



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours PART-II Examinations, 2018

**PSYCHOLOGY-HONOURS**

**PAPER-PSYA-III**

Time Allotted: 4 Hours

Full Marks: 100

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

**FIRST HALF**

**PSYCHOMETRY**

1. Answer any **five** questions from the following: 2×5 = 10
- (a) Define parameter.
  - (b) Define homoscedasticity.
  - (c) Define degrees of freedom.
  - (d) Define directional hypothesis.
  - (e) Define interquartile range.
  - (f) What do you understand by 'goodness of fit'?
  - (g) Define statistics.
  - (h) What do you understand by significance level?
2. Answer any **four** questions from the following: 5×4 = 20
- (a) Distinguish between positively skewed and negatively skewed distribution.
  - (b) Distinguish between SD and variance.
  - (c) Distinguish between parametric and non-parametric statistics.
  - (d) Compute combined SD of the following data:  

$N_1 = 20$	$N_2 = 30$
$\sum X_1 = 5.60$	$\sum X_2 = 14.50$
$SD_1 = 2.12$	$SD_2 = 1.65$
  - (e) Write the equation of NPC with suitable illustration.
  - (f) Write a short note on error of inference.
  - (g) Define Yate's correction. Write the assumptions of Chi-square.

3. Answer any *two* questions from the following: 10×2 = 20

(a) Write down the steps of drawing statistical inference. 10

(b) Will the reading ability of dyslexic children improve by placing a blue plastic overlay on reading material? State and test a statistical hypothesis at 0.05 level of significance. 10

Blue overlay: 70, 80, 90, 80, 50, 80, 70, 80, 70, 80, 80, 70

Clear overlay: 50, 40, 50, 50, 60, 60, 60, 40, 60, 70, 60, 80

$$df (20) = 2.086$$

$$df (21) = 2.080$$

$$df (22) = 2.074$$

(c) Define measurement. Critically discuss the four steps of measurement scales highlighting their respective properties. 2+8

(d) (i) Define critical value. 2+8

(ii) A group of students were asked to respond to the statement “Right to equality is a myth in India”. The replies received were as follows:

	Yes	No
Male	28	20
Female	20	37

Is there any significant sex difference in attitude towards the statement?  
Frame the Null hypothesis and test it.

Level of significance	Critical value
0.05	3.84
0.01	6.64

### **SECOND HALF**

#### **RESEARCH METHODOLOGY**

4. Answer any *five* questions from the following: 2×5 = 10

(a) Define item analysis.

(b) Define sample.

(c) Define grade norm.

(d) What is ex-post facto research?

(e) Define hypothesis.

(f) What do you understand by type-S variable?

(g) Name any two aptitude test batteries.

(h) What is counterbalancing?

5. Answer any *four* questions from the following: 5×4 = 20
- (a) Write short note on speed test and power test.
  - (b) Write short note on randomized group design.
  - (c) Write down the controlling techniques of extraneous variables.
  - (d) Discuss briefly the relation between hypothesis and theory.
  - (e) Describe Max-Min-Con principle.
  - (f) Elucidate briefly the sources of research problem.
  - (g) Write a short note on projective tests.
6. Answer any *two* questions from the following: 10×2 = 20
- (a) Discuss the different dependent variable measures. Describe the different types of variables used in psychological research. 3+7
  - (b) Define hypothesis. What are the main considerations in formulation of a research hypothesis? 2+8
  - (c) Define experimental design. Describe with suitable example the before-after design and its limitations. 2+8
  - (d) What is meant by reliability of a test? Describe the standard methods of estimating test reliability. 2+8

