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M.Sc. RNLK-/PHY103/22

2022

Human Physiology

[First Semester]

Paper - PHY 103 (U05 & U06)

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.

Unit-5

F.M.-20

(Biostatistics and Computational Physiology)

1. Answer any two questions from the following : $2 \times 2 = 4$

- a) What is degrees of freedom? 2
- b) Define level of significance (α) of a statistical analysis. 2
- c) What is null hypothesis? 2

(Turn Over)

(2)

- d) Write any two important assumptions for Chi-square test. 2

2. Answer any two questions from the following : $2 \times 4 = 8$

- a) What is alternative hypothesis? State its importance in interpreting a statistical analysis. 2+2
- b) Write basic difference between binominal distribution and positional distribution. 4
- c) Write short note on Skewness and Kurtosis. 2+2
- d) Differentiate between simple linear regression and multiple regression. Why regression is called as predictive statistics? 2+2

3. Answer any one of the following : $1 \times 8 = 8$

- a) What is product moment correlation coefficient? Mention the assumption and propertis of Pearson's product moment correlation. What is standard error? 2+2+3+1
- b) Several PG 1st SEM and 3rd SEM students have practiced a work according to two given practice schedules. The performance test score of two semester students are given below -

(3)

1st SEM - 13, 20, 21, 20, 18, 12, 15, 23, 17, 13

3rd SEM - 28, 16, 30, 24, 20, 14, 32, 30, 20, 27, 28

Do the students of two different semesters differ significantly in performance due to their different practice schedule? 8

$[F_{0.05(1,19)} = 4.38; F_{0.01(1,19)} = 8.18]$

Unit-6

F.M.-20

(Computer Application in Health Statistics and Bioinformatics)

1. Answer any two from the following questions : $2 \times 2 = 4$
 - a) Write a short note on ALU. 1+1
 - b) Define computer virus. 2
 - c) What is Chem Bank database? 2
 - d) What is Pub Med? 2
2. Answer any two from the following : $2 \times 4 = 8$
 - a) Write short note on Semiconductor memory and Magnetic core memory of computer. 2+2

(4)

- b) What are 'OP code' and 'ADRESS'? State these with example. 1+3
- c) Define Sequential flow chart. Draw a sequential flow chart to find out the pulse pressure of a person from systolic and diastolic blood pressure. 1+3
- d) Differentiate Work book from Work sheet. Briefly state the steps of power point presentation. 2+2

3. Answer any one from the following : 1×8=8

- a) Write down the operation along with their display result for adding transtition and inserting graphics to a slide using Ms Power Point. Write a short note on Local Area Network (LAN) 5+3
- b) Define data retrieval. Briefly discuss about any two data retrieval tool. What is meant by annotated sequence database? 2+(2+2)+2