2025

APPLIED STATISTICS IN PHYSICAL EDUCATION AND SPORTS

Course : MPCC-201

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words
as far as practicable.

1. What is the utility of Statistics? Illustrate the classification of Statistics. What do you mean by Parametric test and Non-parametric test? 5+4+6

Or

Define Measures of Central Tendency. Write down the uses of median and mode. Calculate the median and mode from the following table : 3+4+8

Class Interval	Frequency
49.5-52.5	18
46.5-49.5	11
43.5-46.5	17
40.5-43.5	14
37.5-40.5	19
34.5-37.5	8
31.5-34.5	13
28.5-31.5	17
25.5-28.5	10

2. Point out the major types of divergent curve and their variations. What are the characteristics of normal probability curve? 7+8

Please Turn Over

Or

Define the terms percentile, quartile and median. Compute mean deviation and quartile deviation from the given table below :   6+9

Class Interval	Frequency
80-84	9
85-89	5
90-94	4
95-99	8
100-104	11
105-109	7
110-114	3
115-119	8
120-124	5

3. What are the different types of correlation? What is the range of correlation coefficient 'r'? Find the rank correlation coefficient from the following two sets of scores and interpret the result.   4+2+9

Students	A	B	C	D	E	F	G	H	I	J	K
Marks in Eng.	65	72	81	75	72	79	81	68	67	72	65
Marks in Beng.	59	68	75	71	68	64	62	69	71	66	71

Or

Draw a suitable labelled diagram to exhibit the data on marks obtained in Mathematics and Statistics by 10 students (A to J) given below :

Students	A	B	C	D	E	F	G	H	I	J
Marks in Math	65	72	81	75	72	79	81	68	67	72
Marks in Stat.	59	68	75	71	68	64	62	69	71	66

What do you understand by level of significance? Discuss the Chi-Square test and its application as a test of significance.
5+(4+6)

4. Write notes on (*any two*) :

7½×2

(a) Uses of graphical representation

(b) Sigma scale and Hull scale

(c) Type-I error and Type-II error

(d) Use of ANOVA and ANCOVA.

5. Answer the following MCQs by choosing the correct alternative given below for each question and writing it on your answer script (*any ten*) : 1×10

(a) The normal distribution is always

(i) positively skewed and leptokurtic

(ii) negatively skewed and platykurtic

(iii) symmetrical and platykurtic

(iv) symmetrical and mesokurtic.

(b) Modulus is used in computation of which of the following statistical tools?

(i) Mean deviation

(ii) Variance

(iii) Standard deviation

(iv) Both (i) and (ii).

(c) In a normal curve, the percentage of cases that lie between three standard deviations below and above the mean is

(i) 96.63%

(ii) 99.73%

(iii) 98.45%

(iv) 90.72%.

(d) In case of a leptokurtic distribution, the value of the kurtosis should be

(i) ku = 0

(ii) ku < 0

(iii) ku > 0

(iv) ku = 1.

(e) The most frequently occurring value of a data set is called the

(i) Range

(ii) Mode

(iii) Mean

(iv) Median.

(f) Parameters are statistical constants which define

(i) nature of population

(ii) nature of the individual

(iii) nature of research study

(iv) All of these.

(g) The difference between statistic and parameter is known as

(i) Sampling error

(ii) Sampling fluctuation

(iii) Standard error

(iv) Degree of freedom.

(h) A test is known as two tailed test if it tests the hypothesis, whether the means of

(i) two groups are significantly different or not

(ii) two groups are correlated or not

(iii) Both (i) and (ii)

(iv) None of the above.