

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2019
(Third Semester)

Branch - PSYCHOLOGY

PSYCHOLOGICAL STATISTICS - II

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1 A property of a sample drawn at random from a population is known as:
(i) Estimate (ii) Data (iii) Statistics (iv) Scores
- 2 In simple random sampling with replacement, the same sampling unit may be included in the sample
(i) Only once (ii) only twice (iii) more than twice (iv) None of these
- 3 The idea of setting hypothesis was first set by
(i) Fisher RA (ii) Neymeri J (iii) Lehmann EL (iv) Wald A
- 4 What would be the degrees of freedom for the numerator and denominator of the F -ratio defined as 'MSA3B/MSE'?
(i) 1 and 96 respectively (ii) 1 and 98 respectively
(iii) 2 and 97 respectively (iv) 3 and 96 respectively
- 5 Which among the following is the possible value of Coefficient of Correlation between 2 sets of values?
(i) -3 (ii) -1.9 (iii) -0.5 (iv) 2
- 6 Fit a straight line for the following data X = 1 2 3 4 6 8 Y = 2 4 3 3 6 4 5 6
(i) $y = 0.605x + 1.796$ (ii) $y = 0.506x + 1.976$
(iii) $y = 0.506x + 1.796$ (iv) $y = 0.506x + 1.976$
- 7 The technical terms used for two dimensional tables in chi - square test are known as
(i) Contingency table (ii) Frequency table
(iii) Measurement table (iv) Minitab
- 8 One of the following is not a Non - parametric test
(i) Sign test (ii) F -test (iii) Run test (iv) Sum of ranks test
- 9 To obtain inter-item correlations, which one of the following correlation coefficient should be used?
(i) Biserial correlation (ii) Point biserial correlation
(iii) Phi -coefficient (iv) Rank difference correlation
- 10 Discrimination index is one of the measures followed in _____
(i) Reliability assessment (ii) Validity assessment
(iii) Opinon survey (iv) None of these

SECTION - B 135 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 7 = 35)

- 11 a Write about the requisites of Good Sample.
OR
b Give an example for sampling and non-sampling errors.
- 12 a What does the term: Test of significance indicates? Briefly explain.
OR
b Explain the steps in the calculation of 't' values for an independent sample.
- 13 a Explain the method of plotting scatter diagram with an illustration.
OR
b Compute Rank order correlation for the scores given below:

14 a Outline the basic assumptions of distribution free statistics.

OR

b A mental health centre accommodates mentally ill patients. The center claims that 30% of the inmates are mentally retarded, 60% drug addicts but not Schizophrenics and 10% are Schizophrenics. Suppose a random sample of 100 patients has 50 mentally retarded, 45 drug addicts, and 5 Schizophrenics. Is this consistent with mental health center's claim? Use a 0.05 level of significance.

15 a Define the term: Reliability and highlight the various methods of finding out reliability.

OR

b Explain the procedure of establishing construct validity of a newly developed tool.

SECTION - C (30 Marks!

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Explain how a random sample for a psychological research is drawn. Write its merits and demerits.

17 The data in the table below resulted from an experiment that utilized a completely randomized design.

Computer 'F' value.

Treatment-I	Treatment - II	Treatment - III
3.9	5.4	1.3
1.4	2.0	0.7
4.1	4.8	2.2
5.5	3.8	
2.3	3.5	

18 The sports psychologist wants to look at the relationship between calcium intake and knowledge about calcium in sports science students. Further she wants to know if knowledge about calcium can be used to predict calcium intake of the students. Table 1 shows the data she collected.

Table 1 : Dietetics study data

Respondent number	Knowledge score (Out of 50)	Calcium intake (mg/day)	Respondent number	Knowledge score (Out of 50)	Calcium intake (mg/day)
1	10	450	11	38	940
2	42	1050	12	25	733
3	38	900	13	48	985
4	15	525	14	28	763
5	22	710	15	22	583
6	32	854	16	45	850
7	40	800 -	17	18	798
8	14	493	18	24	754
9	26	730	19	30	805
10	32	894	20	43	1085

Does knowledge about calcium predict calcium intake in sports science students? Discuss.

19 Give an illustration to compute Goodness of fit test.

20 Summarize the format by which the statistical software package is used in Psychological research.

Z-Z-Z

END