) 28%
   (b) 44%
   (c) 48%
   (d) 56%

10. What is the class midpoint of the class with the lowest frequency?
    (a) 45
    (b) 50
    (c) 55
    (d) 65

11. What percent of individuals sampled are 50 years or older?
    (a) It cannot be determined
    (b) 40%
    (c) 56%
    (d) 80%

12. The monthly salaries of a sample of 80 employees were rounded to the nearest ten dollars. They ranged from a low of $930 to a high of $1,210. If we want to condense the data into six classes, what is the most convenient class interval?
    (a) $50
    (b) $60
    (c) $80
    (d) $100
13. Based on Figure 1-1 (above), if total government expenditure was $4 trillion in 2003, how much did the government spend on military and non-military discretionary spending?
(a) $1.04 trillion  
(b) $1.52 trillion  
(c) $2.48 trillion  
(d) $2.80 trillion

14. Which of the following options orders measures from the one that is most affected to the one that is least affected by extremely low or high values?
(a) Mean, Median, Standard Deviation  
(b) Mode, Range, Median  
(c) Range, Mean, Median  
(d) Mode, Range, Mean

15. If there are an odd number of observations in a set of ungrouped data that have been arrayed from low to high or vice versa, where is the median located?
(a) It is the (n + 1)/2 observation  
(b) It is the n/2 + 1 observation  
(c) It is the n − ½n observation  
(d) It is the n/n^2 observation

16. The following are the weekly amounts of welfare payments made by the federal government to a sample of six families: $152, $124, $128, $136, $147 and $136. What is the range of the sample?
(a) $19  
(b) $22  
(c) $24  
(d) $28
A survey of 7 students revealed that they each go out 1, 2, 3, 3, 4, 4 and 4 times per week. Use this information to solve problems 17 through 19.

17. What is/are the mode(s) of this distribution?
(a) 3 and 4
(b) 4
(c) 3
(d) 3.5

18. What is the median number of times that the students sampled go out?
(a) 2.5 times
(b) 3 times
(c) 3.5 times
(d) 4 times

19. What is the standard deviation of this sample?
(a) 1.07
(b) 1.15
(c) 1.33
(d) 1.42

20. What is the value of the Pearson coefficient of skewness for a distribution with a mean of 17, median of 12 and standard deviation of 6?
(a) +2.5
(b) −2.5
(c) +0.83
(d) −0.83