# UNIVERSITY OF NORTH BENGAL 

B.A. Honours Part-III Examination, 2022

# PSYCHOLOGY <br> Paper-VIII <br> Statistics for Psychological Research 

Time Allotted: 4 Hours
Full Marks: 100
The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.
All symbols are of usual significance.

## GROUP-A

## Answer the following questions

$16 \times 4=64$

1. Define variables. What is the scale of measurement? Write about descriptive $2+6+8=16$ and inferential statistics.

## OR

2. Find the value of $\mathrm{P}_{30}, \mathrm{P}_{50}$ from the following score:

| Score: | $9-12$ | $13-16$ | $17-20$ | $21-24$ | $25-28$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $f:$ | 2 | 3 | 3 | 7 | 8 |
| Score: | $29-32$ | $33-36$ | $37-40$ | $41-44$ | $45-48$ |
| $f:$ | 12 | 5 | 6 | 3 | 1 |

3. Define mean. What are the properties of mode? Discuss the different measures $3+3+10=16$ of central tendency.

## OR

4. State the use of the measures of central tendency. Calculate the mean, median $6+10=16$ and mode from the following data:

| Score: | $0-20$ | $20-40$ | $40-60$ | $60-80$ | $80-100$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $f:$ | 6 | 8 | 10 | 12 | 6 |

5. What is sampling? What are the characteristics of random sampling? $3+6+7=16$ Differentiate between probability and non-probability sampling.

## OR

6. What is correlation? Find the correlation coefficient between the following two sets of score using the Spearman's rank difference method and also interpret the result.

| Subjects | a | b | c | d | e | f | g | h | i | j |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Text $x$ | 20 |  | 20 | 40 | 10 | 50 | 70 | 30 | 60 | 40 |
| Text $y$ | 40 | 70 | 40 | 60 | 20 | 75 | 90 | 55 | 80 | 60 |

## B.A./Part-III/Hons./(1+1+1) System/PSYH-VIII/2022

7. What are the properties of standard deviation? Calculate are standard deviation from the following grouped data:

| Scores: | $41-45$ | $36-40$ | $31-35$ | $26-30$ | $21-25$ | $16-20$ | $11-15$ | $6-10$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $f:$ | 1 | 5 | 10 | 12 | 10 | 5 | 3 | 3 |
|  | OR |  |  |  |  |  |  |  |

8. What are the factors affecting the shape of graphs? Draw a histogram and $6+10=16$ polygon of same axis from the following distribution.

| Score: | $95-105$ | $85-95$ | $75-85$ | $65-75$ | $55-65$ | $45-55$ | $35-45$ | $25-35$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $f:$ | 0 | 5 | 18 | 26 | 32 | 24 | 20 | 15 |

## GROUP-B

9. Answer any two from the following: $10 \times 2=20$
(a) Discuss the different scales of measurement.
(b) Explain the relevance of statistics in psychological research. 10
(c) Elaborate on the properties of mean, median and mode. 10
(d) Elucidate the properties of the range and semi-interquartile range. 10

## GROUP-C

10. Answer the following questions:
(a) Write a note on percentile rank.
(b) What is psychological research? 2
(c) What is qualitative data? 2
(d) What do you understand by the term 'purposive sampling'? 2
(e) State the criteria of a good test. 2
(f) List the characteristics of a normal curve. 2
(g) Describe z-score with an example. 2
(h) Define descriptive statistics. 2

