## 2024

## RESEARCH AND STATISTICS IN PHYSICAL EDUCATION

Paper: CC-403
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. Explain the term Research with a proper definition. Explain the need and importance of Research in Physical Education and Sports.
Or,

Explain the criteria for selecting a good Research Problem. Which qualities make a good researcher?
2. Write down the importance of review of related literature in research. Discuss the methods of data collection in Research.

Or,
Write down the difference between a Research report and a Research proposal. Explain the various
steps in the preparation a steps in the preparation a of research proposal.
$6+9$
3. What is meant by statistics? Describe need and importance of statistics in the field of physical education and sport. Write down the importance of graphical presentation.

## Or,

What is graphical presentation in Research? Mention various types of graphical presentation. Prepare a frequency distribution table for the scores given below:

| 23 | 18 | 16 | 30 | 21 | 38 | 34 | 22 | 25 | 26 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 28 | 36 | 27 | 44 | 37 | 46 | 35 | 25 | 21 | 29 |
| 22 | 45 | 29 | 18 | 13 | 20 | 48 | 31 | 43 | 37 |

Represent the above data in the form of a (i) Histogram and (ii) Frequency polygon.

$$
1+2+6+(3+3)
$$

4. Answer the following questions (any two):
(a) Describe the uses of measures of central tendency.
(b) Write the advantages and disadvantages of Standard Deviation and Mean Deviation.
(c) Calculate Range and Standard Deviation from the following frequency distribution :

| Class | $50-54$ | $55-59$ | $60-64$ | $65-69$ | $70-74$ | $75-79$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Freq. | 3 | 8 | 12 | 4 | 2 | 1 |

(d) Calculate Median and 3rd Quartile from the following frequency distribution:

| Class | $10-20$ | $20-30$ | $30-40$ | $40-50$ | $50-60$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Freq. | 7 | 15 | 32 | 11 | 5 |

5. Choose the correct option from the following MCQs and write the correct answer on your answer script
(any ten):
(a) A brief written format of a research work is known as
(i) Case study
(ii) Abstract
(iii) Appendices
(iv) Synopsis.
(b) In a research report, preliminary matters include
(i) Title page, Acknowledgement, Appendix
(ii) Reference, Title page, Acknowledgement
(iii) Title page, Acknowledgement, Table of content
(iv) Table of content, Reference, Title page
(c) Historical research is also known as
(i) Biological research
(ii) Demographic research
(iii) Retrospective research
(iv) Introspective research.
(d) A measure of how the data are dispersed in relation to the mean is
(i) Standard deviation
(ii) Median
(iii) Mode
(iv) Percentile.
(e) The median of the scores $3,4,4,6,8,9,11,12,14$ is
(i) 6
(ii) 7
(iii) 8
(iv) 10 .
(f) The most frequent observation in a set of data set is called
(i) Range
(ii) Mean
(iii) Median
(iv) Mode.
(g) The range of the scores $29,3,143,27,99$ is
(i) 140
(ii) 143
(iii) 146
(iv) 70 .
(h) The average of all observations in a set of data is known as
(i) Median
(ii) Range
(iii) Mean
(iv) Mode.
(i) The sum of deviations of values from their mean is always
(i) greater than the maximum value
(ii) equal to the minimum value
(iii) double the average value
(iv) nil.
(j) Which of the following is not a measure of dispersion?
(i) Scatter
(ii) Spread
(iii) Regression
(iv) Variation.
(k) If there are extreme scores in the distribution, then best measure of central tendency is
(i) Arithmetic Mean
(ii) Median
(iii) Mode
(iv) Geometric Mean.
(1) Standard deviation of the scores: $6,8,10,12,14$ is
(i) 8.0
(ii) 28.3
(iii) 2.83
(iv) 4.0
