Human Physiology (P.G.)

[CBCS]

M.Sc. First Semester End Examination-2023

(Regular & Supplementary Paper)

PAPER-106

Full Marks: 50 ***Time: 02 Hrs***

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.

Unit-11

Full Marks 25

[Statistical Treatment of Biological Data]

1. In a sample of 70 athletes, the product moment r values between the stroke volume of heart (X_1), the venous return (X_2) and the vascular peripheral resistence (X_3) were found to be as follows: r_{12}=+0.65, r_{13}=-0.12, r_{23}=-0.25.Compute the partial r between stroke volume and venous return eliminating the effect of peripheral resistance and also test its significance.
   [Critical 't' scores will be provided] 4+3
2. During a Laboratory experiment muscular contractions of a frog muscle were measured against different doses of a given drug. The height of the curve was considered as the response to the drug. The observations were as below:

Sl. No. of experiments	1	2	3	4	5
Dose of drug (μM)	0.3	0.4	0.6	0.8	0.9
Response to drug (mm)	54	59	60	65	70

a) Determine the regression coefficient byx.

b) Determine the expected values of Y for the given values of X using the regression equation and plot the regression line on the provided graph paper. 3+5

3. Submit the duly signed Laboratory note book 5
4. Viva Voce 5

Unit - 12

Full Marks 25

[Computer Application In Biological Problem]

1. Prepare your slides of MS Power Point on the Parameters given below:-

i) Give any biological topic with 'Title' [Title should be in [Times New Roman, Font size 48] 2

ii) A uniform center text body with any particular background colour [Times New Roman, regular font size 28] 2

iii) Insert any relevant picture of the topic to make the slide attractive. 2

iv) Mention your name & roll number on the header of the slide] 2

2. Align any ten bacterial 16s rRNA FASTA sequence using Mega with clustalw & save the alignment file. 5+2
3. Submit the duly signed Laboratory note book 5
4. Viva Voce 5

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