

THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. /B.Ed. Degree Programme, Continuing Education Programme
APPLIED MATHEMATICS-LEVEL 03/05
PCU3141/PCE5141/PCU1142/PCE3142/PCU1182 - Bio Statistics
NO BOOK TEST 2015/2016



Duration: One Hour

Date: 08.10.2016

Time: 02.30 pm- 3.30 pm

Non-programmable calculators are permitted.

Answer all questions.

1. The following table summarises the dried weights of a sample of medicinal plants.

Dried weight (mg)	Number of plants
2.5 – 2.9	34
3.0 – 3.4	55
3.5 – 3.9	42
4.0 – 4.4	24
4.5 – 4.9	12
5.0 – 5.4	2
5.5 – 5.9	8
6.0 – 6.4	20
6.5 – 6.9	4

i) Find the relative cumulative frequency corresponding to the third class interval and clearly describe what it measures in relation to this study.

The researcher suspects whether the data had included plants of 3 weeks old and 8 weeks old.

ii) Construct a suitable graphical summary that can be used to examine whether the data had been collected on plants belonging to two different populations.

iii) Clearly describe all the findings that can be found from the graphical summary constructed in part (i).

2. In a study on dental health of children in a school, a researcher collected data on the following variables on a sample of 300 students randomly selected from the 2460 students in the school.

V_1 : gender coded as 1: male; 2: female

V_2 : age as of 01st of January 2016, to the nearest year

V_3 :status of dental health coded as 1:excellent; 2:fairly good; 3:poor

- i) Classify the data collected on gender, age and status of dental health as qualitative or quantitative.
- ii) Classify the data collected on gender, age and status of dental health as nominal, ordinal, interval or ratio.

The following frequency table was constructed from the data collected.

Gender	Status of Dental Health			
	excellent	fairly good	poor	total
male	50	35	15	100
female	90	60	50	200

- iii) Construct a suitable graphical summary that can be used to examine whether there are gender-wise differences in the status of dental health of children in the school.
- iv) Clearly state the findings from the graphical summary constructed in part (iii).
- v) Suggest a suitable graphical summary that can be used to highlight the percentages of students with excellent, fairly good and poor dental health. You **need not** construct the graphical summary.

***** Copyrights reserved *****