Human Physiology (P.G.)

[CBCS]

M.Sc. First Semester End Examination-2023

(Regular & Supplementary Paper)

PAPER-103

Full Marks: 40 ***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-5

Full Marks 20

[Biostatistics and Computational Physiology]

1. Answer any two questions of the following: 2x2= 4

a. Define 'degree of freedom' and probability? 1+1

b. How could you take a decision about one tailed and two tailed tests? 2

c. What is contingency table? 2

d. Give any two applications of chi-square distribution. 2

2. Answer any two questions of the following: 2x4= 8

a. What do you mean by point-Biserial R? Mention the formula for γ_{pb} 2+2

b. Write down the definitions of 'correlation' and 'correlation co-efficiant' why correlation is considered as non-predictive statistics? (1+1)+2

c. Briefly state, how Kendall's rank correlation coefficient can be computed? Mention the normal values of tau. 3+1

d. Explain model I and model II ANOVA with proper examples. 4

3. Answer any one question of the following: 1x8=8

a. Find out SD value from the following distribution of marks obtained by 90 students.

Marks	20-29	30-39	40-49	50-59	50-59	60-69	70-79	80-89	90-99
No. of students	5	12	15	15	20	18	10	6	4

What are regression co-efficient? 6+2

b. Define ANOVA and mention its uses.

Consider r_{12}=0.64, r_{13}=0.70 and r_{23}=0.58 are the zero order correlation coefficients. Calculate 'R', taking the first variable as the dependent and the other two variables as independent. 2+2+4

Unit - 6

Full Marks 20

1. Answer any two questions of the following: 2x2= 4

a. What is CPU? Mention the different parts of CPU. 1+1

b. What is MS-Word Processor? 2

c. Briefly write down the functions of EBI & NCBI? 1+1

d. What is meant by high-level programming language? 2

2. Answer any two questions of the following: 2x4= 8

a. Briefly discuss on different input and output devices of computer. Write down briefly the importance of ExPASy database system in Bioinformatics. 2+2

b. Differentiate between computer hardware & software. Give few examples of application softwares. What is chem. Bank? 2+1+1

c. What is biological database? State its utility. What is PDB? 2+1+1

d. What is internet? What are the major websites from where biological data can be retrieved? Define language processor. 1+2+2

3. Answer any one question of the following: 1x8=8

a. What are the main features of MS-Power Point? Briefly state the steps of power-point Presentation. Write a note on ASC II code. 3+3+2

b. What are the major bioinformatics resources? Briefly discuss the different application of bioinformatics. Mention the process of --- library searching. Technique. Write down the importance of machine language. 2+2+2+2

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