

2022

Human Physiology

[P.G.]

(M.Sc. First Semester End Examination-2022)

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

Marks 20

[BIostatistics AND COMPUTATIONAL Physiology]

- 1. Answer any two questions of the following: 2x2= 4**
- a) Define standard error of mean. 2
 - b) What are meant by criterion and predictor in biostatistics? 2
 - c) State the limitation of chi-square test. 2
 - d) What are meant by a priori and a-posteriori comparisons? 1+1
- 2. Answer any two questions of the following: 2x4 = 8**
- a) Write down the characteristics of a normal distribution. 4

(2)

b) Define Yule's Phi coefficient (ϕ) and write down the assumptions to be taken for applying ϕ . 2+2

c) What are the types of regression according to the number of predictors involved? Give examples of each. 2+2

d) State the difference between type I and type II errors in inference. 2+2

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

a) i) What is Mann-Whitney U test?

ii) What is 'df'?

iii) What is partial correlation?

iv) Write down the Bernoulli expansion used for computation of binomial probability. 2+2+2+2

b) i) Classify correlation according to the Pearson's r values and sign.

ii) Compute the 25th and 75th percentiles of the given data table:-

<u>Class Intervals</u>	<u>Frequency</u>
51-53	5
54-56	7
57-59	14
60-62	28
63-65	15
66-68	8
69-71	3

2+3+3

(3)

Unit – 6
Marks 20

[COMPUTER APPLICATION IN HEALTH STATISTICS AND BIOINFORMATICS]

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

a) What is assembly language? Mention its advantage and disadvantages. 1+1

b) What is an operating system(OS)? Give example. 1+1

c) What is drug designing in bioinformatics? 2

d) What are numeric and string variables? 1+1

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

a) State the differences between compiler and interpreter. What is ASCII code? 3+1

b) What is NCBI? How is PubMed beneficial to the users? 2+2

c) Briefly state the steps of power-point presentation. 4

d) Write short note on :- 1) Computer memory 2) LAN 2+2

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

a) How are the different bioinformatics tools applied in different spheres of life sciences? Explain in detail. 8

b) Write a C program for addition of three numbers. What are header and syntax?
