M. P. Ed 2nd Semester Examination 2021
Statistics in Physical Education and Sports
MPCC – 201

Full Marks – 70 **Time – 3 Hours**

The figures in the margin indicate full Marks.
The candidates are required to give their answers in their own words as far as practicable.
Illustrate the answer wherever necessary.

1. What is the objective of Statistics? Define Raw Score. **1+2+2+4+6=15**

Find the single score of the following:

(i) 5.6 **(ii)** 17.31 **(iii)** 25.49 **(iv)** 13.60

Differentiate between variable and attribute. Compare the interval scale, nominal scale and ordinal scale with special reference to admissible test.

OR

Calculate the mean, median and mode for the following frequency distribution by using the short method (assume) in computing the mean. **4+4+2+5=15**

Scores:	**40 - 59**	**60 - 79**	**80 - 99**	**100 - 119**	**120 - 139**
Frequency:	**50**	**250**	**500**	**150**	**50**

Suppose that the mean weekly pay of 5 brothers is Rs.600/- and the median is Rs. 500/-.

(i) How much money do the brothers take home:

(ii) If Ramu, the best paid brother, gets a pay raise of Rs. 100/- per week, what is the new mean and the new median?

2. A coin is tossed 6 times. Expand $(H + T)^6$ and compute the probabilities of P(6 H), P(3 H, 3 T) and P(4 H, 2 T). **6+3+3+3=15**

OR

Explain Skewness and Kurtosis as measures of divergence from normality. If x is normally distributed with mean 55 and standard deviation 6, what score limits shall cover middle 60% of the distribution? **5+5+5=15**

3. Define product moment correlation coefficient. What are the types and magnitude of correlation? Compute the product moment correlation coefficient between the variables from the following table:

S. N.	**1**	**2**	**3**	**4**	**5**
***X* :**	**10**	**20**	**30**	**40**	**50**
***Y* :**	**45**	**35**	**25**	**15**	**5**

OR

Compute first order partial correlation from the following correlation matrix by partial out the first, second and third variable respectively.

	X_1	X_2	X_3
X_1	**1.00**	**.60**	**.32**
X_2		**1.00**	**−.35**
X_3			**1.00**

4. Calculate the significant difference between two groups (From **Table 1** and **Table 2**) from the data given below. Is the difference between means significant at the **.05** or **.01** level.

Table 1	***Group 1:***	**110**	**112**	**95**	**105**	**111**	**97**	**112**	**102**
	Group 2:	**115**	**112**	**109**	**112**	**117**			

Table 2	***Sex***	***N***	***Mean***	***SD***	
	Girls	**95**	**29.21**	**11.56**	
	Boys	**83**	**30.92**	**7.81**	**8+7=15**

OR

What is standard error? Explain type-I and type-II error. Explain One Tailed Test and Two Tailed Test. **1+7+7=15**

5. Write notes on any two of the following: **2 X 5 = 10**

A) Advantages of variability **B)** T-scale **C)** Norms **D)** Non-parametric Test