MCQs. STA632

1). How many major types of Sampling?

1. 4
2. 2 ✓
3. 8
4. 3

2). Systematic Sampling is a type of

1. Probability Sampling ✓
2. Non-Probability Sampling.

3) A sample is a representative part of ___

1. Population ✓
2). Self-distribution

4) Quota Sampling is a type of

1. Probability
2. Non-Probability ✓

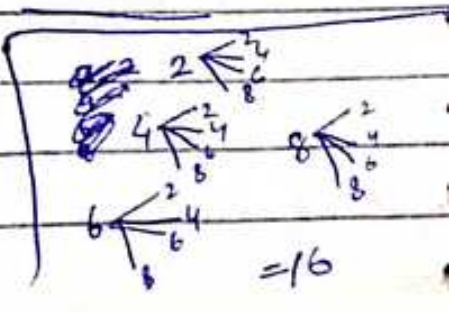
5) A numerical quantity computed from population is:

1. Parameter ✓
2. Observation
3. Statistic
4. Variable

6). If we have a population 2,4,6,8 and n=2. How many possible samples will be selected from sampling with replacement?

1. 12
2. 8
3. 16 ✓
4. 6





7). Cluster Sampling is a type of ___

1. Probability Sampling ✓
3. Non-Probability Sampling

8) In Sampling with replacement a sampling unit can be selected.

1. Only once
2. less than one
3. more than one time ✓
4. none of these.

9) Which one of these sampling is probability method

1. Quota Sampling
2. Convenience sampling
3. Cluster Sampling ✓
4. Judgment sampling

10) The other name of standard deviation of a Sampling distribution is ____

1. Replication Error
2. Sampling Error
3. Standard Error ✓
4. Sample Standard Deviation

11) If we have population 1,2,3 and n=2. How many samples will be selected from sampling without replacement.

1. 3 ✓
2. 9
3. 6
4. 8

1 < 2 3 2 — 3
3 — x
= 3

12). For the following population x<-c(1,2,3,4,5), What will be R command for finding mean?

1. mean(c)
2. mean(x) ✓
3. mean x
4. mean{x}

13) If $Var(\bar{y}_{sy}) < Var(\bar{y}_{srs})$

1. $\rho_w > -\frac{1}{(nk-1)}$
2. $\rho_w < -\frac{1}{nk-1}$ ✓
3. $\rho_w = 0$
4. $\rho_w = \frac{1}{(nk-1)}$

14) Sampling technique which selects every 8th bottle from a lot is called.

1. Simple random Sampling. 2) Cluster Sampling
3. Systematim sampling ✓ 4. Stratified Sampling.

15) For the following population y<-c(1,2,34,5), What is the median?

1. 2 2. 15
3. 3 ✓ 4. 5

16) In Systematic Sampling, when N=18 with n=3 than what will be value of k?

1. 6 ✓ 2. 8
3. 5 4. 4.

17). What is the R command for selecting a sample of size 10 from the population

yp<-c(11,150,121,198,12,136,14,129,17,115,186,110,121,15,14)

1. S<- sample (yp,1) 2. S<- sample (yp,10) ✓
3. S<- sample (yp,5) 4. S<- sample (yp,25)

18). In systematic Sampling, population is 200 and selected sample size is 50 the sample interval is:

1. 40 2. 4 ✓
3. 250 4. 200

19). When population is following the linear trend for n>1:

1. $Var(\bar{y}_{st}) = Var(\bar{y}_{sy}) = Var(\bar{y}_{wor})$
2. $Var(\bar{y}_{st}) > Var(\bar{y}_{st}) > Var(\bar{y}_{wor})$
3. $Var(\bar{y}_{st}) < Var(\bar{y}_{st}) < Var(\bar{y}_{st})$ ✓

20) Which of the following would generally require the largest sample size.

1. Systematic Sampling
2. Cluster Sampling
3. Simple Random Sampling ✓
4. Proportional stratified Sampling

21) When population is following the linear trend for $n \geq 1$

1. $Var(\bar{y}_{str}) \leq Var(\bar{y}_{ssy}) \leq Var(\bar{y}_{wor})$ ✓
2. $Var(\bar{y}_{str}) \geq Var(\bar{y}_{sy}) \geq Var(\bar{y}_{wor})$
3. $Var(\bar{y}_{str}) = Var(\bar{y}_{sy}) = Var(\bar{y}_{sy})$

22) The list of all units in population is called:

1. Bias
2. Parameter.
3. Random Sampling
4. Sampling frame. ✓

23) If $\sum_{i=1}^{N} \sum_{ij}^{M} y_{ij} = 1700$, $M=5$ and $n=4$, then weighted mean is:

1. 85 ✓
2. 90
3. 80
4. 82

$= \frac{1700}{5 \times 4}$

24) If $\sum_{i=1}^{N} \sum_{j=1}^{M} Y_{ij} = 1745$ and $MN = 15$ then the population mean is =

1. 178.36
2. 117.33
3. 116.33 ✓
4. 120.33

$$\bar{\bar{Y}} = \frac{\sum_{i=1}^{N} \sum_{j=1}^{M} Y_{ij}}{MN} = \frac{1745}{15} = 116.33$$

25). Mean of cluster mean is the unbaised estimator of population mean when:

1. Clusters ~~mean~~ are equal ✓ 2. Unequal
3. Both equal and unequal size 4. None.

26) A sample which is free from bias is called.

1. Biased 2) Unbaised. ✓
3. Negatively biased 4) Positively baised.

27). In statistical analysis, sample size is considered large if.

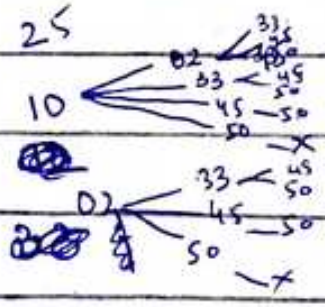
1. $n < or = 50$ 2) $n < or = 30$
3. $n > or = 30$ ✓ 4. $n > or = 50$

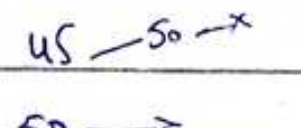
28). When each member of a population has an equally likely chance of being selected, this is called.

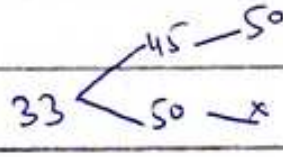
1. Random Sampling ✓ 2. Stratified Sampling.
3. Systematic 4. Cluster.

29). How many samples can be drawn by simple random sampling without replacement of size 3 from the following population 10, 02, 33, 45, 50.

1. 20 2. 10 ✓
3. 25 4 30







30) In Sampling without Replacement a sampling unit can be selected

1. only once. ✓
2. less than one time
3. none
4. more than one time.

31) The process of drawing a sample from a population is knows as

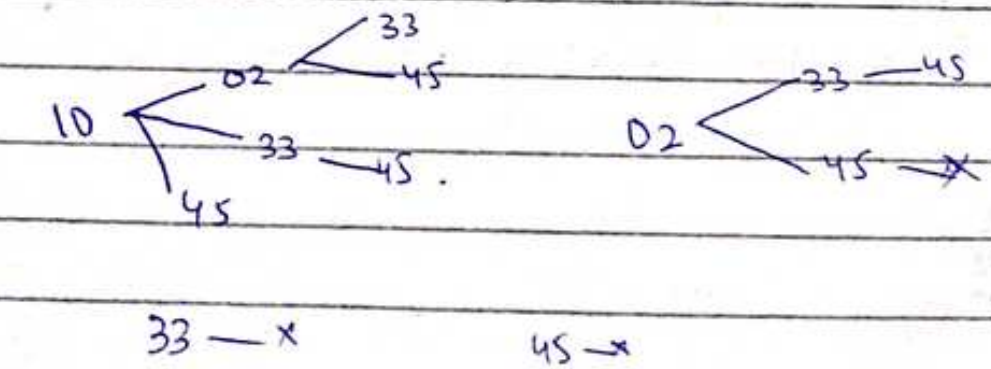
1. Sampling ✓
2. Census
3. Survey sampling
4. None of these

32) What is R command for selecting the sample size n=2 by probability proportion to size (PPS).

1. S<- sample (1:N, n=5, replace = TRUE, prob = pi)
2. S<- sample (1:N, n = 2, replace = TRUE, prob = pi) ✓
3. S<- sample (1:N, n, , replace = TRUE, prob = pi)
4. S<- sample (1:N = 2n, replace = TRUE, prob = pi)

33) How many samples can be drawn by SRS without Replacement of size 3 from the following population 10, 02, 33, 45-

1. 4 ✓
2. 6
3. 5
4. 8



34) Which of the following would usually require the smallest sample size because of its efficiency?

1. Quota Sampling 2. Simple random Sampling ✓
3. One-stage cluster Sampling 4. Two-stage cluster Sampling.

35) Who estimated the population of England by using auxiliary variable:-

1. Grant (1662) ✓ 2. Grant (1663)
3. Grant (1962) 3. Grant (1963)

36) Auxiliary variable is also called

1. Supporting variable 2. Supplementary variable.
3. Both Supporting and Supplementary variable ✓
4. Independent variable

37) Which of the following methods is the best way to select a group of people for a study if you are interested in making statements about the smaller populations?

1. Random Sampling. 2. Quota Sampling ✓
3. Purposive Sampling 4. Convenience Sampling.

38) _____ is a set of elements taken from a larger population according to certain rules.

1. Sample ✓ 2. Population
3. Statistic 4. Element.

39) Which one of the following is a type of non-probability sampling?

1. Snowball Sampling 2. Quota Sampling.
3. Convenience Sampling 4. Systematic Sampling ✓.

40) Sampling technique which selects every tenth person from a community is called.

1. Simple Random Sampling
2. Stratified Sampling
3. Systematic Sampling ✓
4. Cluster Sampling.

Probability Sampling Types.

1. Simple Random Sampling
2. Stratified Sampling
3. Systematic Sampling
4. Cluster Sampling.

Non-Probability Sampling Types.

1. Convenience Sampling
2. Purposive Sampling
3. Quota Sampling
4. Snow-ball Sampling.

41) Which of the following statement are true?
1. Take another sample ✓ 2. Accept the lot
3. Reject the lot 4. None of these

42). In double sampling, if the numbers of defects is in between the two cut off number C_1 and C_2 then:

1. 2.
3. 4.

43). Considering sample size, sampling distribution standard error decreases when the.
1. Size of sample decreases 2. increases. ✓
3. margion of error decreases 4 increases.

44) If: $N = 3000$, $N_1 = 1000$, $n_1 = 150$, $N_2 = 2000$, $n_1 = 15$, $n_2 = 15$, the value of w_1 is $\frac{1000}{15}$

1. 0.22 2. 0.54
3. 0.44 4. 0.33 ✓

45) If. The value of w_2 is.

1. 0.56 2. 0.50
3. 0.67 ✓ 4. 0.70

46). When every member of the accessible population has an equal chance of being selected to participate in study, the research is using
1) purposive sampling
2) Simple random sampling ✓.
3) convenience
4) stratified.

47) Which one of the following is the benefit of using simple random sampling?

1. Information can refuse to... 2. Interviewer can choose respondent freely
3. The results are always repres... 4. We can calculate the accuracy of results ✓

48) Whis of the following would usually require the largest sample because of its efficiency?

1. Two stage cluster sampling 2. One stage C.S ✓
3. Simple random 4. Quota Sampling

49) People who are available, volunteer, or can be easily recruited are used in the sampling called.

1. Convenience sampling ✓ 2. Cluster
3. Simple 4. Systematic

50) Which of the following would require the largest sample size.

1. Systematic sample. 2) Simple random sampling.
3. Cluster sampling ✓ 4) Proportional stratified.

51) A technique used when selecting clusters of different sizes is called.

1. Two stage sampling. 2) Probability proportional to size ✓
3. Cluster sampling 4) One-Stage sampling.

42 :

52) Mrs. Traham samples her class by selecting every third person on her class list. Which type of sampling method is this.

1. Cluster
2. Systematic ✓
3. Simple
4. Stratified.

53). Farmer Joe's apple tree farm is set up in 100 rows. He counts the number of apples produced on every 10th row to estimate the number apples produced on the whole farm. This is _____ sampling.

1. Simple
2. Cluster
3. Systematic ✓
4. Stratified

54) Farmer Joe's separate his apple tree farm into 10 regions. He counts the number of apples produced in just one of the region and uses that estimate to predict the number of apples produced on the whole farm. This is _____ sampling.

1. Simple
2. Cluster. ✓
3. Stratified
4. Systematic.

(5) Mrs. Traham samples her class by selecting all students sitting at group 1 and group 5 in her class. This sampling technique is called,

1. Cluster. ✓
2. Simple
3. Systematic
4. Stratified.

(6) Mrs. Traham samples her class by picking 10 numbers from her hat and each number is assigned to a student. This is

1. Cluster
2. Simple ✓
3. Systematic
4. Stratified.

(7) Who introduced the basic concept of ranked set sampling.

1. John (1952)
2.
3. None of these
4.

(8) The list of all units in a population is called.

1. Bias
2. Random Sampling
3. Parameter
4. Sampling frame. ✓

(9) When one examines the

1. Bias
2. Sampling
3. Census ✓
4. Sample

60) When sample size increases, everything else remaining the same, the width of a confidence interval for a population parameter will:

1. decrease ✓
2. increase.
3. remain unchanged.
4. Sometime increase, some-time decrease.

61). Which of the following statements best describes the relationship between a parameter and a statistic?

1. A statistic is used to estimate a parameter ✓
2.
3.
4.

62). The value of n_2 by proportional allocation from the following information is.

$N_1 = 580$, $N_2 = 140$, $n = 80$

1. 65.

$$n_2 = \frac{N_2}{N} n$$

$$= \frac{140}{720} (80)$$

$$= 15.57$$