2022

M.Sc.

2nd Semester Examination (CCAE)

CLINICAL NUTRITION & DIETETICS

PAPER—201

STATISTICS AND COMPUTER APPLICATION

Full Marks : 50

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.

Group–A

Answer any *four* questions.   4×2·

1. Compute the median if X_l = 90.5, i = 5, n = 60, cf_l = 52, fp = 20.

2. If s = 5.85 and n = 40 then compute $s_{\bar{x}}$ and s^2.

3. Why is correlation is more powerful than χ^2 test ?

4. Compute the predicted value of Y when the regression equation of Y and X is $\hat{Y} = 120.25 + 1.01X$ *and* $X = 20.50$.

5. What is the application of auto fill in MS Office Excel.

6. What are the primary components of a computer ?

Group–B

Answer any *four* questions.   4×4

7. The systolic blood pressure (mm of Hg) of 10 students before and after exercise given below. Does exercise make a significant difference in systolic blood pressure.

Individual	1	2	3	4	5	6	7	8	9	10
Systolic Blood pressure										
(mm of Hg)										

Before exercise	120,	130,	122,	132,	134,	124,	136,	118,	116,	122
After Exercise	170,	180,	150,	180,	190,	192,	154,	160,	170,	168

Given $t_{0.05}$ (9) = 2.262

8. Out of 150 unsuccessful candidates in an examination 100 failed in physiology, 40 failed in anatomy, and rest in medicine. Find out whether the results diverge significantly from the expectation that an equal proportion of unsuccessful examinees would fall in each subject $(x^2_{0.05(2)} = 5.99)$.

9. State the differences between histogram and bar diagram. Write the importance of proportional bar diagram over simple bar diagram. 2+2

10. In a 3×2 fold contingency table, suppose lowest f_r = 12 and lowest f_c = 15 and n = 30.

    (i) Calculate lowest fe.

    (ii) In this case Yates' correction is needed or not and why.

    (iii) If computed $\chi^2 = 6.50$ and critical $\chi^2_{0.05(2)} = 5.99$ then interpret in general way.   1+2+1

11. Write short note on Pie chart.

12. What are the applications of MS Office Excel in statistical analysis ?

Group–C

Answer any *two* questions.   2×8

13. Compute the 'r' value and interprete whether or not there is a significant correlation between blood cholestoral level and high fat intake diet using the following data.

Individuals	1	2	3	4	5	6	7	8	9
Blood cholestorol level(mg%)	140	180	170	150	160	130	145	165	135
Fat intake (g/day)	30	40	45	35	30	25	30	46	32

given $t_{0.05(7)}$ = 2.365.   6+2

14. Apply one way anova to find whether or not there is a significant difference between mean blood glucose level (ms%) of the following two groups of individuals treated respectively with two different doses of insulin.

group–1 160, 170, 155, 175, 165, 150, 145, 140, 178, 182
group–2 130, 120, 115, 125, 140, 135, 122, 138, 114, 116

$F_{0.05 (1, 18)}$ 4.41

15. Discuss about standard formatting of scientific article using MS Office Word.

16. Which are the most popular and trusted food analysis softwares ? Discuss about the salient features of these softwares.

Write the application of widow/orphan control in MS Office Word.   2+4+2

[Internal Assessment – 10 Marks]

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