PG/IS/PHY/105/24

M.Sc. 1st Semester Examination, 2024

HUMAN PHYSIOLOGY

PAPER — PHY-105

Full Marks : 25

Time : 1 hour

Answer **all** questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP—A

Answer any **two** questions of the following : 2×2

1. What is the importance of partial correlation ?   2

2. Mention the characteristics of nonparametric test.   2

3. What is meant by inter-quartile range ?   2

4. What is coefficient of variation ?   2

GROUP—B

Answer any **two** questions of the following : 4×2

5. Why is 'regression' coined as predictive statistics ? What is the basic norm for carrying out statistics regression between two variables ? What is "Criterion" in regression ? $1 + 2 + 1$

6. Mention the important properties of Poisson Probability distribution.   4

7. How can statistics be computed of small groups using Mann-Whitney U test ?   4

8. State the computation of Wilcoxon Signed rank test.   4

(Continued)

GROUP – C

Answer any **one** question of the following : 8×1

9. (a) Define 'correlation' and 'correlation coefficient'.

   (b) Determine the Pearson's product-moment correlation coefficient between Body Mass Index and Pulse Rate using the formula from raw scores in seven individuals, as follows : $(1 + 1) + 6$

Individuals	1	2	3	4	5	6	7
Body Mass Index $(kg.m^{-2})$	28.0	26.0	30.0	29.0	24.0	25.0	32.0
Pulse Rate $(beats.min^{-1})$	78	73	85	81	66	69	98

10. (a) What do you understand by one-way and two-way ANOVA ?

(*b*) Compute Scheffe's F with the following data given :

Mean of 1st group : 108

Mean of 2nd group : 90

SW square : 20.5

N1 : 10 ; N2 : 10

(*c*) Write down the formula of Omega Square. $\qquad 3 + 4 + 1$

[Internal Assessment — 5 Marks]

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