**Question 1**

Marks: 1

Binomial Distribution is a \_\_\_\_\_\_\_\_\_\_\_

Continuous distribution

Discrete distribution-------

Irregular distribution

Not a Probability distribution

**Question 2**

Marks: 1

What is the mean of a Chi Square distribution with 6 degrees of freedom?

4

12

6---

8

**Question 3**

Marks: 1

For a random sample of 9 women, the average resting pulse rate is x = 76 beats per minute, and the sample standard deviation is s = 5. The standard error of the sample mean is

0.557

0.745

1.667

2.778

**Question 4**

Marks: 1

Suppose a 95% confidence interval for the proportion of Americans who exercise regularly is 0.29 to 0.37. Which one of the following statements is FALSE?

It is reasonable to say that more than 25% of Americans exercise regularly.

It is reasonable to say that more than 40% of Americans exercise regularly.

The hypothesis that 33% of Americans exercise regularly cannot be rejected.

It is reasonable to say that fewer than 40% of Americans exercise regularly.

**Question 5**

Marks: 1

We toss a coin. If we get head, we toss a coin again and if we get tail we throw a die. What is the probability of getting an odd number on die?

0.345

0.79

0.2

0.25

**Question 6**

Marks: 1

A Null Hypothesis has Level of Significance 9%. For what values of Level of Significances it will be rejected?

0.99

0.09

0.099

0.9

**Question 7**

Marks: 1

Parametric test, unlike the non-parametric tests, make certain assumptions about

The population size

The underlying distribution

The sample size

None

**Question 8**

Marks: 1

Suppose we wish to test H0 : µ =21 vs H1 : µ > 21. Which of the following possible sample results gives the most evidence to support H1 (i.e., reject H0)? Hint: Compute Z-score.

x = 23 s , = 3

x = 19 s , = 4

x = 17 s , = 7

x = 18 s , = 6

**Question 9**

Marks: 1

Which of the following can be considered as random variable?

The outcome from the roll of a die

The outcome of flip of a coin

The outcome of exam

All of the mentioned

**Question 10**

Marks: 1

The owner of a travel agency would like to determine whether or not the mean age of the agency's customers is over 24. If so, he plans to alter the destination of their special cruises and tours. If he concludes the mean age is over 24 when it is not, he makes a \_\_\_\_\_\_\_ error. If he concludes the mean age is not over 24 when it is, he makes a \_\_\_\_\_\_error.

Type II; Type II

Type I; Type I

Type I; Type II

Type II; Type I

**Question 11**

Marks: 1

Which of the following does not need to be known in order to compute the P-value?

knowledge of whether the test is one-tailed or two-tail

the value of the test statistic

the level of significance

All of the above are needed

**Question 12**

Marks: 1

What is the mean of a Chi Square distribution with 6 degrees of freedom?

4

12

6

8

**Question 13**

Marks: 1

Which of the following distributions is Continuous

Binomial Distribution

Hyper-geometric Distribution

F-Distribution----

Poisson Distribution

**Question 14**

Marks: 1

Consider the same case as in the question no. 10. It is given that elder child is a boy. What is the conditional probability that both children are boys?

0.33

0.23

0.5

0.76

**Question 15**

Marks: 1

Which one of the following is not a continuous type of data?

Temperature

Weight

Gender

Price

Show Explanation

**Question 16**

Marks: 1

Which of the following statement is incorrect with respect to outliers?

Outliers can have varying degrees of influence

Outliers can be the result of spurious or real processes

Outliers cannot conform to the regression relationship

None of the mentioned

**Question 17**

Marks: 1

If the Critical region is evenly distributed then the test is referred as?

Two tailed

One tailed

Three tailed

Zero tailed

**Question 18**

Marks: 1

please refer to the case and table given in the question No. 3 and determine what is the probability that if we buy a new tyre then it will last in the interval [4000-14000] miles?

0.56

.577

0.745

0.73

**Question 19**

Marks: 1

When the null hypothesis has been true, but the sample information has resulted in the rejection of the null hypothesis, a \_\_\_\_\_\_\_\_\_ has been made

level of significance

Type II error

critical value

Type I error

**Question 20**

Marks: 1

We toss a coin. If we get head, we toss a coin again and if we get tail we throw a die. What is the probability of getting a number greater than 4 on die?

0.166

0.34

0.78

.34

**Question 21**

Marks: 1

The level of significance can be viewed as the amount of risk that an analyst will accept when making a decision

True

False

**Question 22**

Marks: 1

We toss a coin. If we get head, we toss a coin again and if we get tail we throw a die. What is the probability of getting a number greater than 4 on die?

0.166

0.34

0.78

0.34

**Question 23**

Marks: 1

Let us make an assumption that each born child is equally likely to be a boy or a girl. Now suppose, if a family has two children, what is the conditional probability that both are girls given that at least one of them is a girl?

0.33

0.45

0.56

0.26

**Question 24**

Marks: 1

A randomly selected sample of 1,000 college students was asked whether they had ever used the drug Ecstasy. Sixteen percent (16% or 0.16) of the 1,000 students surveyed said they had. Which one of the following statements about the number 0.16 is correct?

It is a sample proportion.

It is a population proportion.

It is a margin of error.

It is a randomly chosen number.

**Question 25**

Marks: 1

Point out the correct statement.

The exponent of a normally distributed random variables follows what is called the log normal distribution

Sums of normally distributed random variables are again normally distributed even if the variables are dependent

The square of a standard normal random variable follows what is called chi-squared distribution

All of the mentioned

**Question 26**

Marks: 1

Which of the following function is associated with a continuous random variable?

pdf

pmv

pmf

all of the mentioned

**Question 27**

Marks: 1

A telephone directory page has 400 telephone numbers. The frequency distribution of their unit place digit (for example, in the number 25827689, the unit place digit is 9 is given in table below:  
First row refers to the digits  
Second row to their frequencies.  
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  
|44 |52 |44 |44 |40 |20 |28 |56 |32 |40 |  
What will be the probability of getting a digit with unit place digit odd number that is 1,3,5,7,9?

0.67

0.60

0.45

0.53

**Question 28**

Marks: 1

If ‘p’, ‘q’ and ‘n’ are probability pf success, failure and number of trials respectively in a Binomial Distribution, what is its Standard Deviation?

√np

√pq

(np)2

√npq

**Question 29**

Marks: 1

The \_\_\_\_\_\_\_\_\_ of the Chi-squared distribution is twice the degrees of freedom.

variance

standard deviation

mode

none of the mentioned

**Question 30**

Marks: 1

A statement made about a population for testing purpose is called?

Statistic

Hypothesis-----

Level of Significance

Test-Statistic

**Question 31**

Marks: 1

If the assumed hypothesis is tested for rejection considering it to be true is called?

Null Hypothesis----

Statistical Hypothesis

Simple Hypothesis

Composite Hypothesis

**Question 32**

Marks: 1

When testing the following hypotheses at an α level of significance

p = 0.7

p > 0.7

null hypothesis will be rejected if the test statistic Z is

z > zα

**Question 33**

Marks: 1

In a past General Social Survey, a random sample of men and women answered the question “Are you a member of any sports clubs?” Based on the sample data, 95% confidence intervals for the population proportion who would answer “yes” are .13 to .19 for women and .247 to .33 for men. Based on these results, you can reasonably conclude that

At least 25% of American men and American women belong to sports clubs.

At least 16% of American women belong to sports clubs.

There is a difference between the proportions of American men and American women who belong to sports clubs.

There is no conclusive evidence of a gender difference in the proportion belonging to sports clubs.

**Question 34**

Marks: 1

A box contains three coins: two regular coins and one fake two-headed coin, you pick a coin at random and toss it. What is the probability that it lands heads up?

1/3

2/3

1/2

3/4

**Question 35**

Marks: 1

Assume the cholesterol levels in a certain population have mean µ= 200 and standard deviation σ = 24. The cholesterol levels for a random sample of n = 9 individuals are measured and the sample mean x is determined. What is the z-score for a sample mean x = 180?

–3.75

–2.50

−0.83

2.50

**Question 36**

Marks: 1

A hypothesis test in which rejection of the null hypothesis occurs for values of the point estimator in either tail of the sampling distribution is called

the null hypothesis

the alternative hypothesis

a one-tailed test

a two-tailed test

**Question 37**

Marks: 1

The maximum probability of a Type I error that the decision maker will tolerate is called the

level of significance

critical value

decision value

probability value

**Question 38**

Marks: 1

There are three persons Evan, Ross and Michelle. These people lined up randomly for a picture. What is the probability of Ross being at one of the ends of the line?

0.66

0.45

0.23

0.56

**Question 39**

Marks: 1

Suppose we wish to test H0: µ =53 vs H1: µ > 53. What will result if we conclude that the mean is greater than 53 when its true value is really 55?

We have made a Type I error

We have made a correct decision

We have made a Type II error

None of the above are correct

**Question 40**

Marks: 1

Normalized data are centered at \_\_\_ and have units equal to standard deviations of the original data.

0

5

1

10

**Question 41**

Marks: 1

The range of Level of Significance lies between \_\_\_\_\_\_\_\_\_\_\_\_

-∞ and 0

-∞ and ∞

0 and ∞

0 and 1

**Question 42**

Marks: 1

\_\_\_\_\_\_\_\_\_\_ random variables are used to model rates.

Empirical

Binomial

Poisson

All of the mentioned

**Question 43**

Marks: 1

A die is thrown 1402 times. The frequencies for the outcomes 1, 2, 3, 4, 5 and 6 are given in the following table:  
|Outcome |Frequency |  
|1 |400 |  
|2 |300 |  
|3 |157 |  
|4 |180 |  
|5 |175 |  
|6 |190 |  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Find the probability of getting 6 as outcome:

0.34

0.135

0.45

0.78

**Question 44**

Marks: 1

Which of these distributions is used for a testing hypothesis?

Normal distribution

chi-squared distribution---

gamma distribution

Poission distribution

**Question 45**

Marks: 1

By taking a level of significance of 5% it is the same as saying

We are 5% confident the results have not occurred by chance

We are 95% confident that the results have not occurred by chance

We are 95% confident that the results have occurred by chance

None

**Question 46**

Marks: 1

Which of the following testing is concerned with making decisions using data?

Probability

Hypothesis

Causal

None of the mentioned

**Question 47**

Marks: 1

The expected value or \_\_\_\_\_\_\_ of a random variable is the center of its distribution.

mode

median

mean

bayesian inference

**Question 48**

Marks: 1

We have a box containing cards numbered from 1 to 8. We draw a card randomly from the box. If it is told to you that the card drawn is less than 4 what is the probability that the card is even?

0.33

0.40

0.56

0.89

**Question 49**

Marks: 1

The test statistic is t = 2.63 and the p-value is 0.9849. What type of test is this?

Right tail

Two tail

Left tail

Can't tell

**Question 50**

Marks: 1

Let us make an assumption that each born child is equally likely to be a boy or a girl. Now suppose If a family has two children, what is the conditional probability that both are girls given that at least one of them is a girl?

0.33

0.45

0.56

0.26

**Question 51**

Marks: 1

Which of the following theorem states that the distribution of averages of iid variables, properly normalized, becomes that of a standard normal as the sample size increases?

Central Limit Theorem

Central Mean Theorem

Centroid Limit Theorem

All of the mentioned

**Question 52**

Marks: 1

The test statistic is z =2.75, the critical value is z = 2.326. The p- value is …

Less than the significance level

Equal to the significance level

Large than the significance level

NONE

**Question 53**

Marks: 1

Suppose we throw two dice together. What is the conditional probability of getting sum of two numbers found on the two die after throwing is less than 4, provided that the two numbers found on the two die are different?

0.3

0.56

0.24

0.06

**Question 54**

Marks: 1

Alternative Hypothesis is also called as?

Composite hypothesis

Research Hypothesis----

Simple Hypothesis

Null Hypothesis

**Question 55**

Marks: 1

Using a goodness of fit,we can assess whether a set of obtained frequencies differ from a set of\_\_\_\_\_frequencies

ean

Actual

Predicted

Expected------

**Question 56**

Marks: 1

The area to the left of the test statistic is 0.375. What is the probability value if this is a left tail test?

0.750

0.375

0.1885

0.625

**Question 57**

Marks: 1

A Type II error is the error of

accepting Ho when it is false

accepting Ho when it is true

rejecting Ho when it is false

rejecting Ho when it is true

**Question 58**

Marks: 1

A bottling company needs to produce bottles that will hold 12 ounces of liquid. Periodically, the company gets complaints that their bottles are not holding enough liquid. To test this claim, the bottling company randomly samples 36 bottles. Suppose the p-value of this test turned out to be 0.0455. State the proper conclusion.

At α = 0.085, fail to reject the null hypothesis.

At α = 0.035, accept the null hypothesis.

At α = 0.05, reject the null hypothesis.

At α = 0.025, reject the null hypothesis.

**Question 59**

Marks: 1

Please refer to the case and table given in the question No. 3 and determine what is the probability that if we buy a new tyre then it will last in the interval [4000-14000] miles?

0.56

0.577

0.745

0.3

**Question 60**

Marks: 1

A statement made about a population for testing purpose is called?

Statistic

Hypothesis

Level of Significance

TestStatistic