



STUDENT

**0029-KFR**

TENTAMEN

**TIG109 Tentamen**

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Kurskod	--
Bedömningsform	DT
Starttid	03.05.2022 10:00
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**Sektion 1**

Fråga	Status	Poäng	Uppgiftstyp
<b>i</b>			Dokument

**Sektion 2**

Fråga	Status	Poäng	Uppgiftstyp
<b>i</b>			Dokument
1	Rätt	1/1	Flervalsfråga
2	Fel	0/1	Flervalsfråga
3	Rätt	1/1	Flervalsfråga
4	Fel	0/1	Flervalsfråga
5	Rätt	1/1	Flervalsfråga
6	Rätt	1/1	Flervalsfråga
7	Rätt	1/1	Flervalsfråga
8	Rätt	1/1	Flervalsfråga
9	Rätt	1/1	Flervalsfråga
10	Rätt	1/1	Flervalsfråga
11	Rätt	1/1	Flervalsfråga
12	Rätt	1/1	Flervalsfråga
13	Rätt	1/1	Flervalsfråga
14	Rätt	1/1	Flervalsfråga
15	Rätt	1/1	Flervalsfråga
16	Rätt	1/1	Flervalsfråga
17	Rätt	1/1	Flervalsfråga

18	Rätt	1/1	Flervalsfråga
19	Rätt	1/1	Flervalsfråga
20	Rätt	1/1	Flervalsfråga

**Sektion 3**

Fråga	Status	Poäng	Uppgiftstyp
21	Rätt	4/4	Sifferfält
22	Rätt	1/1	Sifferfält
23	Rätt	1/1	Flervalsfråga

**Sektion 4**

Fråga	Status	Poäng	Uppgiftstyp
<b>i</b>			Dokument
24	Rätt	6/6	Sifferfält
25	Rätt	5/5	Sant/Falskt

- 1 When constructing a stem-and-leaf display, the leading digits of each number in a data set become

**Välj ett alternativ:**

- frequencies.
- branches.
- leaves.
- stems.



2 The \_\_\_\_\_ tells us approximately how far scores vary from the mean on the average.

**Välj ett alternativ:**

- range
- standard deviation
- standard error of the mean
- sum of squared deviations



3 The score appearing most frequently in a distribution is called the

**Välj ett alternativ:**

- mean.
- mode.
- median
- standard deviation.



4 A measure of effect size that is appropriate when we are comparing two means is

**Välj ett alternativ:**

- Phi.
- Cohen's d.
- Cramer's V.
- partial eta squared.



- 5 When interpreting confidence intervals when there are three or more means, if two or more intervals do not overlap, we may conclude that

**Välj ett alternativ:**

- the true population mean difference is zero.
- the population means do not differ.
- the population standard deviations differ.
- the population means differ.



- 6 A scatterplot that appears to have no shape or reveals no trend whatsoever is associated with a correlation coefficient of

**Välj ett alternativ:**

- + 1.00.
- 0.0.
- either -.50 or +.50.
- .50.



- 7 The Pearson correlation coefficient  $r$  describes the

**Välj ett alternativ:**

- significance of a correlation.
- alpha level of a correlation.
- strength of a correlation.
- error term of a correlation.



- 8 Which of the following correlations between two variables gives us the best basis for predicting the value of one variable based on the other?

**Välj ett alternativ:**

- $r = .31, p = .018$
- $r = -.43, p = .32$
- $r = -.43, p = .039$
- $r = .31, p = .57$



- 9 Null hypothesis significance testing begins with the assumption that the performance of two or more groups

**Välj ett alternativ:**

- differs at a value of  $p < .05$
- differs only slightly.
- does not differ.
- differs significantly.



- 10 A statistically significant outcome is one that has a small likelihood of occurring if the null hypothesis is

**Välj ett alternativ:**

- accepted.
- true.
- wrong.
- false.



11 A Type I error arises when we

**Välj ett alternativ:**

- reject a true null hypothesis.
- fail to reject a false null hypothesis.
- fail to reject a true null hypothesis.
- reject a false null hypothesis.



12 The level of significance in psychological research is equivalent to

**Välj ett alternativ:**

- .50
- power.
- a Type I error.
- a Type II error.



13 Results that are "statistically significant"

**Välj ett alternativ:**

- do not prove that the research hypothesis is true.
- indicate the null hypothesis is true.
- indicate that the research hypothesis is false.
- prove that the research hypothesis is true.



14 A simple main effects analysis examines the effect of one independent variable

**Välj ett alternativ:**

- across all levels of another independent variable.
- in a single factor design.
- for all other independent variables.
- at one level of a second independent variable.



15 A statistically significant outcome is one that has \_\_\_\_\_ likelihood of occurring if the null hypothesis is true.

**Välj ett alternativ:**

- a large
- a significant
- a small
- zero






16 The probability of a Type I error can be reduced by

**Välj ett alternativ:**

- changing alpha from .05 to .01.
- decreasing the probability of a Type II error.
- changing alpha from .05 to .10.
- accepting the null hypothesis.





- 17 When conducting an analysis of variance, we assume that any systematic variation due to the effect of the independent variable is added to
- Välj ett alternativ:**
- within-group variation.
  - the denominator of the F ratio.
  - the null hypothesis.
  - between-group variation. 
- 18 In a Chi square test, a measure of strength of association is
- Välj ett alternativ:**
- Cohen's d.
  - the p-value.
  - Phi. 
  - Eta squared.
- 19 What is true about the probability p in a hypothesis testing procedure (NHST)?
- Välj ett alternativ:**
- p is the likelihood of the null hypothesis
  - p is the likelihood of the data assuming the null hypothesis is true 
  - p is the likelihood of the alternative hypothesis
  - p is the likelihood that the alternative hypothesis is false

**20** What is the primary factor that researchers use to control power?

**Välj ett alternativ:**

- Type II error
- the level of statistical significance
- sample size
- effect size



## 21 ANOVA Summary Table

Look over the ANOVA summary table below and answer the questions that follow.





Results of a complex independent groups design are as follows:

### Tests of Between-Subjects Effects

Dependent Variable: Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4077,675 <sup>a</sup>	3	1359,225	5,946	,002
Intercept	134676,025	1	134676,025	589,155	<,001
Group	2673,225	1	2673,225	11,694	,002
Difficulty	1404,225	1	1404,225	6,143	,018
Group * Difficulty	,225	1	,225	,001	,975
Error	8229,300	36	228,592		
Total	146983,000	40			
Corrected Total	12306,975	39			

a. R Squared = ,331 (Adjusted R Squared = ,276)

- A. How many levels of factor Group are there?  
- B. How many levels of factor Difficulty are there?  
- C. What is the total number of subjects?  
- D. Assuming equal group size, how many subjects are there in each group?  

- 22 What are the numerator and the denominator for the F ratio corresponding to the interaction effect in the table?

F =   /  

23 Which results are statistically significant, based on the table? (select one or several)

Välj ett eller flera alternativ:

- Main effect of Group
- Main effect of Difficulty
- Interaction effect of Group and Difficulty
- None



24 A. What are the probability values ( $p$ -values) associated with  $F$ -tests for

- a) Main effect of Gender?
- b) Main effect of Task?
- c) Interaction effect of Gender and Task?

B. What are the effect sizes for

- a) Main effect of Gender?
- b) Main effect of Task?
- c) Interaction effect of Gender and Task?

**25 What does the output show? (select one or several)**

There is a statistically significant main effect of Gender.

**Välj ett alternativ:**

Sant



Falskt

There is a statistically significant main effect of Task.

**Välj ett alternativ**

Sant

Falskt



There is a statistically significant interaction effect of Gender and Task.

**Välj ett alternativ**

Sant

Falskt



There is a statistically significant simple main effect of Task for Males.

**Välj ett alternativ**

Sant

Falskt



There is a statistically significant simple main effect of Task for Females.

**Välj ett alternativ**

Sant

Falskt

