

2017

M.Sc.

1st Semester Examination

HUMAN PHYSIOLOGY

PAPER—PHY-103

Subject Code—30

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

(Unit—05)

Answer *all* questions from the following :

1. (a) Describe different types of quantitative variables with examples.
(b) What is percentile Rank (PR) ? Write down formula for computing PR from ranked scores.

(Turn Over)

- (c) Find the percentile ranks of students occupying 4th and 25th ranks in the descending order of merit in a mathematics examination involving 60 students.

$$2 + (\frac{1}{2} + \frac{1}{2}) + 2$$

Or

- (a) Describe important properties of binomial distribution.
 (b) State different class intervals.
 (c) Write down the names of different data sources.

$$2 + 2 + 1$$

2. (a) Differentiate correlation and partial correlation.
 (b) Write down two properties of 'r'.
 (c) Determine the value of 'r' from the following data of systolic blood pressure (SBP) in mm of Hg and blood sugar in mg/dl using the formula with raw scores.

	1	2	3	4	5	6	7	8
SBP	130	145	110	150	118	120	170	150
Blood Sugar	122	128	105	140	120	123	145	130

$$1 + 1 + 3$$

Or

- (a) What are meant by criterion and predictor in simple linear regression ?
- (b) Write down the formula of b_{YX} from covariance.
- (c) Write down the relationship of r_{yx} with b_{yx} .
(1½+1½)+1+1

3. (a) What do you mean by 'Non-parametric tests' ?
- (b) How Chi-square test for goodness of fit can be worked out ?
1+4

Or

- (a) Describe the computation steps for Wilcoxon signed Rank test.
- (b) Write down the significance of this test. 3+2
4. (a) What is variance ? Write down the formula for computing variance.
- (b) Explain fixed model and random model ANOVA.
- (c) Why ANOVA is superior to t-test ? 2+2+1

Or

- (a) What is omega square test ?

- (b) Apply Kruskal-Wallis non parametric ANOVA to compute H value of the performance scores of two groups of girls.

Group 1: 31 29 20 25 18 27 23 24 22

Group 2: 17 19 10 18 16 12 15 13 10

(Unit—06)

Answer *all* questions from the following :

1. (a) What do you mean by hybrid and mini computers ?
- (b) Write a short note on 'Pascal Calculator'. 3+2

Or

- (a) Distinguish between source program and object program.
- (b) What is 'op code' ?
- (c) What is Assembly language ?
- (d) Mention the advantages of using E PROM.

2+1+1+1

2. (a) What is FOR-NEXT loop?

(b) Write a computer program to convert body temperature of 20 persons from degree Fahrenheit to degree celcius. 1+4

Or

(a) What do you understand by binary number system? Convert the decimal number 47 to its binary equivalent.

(b) Compare READ and INPUT statements of BASIC programming. 3+2

3. (a) How do you change the column height and row width in Ms-Excel?

(b) What are the types of Ms Power Point Views?

(c) What is 'active cell' in Ms-Excel? 2+2+1

Or

(a) Write the steps for printing the documents in the following cases while using Ms Word :

(i) Current page ;

(ii) A part of a page.

(b) State the difference between 'SAVE' and 'SAVE AS'.

(c) What is status bar of word window? 3+1+1

4. (a) What are the components of bioinformatics?

(b) Write how bioinformatics is used in

(i) prediction of structure of biomolecules;

(ii) dietary analysis system. 1+(2+2)

Or

(a) Explain :

(i) Mark up language

(ii) Scripting language.

(b) What is Entrez? 3+2
