2008

HUMAN PHYSIOLOGY

PAPER—III

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

Write the answers question of each Unit in separate books

UNIT—05

Answer any *two* questions

1. (*a*) Describe the assumptions for using the product-moment correlation coefficient.

   (*b*) Compute product-moment r for finding whether or not there is a significant linear correlation between blood sugar scores (X mg/dl) and serum cholesterol score

(Y mg /dl) of the following samples of humans :

Individual :	1	2	3	4	5	6	7	8	9	10
X (mg /dl) :	180	210	100	140	200	80	90	120	80	100
Y (mg /dl) :	200	250	170	210	260	150	160	180	145	175

Critical t scores

$$t_{0.01\,(19)} = 2.861 \quad t_{0.01\,(18)} = 2.878$$

$$t_{0.01\,(8)} = 3.355 \quad t_{0.01\,(9)} = 3.250.$$

$$4 + 6$$

2. (a) Explain with example model-I and model-II anova and their uses.

   (b) Workout the Kruskal-Walis non-parametric anova with following amounts of protein consumptions of two groups of children to find whether or not the protein consumption values differ significantly.

   Protein consumption (gm) scores :

Group A :	30	35	25	18	32	34	20	29	27	24
Group B :	20	15	18	20	11	18	23	13	17	26

   Critical scores

   $$\chi^2_{0.05\,(18)} = 28.27 \quad \chi^2_{0.01\,(18)} = 34.84$$

   $$\chi^2_{0.05\,(1)} = 3.84 \quad \chi^2_{0.01\,(1)} = 6.64$$

   $$\chi^2_{0.001\,(18)} = 42.81 \quad \chi^2_{0.001\,(1)} = 10.83.$$

   $$4 + 6$$

3. (a) State the assumptions of biserial r.

   (b) Describe the computation and significance test
       of biserial r. $4 + 6$

4. Write notes on the following : $5 + 5$

   (i) Sampling errors

   (ii) Mann-Whitney U test.

UNIT—06

Answer any *two* questions

1. (a) What is operating system ? Write the names of
       some operating system. State the advantages of
       operating system.

   (b) State the differences between Compiler and
       Interpreter.

   (c) Draw a flowchart with appropriate symbol for
       computing sum of n numbers. $5 + 2 + 3$

2. (a) Write the steps for drawing a bar diagram in
       MS-Excel to show hemoglobin values of men
       and women.

(b) Explain the functions of the following commands in MS-Word :

(i) New

(ii) Save

(iii) Save AS.

(c) How do you apply transition to a slide in MS Power Point ? $4 + 3 + 3$

3. (a) Correct the error, if any, of the following :

(i) 10 LET P = "Physiology"

(ii) 50 FOR $J = 2 - 50$ step 1·5

(iii) 70 IF $P < = R + K$ GOTO 25

(iv) 90 READ "Put the values of SBP and DBP" ; SBP, DBP.

(b) Write a program in BASIC to compute the median value of height of N number of adult males. $4 + 6$

4. Write brief notes on the following :

$2\frac{1}{2} \times 4$

(i) Hyperlink

(ii) Modem

(iii) FIND and REPLACE command in MS-Word

(iv) CD-ROM.

———