



# UNIVERSITY OF THE PUNJAB

Fifth Semester – 2019

Examination: B.S. 4 Years Program

Roll No. in Fig. ....

Roll No. in Words. ....

**PAPER: Statistics in Psychology**  
**Course Code: APSY-357 Part-I (Compulsory)**

**MAX. TIME: 15 Min.**  
**MAX. MARKS: 10**

.....  
Signature of Supdt.:

**Attempt this Paper on this Question Sheet only.**

**Please encircle the correct option. Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

**Q.1. Encircle the right answer, cutting and overwriting is not allowed. (1x10=10)**

1. Which of the following is affected by extreme scores?

- (a) The mean
- (b) The median
- (c) The mode
- (d) None of the above will be affected

2. Appropriate graph to present frequencies of three categories of products is

- (a) bar diagram
- (b) histogram
- (c) polygon
- (d) ogive

3. In my experiment, I am going to investigate how sleep affects anxiety. The number of hours of sleep the subjects have is called the \_\_\_\_\_ variable.

- (a) Independent
- (b) Extraneous
- (c) Dependent
- (d) Control

4. Power of a test is

- (a) the probability of accepting the null hypothesis when it is true.
- (b) the probability of accepting the null hypothesis when it is false.
- (c) the probability of rejecting the null hypothesis when it is true.
- (d) the probability of rejecting the null hypothesis when it is false.

5. Assume that a chi-square test is to be performed on a contingency table with four rows and four columns. What should be the degree of freedom?

- (a) 16
- (b) 4
- (c) 8
- (d) 9

**P.T.O.**

**6. The analysis of variance is used in testing**

- a. the equality of more than two population variances
- b. the equality of more than two population means
- c. the equality of more than two population standard deviations
- d. none of these

**7. If the independent and dependent variables both increase in an estimating equation, the coefficient of correlation will be in the range**

- e. 0 to -1
- f. 0 to 1
- g. Exact zero
- h. None of these

**8. If  $a = 4$  and  $b = 2$  for a particular regression equation and the independent variable has a value of 3, then the value of dependent variable is**

- a. 14
- b. 10
- c. 9
- d. -2

**9. To perform the Mann-Whitney test,**

- a. the scores are ranked separately for each group.
- b. the scores are combined into one large group before ranking.
- c. the two groups must be the same size.
- d. the ranks for one group are added to the ranks for the other group.

**10. Chi square test of independence measures**

- e. if two variables are different from each other
- f. if two variables are independent of each other
- g. if variables follow a theoretical distribution
- h. both b and c



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Fifth Semester – 2019

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PAPER: Statistics in Psychology

Course Code: APSY-357 Part – II

MAX. TIME: 2 Hrs. 45 Min.

MAX. MARKS: 50

**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**Q.2. Questions with short answers.**

**(10 x 2 = 20)**

1. Define frequency distribution and its types.
2. Write down empirical relationship between mean, median and mode when data is normal.
3. Define Z-score and its purpose.
4. Define type I and type II errors.
5. What are measures of dispersion/variability?
6. Define level of significance and p-value.
7. Differentiate between regression and correlation.
8. What is Critical region?
9. Write down name of common Non-parametric tests.
10. What do you mean by tied ranks?

**Q.3. Questions with brief answers.**

**(3 x 10 = 30)**

1: The skull breadths of a certain pupation of rodent follows normal distribution with mean 50 mm and standard deviation 10 mm. Find the proportion of rodents whose skull breadth is

- i. More than 75 mm
- ii. Less than 40 mm

**Marks 10**

2: For the given data below, the marks in two subjects "X" and "Y"

X	26	25	33	35	22	48	18	20	41	49
Y	43	89	42	73	34	51	82	28	39	85

- i. Compute Pearson's correlation coefficient.

**Marks 10**

3: Following are pre course and post course scores of students. Find if there is any significant mean difference at alpha .01.

**Marks 10**

Pre	18	21	16	22	19	24	21	17	18	14
Post	22	25	17	24	29	30	29	27	20	20