

**M. Phil (Physical Education) : SUMMER - 2019**  
**SUBJECT : ADVANCED STATISTICS AND COMPUTER APPLICATION TO**  
**PHYSICAL EDUCATION**

**Day** : Friday  
**Date** : 19/04/2019

**S-2019-0764**

**Time** : 10.00 A.M. TO 01.00 P.M.  
**Max. Marks** : 100

**N.B.**

- 1) Q.No. 7 is **COMPULSORY**.
- 2) Attempt **ANY FOUR** questions from Q.No. 1 to Q. No. 6.
- 3) Figures to the **RIGHT** indicate **FULL** marks.

**Q.1** Define statistics and its need in the area of research in physical education. (20)

**Q.2** Define central tendency and write down the merits and demerits of mean, median and mode with their formula for grouped and ungrouped data. (20)

**Q.3** Explain analysis of variance (ANOVA) and various steps with formula. (20)

**Q.4** For the 40 athletics of a district team, following are given in the frequency table. Calculate standard deviation. (20)

|             |       |       |       |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>C.I.</b> | 76-80 | 71-75 | 66-70 | 61-65 | 56-60 | 51-55 | 46-50 | 41-45 | 36-40 |
| <b>f.</b>   | 1     | 4     | 3     | 6     | 12    | 8     | 3     | 2     | 1     |

**Q.5** Eight basketball students tested on their playing ability (marks given out of 10). Height of these students was also measured. Complete the rank order correlation. (20)

|                        |     |     |     |     |     |     |     |
|------------------------|-----|-----|-----|-----|-----|-----|-----|
| <b>Playing ability</b> | 4.4 | 4.9 | 5.0 | 4.5 | 5.1 | 4.2 | 3.5 |
| <b>Height</b>          | 172 | 178 | 169 | 155 | 156 | 163 | 143 |

**Q.6** Define computer and explain its application in the field of physical education. (20)

**Q.7** Write short notes on **ANY FOUR** of the following. (20)

- a) Types of correlation
- b) Level of significance
- c) S.P.S.S.
- d) Partial and multiple correlation
- e) Chi square

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