1. A population frame for a survey contains a listing of 72,345 names. Using a table of random numbers, how many digits will the code numbers for each member of your population contain?
   a) 3   b) 4   c) 5   d) 6

2. A population frame for a survey contains a listing of 6,179 names. Using a table of random numbers, which of the following code numbers will appear on your list?
   a) 06   b) 0694
   c). 6946   d) 61790

3. Since a _____ is not a randomly selected probability sample, there is no way to know how well it represents the overall population.
   a) simple random sample
   b) quota sample
   c) stratified sample
   d) cluster sample

The following Problem is related to Questions 4 to 10
4. The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products. The manager decides to ask a sample of customers who have bought a videocassette recorder made by the company and filed a complaint over the past year to fill in a survey about whether they are satisfied with the product. This method will most likely suffer from
   a) non-response error.
   b) measurement error.
   c) coverage error.
   d) non-probability sampling.

Because many customers who have not bought any videocassette recorders would not be included in the sampling

5. The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products. If there are 4 different brands of videocassette recorders made by the company, the best sampling strategy would be to use
   a) a simple random sample.
   b) a stratified sample.
   c) a cluster sample.
   d) a systematic sample.

 6. The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products. Which of the following questions in the survey will NOT likely induce a measurement error?
   a) How many times have you illegally copied copyrighted sporting events?
   b) What is your exact annual income?
   c) How many times have you brought the videocassette recorder back for service?
   d) How many times have you failed to set the time on the videocassette recorder?

7.The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products, the population of interest is
   a) all the customers who have bought a videocassette recorder made by the company over the past 12 months.
   b) all the customers who have bought a videocassette recorder made by the company and brought it in for repair over the past 12 months.
   c) all the customers who have used a videocassette recorder over the past 12 months.

d) all the customers who have ever bought a videocassette recorder made by the company.

8. The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products, if a customer survey questionnaire is included in all the videocassette recorders made and sold by the company over the next 12 months, this method of collecting data will most likely suffer from
   e) nonresponse error.
   f) measurement error.
   g) coverage error.
   h) nonprobability sampling.

9. The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products, the possible responses to the question "How many videocassette recorders made by other manufacturers have you used?" are values from a
   i. discrete random variable.
   ii. continuous random variable.
   iii. categorical random variable.
   iv. parameter.

10. The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products, the possible responses to the question "Are you happy, indifferent, or unhappy with the performance per dollar spent on the videocassette recorder?" are values from a
   i. discrete numerical random variable.
   ii. continuous numerical random variable.
   iii. categorical random variable.
   iv. parameter.

(The following questions in this quiz are from previous work by Prof. Scott Stevens with minor modifications)

Questions 11 to 16 are based on the scenario below.
(make the following questions independent each other – each one is a complete question. You may duplicate the problem and choices for each of the questions, the questions may need to be modified a little bit because of it.)

Sony would like to test the acceptance of its new camera phones in US market. Sony would like to know how much business to expect and would like to test its initial price at $219. Sony knows that one of its competitors has a similar product priced at $169. Sony has a web chat room for digital cameras. An email is sent to the chat room participants as a survey with the following contents.

LIKE TO SEE WHOM YOU ARE TALKING TO?

Sony has its latest new camera phones ready for you soon. Please take a minute to help us to better prepare for the event! Just check the appropriate boxes!

How soon would you purchase a camera phone?
        in a month   in six months
        within a year   Almost never

If you wouldn't be willing to pay $219 for the camera phone, how much would you be willing to pay for it?
$_____

Sony's survey above suffers from many shortcomings. The following questions address some of these. For each question, identify the class to which each error is best viewed as belonging. Choices are:

a. **selection bias (or coverage error)**
b. **nonresponse bias (or nonresponse error)**
c. **sampling error**
d. **measurement error**

Answers may be used more than once, or not at all. Pick one answer for each question.

11. _____The second question is horribly worded!

12. _____Participants' (especially those who don't like camera phones) may not fill out the survey.

13. _____Nonparicipants to the chat room cannot provide information at all.

14. _____Participants may lie about how much they would truly pay for the camera phone.

15. _____Only 500 people can fill out the survey. Even if the other problems are straightened out, there are many participants who will not be surveyed, so the results are only an approximation of the real interest.

16. _____Sony is interested in the people it calls "participants", but his survey may be filled out by people who visit its chat room only rarely.