

M.Phil 1st Semester Examination, 2019

LIFE SCIENCE

(Biostatistics, Computer and Bioinformatics)

PAPER —LSC-112

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

GROUP — A

1. Answer any *four* questions from the following :
- 2×4
- (a) What do you mean by hyperlink and hyper-text ?
- (b) What is strength of association ?

- (c) Differentiate between percentage and percentile.
- (d) What is web of science ?
- (e) What is multi processing operating system ?
- (f) What is Yates correction ?

GROUP – B

2. Answer any *four* questions from the following :
- (a) Write the steps for computing chi square value for the test of independence. 4 × 4
4
 - (b) How do you determine sample size of an experimental study ? How can you reduce the sample size ? 3 + 1
 - (c) What is biomedical informatics ? Write some applications of biomedical informatics. 1 + 3
 - (d) Write the components of unix. Mention advantages of unix. 2 + 2

- (e) What do you mean by Model I regression ?
What is regression coefficient ? Write its
formula. 2 + 1 + 1
- (f) State the guidelines for using font and font
size in power point presentation. How do you
select background in a slide ? 3 + 1

GROUP – C

3. Answer any *two* questions of the following : 8 × 2

(a) (i) Write the assumptions of ANOVA.

(ii) Apply one-way ANOVA to find whether
there is a significant difference in O₂
consumption (lit/min) between two
groups human subjects.

Group 1 : 5.0 3.8 4.3 4.0 2.5 4.5 5.0 4.6 5.3 4.5

Group 2 : 4.7 2.4 4.6 3.0 3.1 3.5 2.5 3.0 4.5 2.5

[Critical $F_{0.05} (1, 18) = 4.41$; $F_{0.01} (1, 18) = 8.28$]

3 + 5

(b) (i) What are the components of database
system ?

(ii) Discuss different types of biological databases.

(iii) What do you mean by database retrieval tools ? 2 + 4 + 2

(c) (i) What are meant by positive and negative correlation ?

(ii) Compute correlation coefficient between height (cm) and weight (kg) of the following data of nine university students.

Student :	1	2	3	4	5	6	7	8	9
Height :	160	180	170	160	160	170	170	180	150
Weight :	55	60	50	45	50	60	60	70	40

2 + 6
