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100% Sure
STA 301
QUIZ 32 TO 38

Question # 1

A standard deviation obtained from sampling distribution of sample statistics is known as

Sampling error

Standard error (Page 240)

Minimum error

Universal error

Question # 2

The probability distribution of the proportion of successes in all possible samples is called the:

Sampling distribution (Page 237)

Sampling probability distribution

Sampling distribution of sample proportions

Sampling distribution of Population proportions

Question # 3

As an estimate a *single* value calculated from the sample that is likely to be close in magnitude to the unknown parameter

Ans:

POINT ESTIMATION

Question # 4

an estimator is always a

statistic which is a *function* of the sample observations and hence *is a random variable* as the sample observations are likely to vary from sample to sample.

Question # 5

The mean of the sampling distribution of–X is equal to the population mean.

Ans:

μx = μ,

Question # 6

Conventionally, the probability of making a type-II error is denoted by:

Beta Lect. 36, page no. 273 handouts
Sigma
Alpha
Theta

Question # 7

44. Conventionally, the probability of making a type-I error is denoted by which of the following symbol?

Theta
Alpha) Lect. 36, page no. 273
Sigma
Beta

Question # 8

2. Which of the following is most important and most widely used method in point estimation?

The most often used, **the maximum likelihood method**, uses differential calculus to determine the maximum of the probability function of a number of sample parameters. The moments method equates values of sample moments (functions describing the parameter) to population moments.

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The method of moments
The method of fractional moments
The method of maximum likelihood Lect. 34, page no. 258 Handouts
The method of least square

Question # 9

The difference between the value of the statistic and the value of the parameter can be regarded as an *error* --- and is called
Ans:

'sampling error #257

Question # 10
A random sample of n = 6 has the elements 6, 10,13,14,18 and 20.What is the point estimate of the population mean?
12
13.5
11
11.5

Question # 11
The test statistic to test the U1 = U2 (U represent the mean of population)for normal population for n>30.
F-test
Z-test
T-test
Chi-Square test
Question # 12
Critical region is also known as

Rejection region

Question # 13

Simple random sampling is approp… when the unit is population are

Homogeneous
Question # 14

Criteria to check a point estimator to be good involves
Select correct option:
Consistency
Unbiasedness
Efficiency
Above all pg 258
Question # 15
If a significance level of 1% is used rather than 5%, the null hypothesis is:
o More likely to be rejected
o Less likely to be rejected Click Here For Reference
o Just as likely to be rejected
o None of the above
Question # 16
To determine a sample size which test we use _____.
Z (Sure)
T
None of these
F
Question # 17
We can apply method of Maximum Likelihood on:
Discrete variables only
Discrete as well as continuous variables Lect. 34, page no. 258 handouts
Continuous variables only
Qualitative variables only

Question # 18
"A point estimate plus/minus a few times the standard error of that estimate". This statement represents:

Confidence interval Lect. 35, page no. 265 handouts
Critical value
Acceptance region
Critical region
Question # 19
7. Conventionally, the probability of making a type-II error is denoted by:

Beta Lect. 36, page no. 273 handouts
Sigma
Alpha
Theta

Question # 20

A deserving player was not selected in the cricket team. It is an example of:

Type-II error
Type-I error (Lecture no 36 Page no 273 Handouts)
Type-IV error
Type-II error

Question # 21

"To consider every possible value that the parameter might have, and for each value, compute the probability and THAT value of the parameter for which the probability of a given sample is greatest, is chosen as an estimate." This procedure is known as

The method of moments
The method of least square
The method of maximum likelihood (Lecture no 34 Page no 258 Handouts)
The method of fractional moments

Question # 22

When sample size is to be considered large, population standard deviation can be replaced by:

Sample standard deviation Lect. 38, page no. 280 handouts
Population variance
Sample mean
Sample variance

Question # 23

22. An estimator is said to be _____ if its expected value is equal to true value of its parameter.

Efficient
Biased
Unbiased Lect. 33, page no. 253 Handouts
Consistent

Question # 24

a statistic whose STANDARD ERROR *decreases* with an *increase* in the sample size, will be

consistent.

Question # 25

Normal approximation to the binomial distribution is used when:
np>5
nq>5
Both of the above (Page 235)
None of the above

Question # 26

Interval estimation and Confidence interval are:
Same
Different Lect. 34, page no. 259
Dependent
Independent

Question # 27

An experiment was conducted to estimate the mean yield of a new variety of wheat. A sample of 20
plots gave a mean yield of 2.9, and a 95% confidence interval of (2.48, 3.32). This means:

We are 95% confident that the true mean yield of this variety is between 2.48 and 3.32
Lect. 35, page no. 265 (Concept taken from example-1)
We are 95% confident that the true mean yield of this variety is 2.9
None of these
We are sure the true mean of this new variety is between 2.48 and 3.32

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Question # 28

The mean of the sampling distribution of X1 – X2 , denoted by , X1 –X2 μ is equal to the difference between

population means, that is
PROPERTIES OF THE SAMPLING DISTRIBUTION OF X1 – X2
Property No. 1: pg# 247

Question # 29

If Var (mean1) < Var (mean2) it implies
- Mean 1 is more consistent
- Mean 2 is more consistent
- Mean 2 is more efficient
- Mean 1 is more efficient Lect. 34, page no. 256 handouts

Question # 30

When sample size is to be considered large, population standard deviation can be replaced by:

- Sample standard deviation Lect. 38, page no. 280 handouts
- Population variance
- Sample mean
- Sample variance

Question # 31

If an estimator is more efficient then the other estimator, its shape of the sampling distribution will be
- Flattered
- Skewed of right
- Normal
- Highly peaked Lect. 34, page no. 256

Question # 32

In interval estimation we obtained a ____ of values as an estimate of parameter.

- Group
- Range Lect. 34, page no. 259
- Both a and b
- None of these

Question # 33

Alpha is the probability of:

- Type-I error
- Committing type-I error
- All of these Lect. 36, page 273 handouts
- Reject H0/H0 is true

Question # 34

Which of the following is not a criterion for a good problem situation?

Ans:

It must be dearly structured and defined.

Question # 35

A random sample of n=25 values gives sample mean 83. Can this sample be regarded as drawn from a normal population with fl= 80 and s= 7? In this question the alternative hypothesis will be

H1: [i* 80

Question # 36

Consider a large population with a mean of 160 and a standard deviation of 20. A random sample of size64 is taken from this population. What is the standard deviation of the sample mean

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Ans:

2.500

Question # 37

Which of the following is not criterion for a good problem situation?

It must be clearly structured and defined (Confirmed from Riz Mughal File)
It must be appropriate to the students' level of development (Not Sure)
It must be authentic
It must be such that solution will be benefited by group effort

Question # 38

Total no. of possible samples of size 2 (without replacement) from the population of size 6, will be:
20
15
10
18

Question # 39

A foeed student was possed by the examiner " is on example of;

Ans:

Type II error

Question # 40

In binomial distribution the sample size is considered to the sufficiently large, if both np and nq are
greater than or equal to
10

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□□3
□□5 Lect. 30, page no. 230 handouts
□□15

Question # 41

Which one provides the basis for hypothesis testing?

Null hypothesis
Alternative hypothesis
Critical value
Test-statistics

Question # 42

. An estimator is said to be efficient if it has

□ Smallest variance Lect. 34, page no. 256 handouts
□ Unbiased estimate
□ Both a and b
□ None of these

Question # 43

The standard deviation of the sampling distribution of proportions, called the *standard error* of

$$\sigma_{\hat{p}} = \sqrt{\frac{pq}{n}}$$

Question # 44
Property No. 2:
In case of sampling with or without replacement from two *infinite* populations, the standard deviation of the sampling distribution of X1 − X2 (i.e. *standard error* of X1 − X2), denoted by , X1 −X2 σ is given by

$\sigma X1\ X2 = \sqrt{\sigma^2_1 / n_1 + \sigma^2_2 / n_2}$

Question # 45

When an interval is constructed, what is the probability of occurrence of parameter in it?

- 50
- 1
- 0
- Either 1 or 0 (Page no 263)

Question # 46

The width of the confidence interval is called ____ of the estimate.

- Unbiasedness
- Precision Google, conceptual
- Accuracy
- Biased

Question # 47

An experiment was conducted to estimate the mean yield of a new variety of wheat. A sample of 20 plots gave a mean yield of 2.9, and a 95% confidence interval of (2.48, 3.32). This means:

- We are 95% confident that the true mean yield of this variety is between 2.48 and 3.32

Lect. 35, page no. 265 (Concept taken from example-1)

- We are 95% confident that the true mean yield of this variety is 2.9
- None of these
- We are sure the true mean of this new variety is between 2.48 and 3.32

Question#48

THE STANDARD NORMAL DISTRIBUTION

A normal distribution whose mean is …… and whose standard deviation is 1 is known as the standard normal distribution

zero

Question#49

The ……of the variance is the standard deviation,

square root

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