Biostatistics first week test bank

A researcher wanted to study the relationship between the number of studying hours and the level of performance of medical students. he went to three major medicine faculties to choose his subjects. The way he chose them was by taking every student in all sections numbered 1 and 2 of all basic years ending up with a sample size of 2436. Answer question 1 , 2 and 3:

Q1: What was his method of sampling?
a) Convenience sampling
b) Stratified sampling
c) Cluster sampling
d) Systematic sampling
e) Multistage sampling

Q2: The number of studying hours resemble which one of the following variables?

a) Dependent variable
b) Independent variable
c) Confounding variable
d) Silent variable
e) Extraneous variable

Q3: The colleges the researcher chose the subjects from are considered:

a) Study population
b) Sampling frame
c) Reference population
d) Study subjects
e) Environment of the study

Q4: If you knew that the performance of students was ranked to four levels as such:
poor<fair<good< excellent, answer the following question: What type of variable is the level of performance:

a) Discrete ordinal
b) Nominal
c) Ratio
d) Interval
e) Constant

Q5 : A researcher made the mistake of keeping the null hypothesis of his study question when in fact there was a statistical significance that allows him to reject it. What type of error would he have made?
a) Type 1 error
b) Type 2 error
c) Random error
d) Selection bias
e) Systematic bias

Q6 : A manager associated each employee's name with a number on one ball in a container, then drew balls without looking to select a sample of [5] employees. What type of sample is this?

a) Simple random sample
b) Stratified random sample
c) Cluster random sample
d) Systematic random sample
e) None of the above

Q7 : A truck manufacturer selects [3] trucks at random from each of [6] models for safety testing. What type of sample is this?

a) Simple random sample
b) Stratified random sample
c) Cluster random sample
d) Systematic random sample
e) None of the above

Q8 : A TV show host asks his viewers to visit his website and respond to an online poll. What type of sample is this?
   a) Simple random sample
   b) Snow ball sample
   c) Cluster random sample
   d) Systematic random sample
   e) Convenience sample

Q9 : A hospital wants to survey religious participants in their city about what they seek from a hospital chaplain, so they randomly select [5] religious meetings in the city and survey every participant in those meetings. What type of sample is this?

   a) Simple random sample
   b) Stratified random sample
   c) Cluster random sample
   d) Systematic random sample
   e) None of the above

Q10: Security workers at an airport randomly choose one of the first [50] people to pass through a checkpoint for extra security screening. After that person, they choose every [50th] person who passes through for extra screening as well. What type of sample is this?

   a) Simple random sample
   b) Stratified random sample
   c) Cluster random sample
   d) Systematic random sample
   e) None of the above

Q11 : A politician asks his neighbors their opinions about a controversial issue. What type of sample is this?

   a) Simple random sample
   b) Purposive sample
   c) Cluster random sample
   d) Systematic random sample

e) Convenience sample

Q12 : Each student at a school has a student identification number. Counselors have a computer generate [50] random identification numbers, and the students associated with those numbers are asked to take a survey. What type of sample is this?

a) Simple random sample
b) Stratified random sample
c) Cluster random sample
d) Systematic random sample
e) None of the above

Q13 : Lilian's favorite magazine published [50] issues last year, and each issue contained approximately [250] pages. She wants to take a cluster random sample of about [1,000] total pages to estimate what proportion of all pages contained an advertisement. Which of these strategies will accomplish her intended design?

a) Randomly select [4] issues, and examine every page in those issues.
b) Assign a unique number to each page, and use a computer to randomly select [1,000] of those numbers.
c) Examine [20] randomly selected pages from each of the [50] issues.
d) Examine the first [50] pages in the [20] most recent issues.
e) Put the issues in a random order and examine every [10th] page until [1,000] pages have been examined.

Q14: A warehouse stores thousands of marble slabs of different shapes, sizes, and materials that are used for construction projects. The manager wants to estimate the average weight of these slabs. The slabs are arranged in stacks that have about [10] slabs of different varieties. The manager wants to weigh a random sample of [100] slabs. Why might the manager choose a cluster random sample instead of a stratified random sample in this setting?

a) Each stack has a variety of slabs, so choosing all of the slabs in some of the stacks should represent the population fairly well.

b) It will probably be easier to weigh heavy slabs that are stacked together rather than pulling out some slabs from different stacks.

c) A cluster sample chooses some slabs from each stack, so the manager will be more likely to get a representative sample.

d) Answer a + b

Q15: Jerome's favorite Harry Potter book has [22] chapters, [500] pages, and approximately [100,000] words. He's curious how many of the words are "made up" words or names that don't exist in the dictionary. He wants to take a systematic random sample of about [500] words to estimate what percent of the words in the book are made up. Which of these strategies will accomplish his intended design?

a) Randomly select one of the first [20] words and every [20th] word thereafter for the sample.

b) Randomly select one of the first [200] words and every [200th] word thereafter for the sample.

c) Randomly select [23] words from each chapter.

d) Randomly select [1] word from each page.

e) Assign every word a number and use a computer to randomly select [500] numbers with no repeats.

ANSWERS:

Q1:e	Q5:b	Q9:c	Q13:a
Q2:b	Q6:a	Q10:d	Q14:d
Q3:a	Q7:b	Q11:e	Q15:b
Q4:a	Q8:e	Q12:a	

(إِنَّا أَرْسَلْنَاكَ شَاهِدًا وَمُبَشِّرًا وَنَذِيرًا * لِتُؤْمِنُوا بِاللَّهِ وَرَسُولِهِ وَتُعَزِّرُوهُ وَتُوَقِّرُوهُ وَتُسَبِّحُوهُ بُكْرَةً وَأَصِيلًا)

سبحان الله و بحمده سبحان الله العظيم