



# REFORMED CHURCH UNIVERSITY

**Research Methods and Statistics**

**HBATH201/HRCU 201**

**Part 2 Semester 2 Examination**

**Total Marks [100]**

Date: December 2020

Time: 3 Hours

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## INSTRUCTIONS

1. This paper has *six (6)* questions
2. Answer question *one (1)* and *any* other **three (3)**
3. Each question carries **25 marks**
4. Start each question on a new page
5. Candidates may use non-programmable, noiseless and cordless calculators.
6. Candidates are provided with tables of statistical formulae.

1. Research ethics are important in generating reliable research findings.

Evaluate this assertion. (25)

2. Discuss the merits and demerits of using interviews as methods of gathering data in research. (25)

3. Examine **any five** characteristics of a good research question. (25)

4. Your supervisor has asked you to proceed to the Research Methodology Chapter of your research. Explain the sections that make up the chapter.

(25)

5. (a) Distinguish between sample and population. (6)

(b) The number of families who used the Avondale Day Care Service was recorded during a 30 –day period. The results are as follows:

DAY	NUMBER OF FAMILIES
DAY 1	31
DAY 2	49
DAY 3	19
DAY 4	62
DAY 5	24
DAY 6	45
DAY 7	23
DAY 8	51
DAY 9	55
DAY 10	60

DAY	NUMBER OF FAMILIES
DAY 11	40
DAY 12	35
DAY 13	54
DAY 14	26
DAY 15	57
DAY 16	37
DAY 17	43
DAY 18	65
DAY 19	18
DAY 20	41

DAY	NUMBER OF FAMILIES
DAY 21	50
DAY 22	56
DAY 23	4
DAY 24	54
DAY 25	39
DAY 26	52
DAY 27	35
DAY 28	51
DAY 29	63
DAY 30	42

(i) Construct a cumulative frequency distribution table (3)

(ii) Draw a cumulative frequency curve, (ogive/less than curve). (3)

(iii) Using your graph, estimate the number of days when fewer than 30 families utilise the day care centre. (13)

(c) Explain the following terms as they relate to data;

- i. Quantitative data
- ii. Qualitative data
- iii. Spatial data
- iv. Definitive data (6)

6. The following are scores of boy and girls in a test.

The scores of ten boys in a test are:

17, 23, 30, 36, 45, 51, 58, 66, 72, 77

The scores of ten girls in a test are:

48, 49, 51, 52, 55, 57, 50, 59, 61, 62

Calculate the standard deviation of:

- (i) The scores for girls (4)
- (ii) The scores for boys (4)

Calculate the z scores the following marks:

- (i) Boys 23 Interpret each score (3)
- (ii) Girls 51 Interpret the scores (3)

The table below shows the marks of 10 students before and after an intervention programme.

Student	A	B	C	D	E	F	G	H	i	j
Mark before	17	49	74	65	67	52	49	78	86	65
Mark after	22	49	76	63	70	57	53	80	86	68

(i) Calculate product moment correlation on the performance of students before and after the intervention. (8)

(ii) Calculate the correlation of determination and comment on it. (3)

*End of Paper*