

M.Sc. 2nd Semester Examination, 2023

CLINICAL NUTRITION AND DIETETICS

(Statistics and Computer Applications)

PAPER – CND-201

Full Marks : 50

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

Answer any four questions from the following : 2 × 4

1. Cite any two softwares used for academic purpose.
2. What are meant by workbook and sheets in MS Office Excel ?

(Turn Over)

3. Write the conditions for application of Yate's correction.
4. Suppose mean = 50 and median = 49 of a frequency distribution. Compute mode.
5. Why Chi-square is considered as weak statistical test than correlation ?
6. Why 't'-test known as 'test of hypothesis' ?

GROUP – B

Answer any **four** questions from the following : 4×4

7. What are the applications of MS Office Excel in statistical analysis ?
8. Write a brief note on pie chart.
9. Compute the 't'-value of the group data and find out whether or not there is any significant difference in mean systolic blood pressure

between non-athletes and athletes. Critical $t(0.05)(14) = 3.52$.

Systolic blood pressure (mm of Hg)

Candidates→	1.	2.	3.	4.	5.	6.	7.	8.
Athletes—	110	120	105	108	112	116	106	104
Non-athletes—	125	130	128	126	132	138	132	136

10. Compute the median of the following frequency distribution :

<u>Class interval</u>	<u>(f)</u>
20-24	6
25-29	8
30-34	12
35-39	7
40-44	7

11. Why Spearman's Rank Correlation known as non-parametric statistics ? Write the different types of correlation with example. 2 + 2

12. Compute the regression equation of blood glucose level (mg/dl) on the dietary carbohydrate intakes (g/day) scores using the following data :

$$\begin{array}{ll} \text{Blood glucose } \bar{Y} = 110 & s_x = 22.00 \\ \text{Dietary carbohydrate } \bar{X} = 180 & s_y = 20.00 \\ & r_{yx} = + 0.60 \end{array}$$

GROUP – C

Answer any two questions from the following :

13. What is meant by uploading and downloading ?
Discuss about standard formatting of scientific article using MS Office Word. 8 × 2
14. Discuss about the academic utility of MS Office. 3 + 5
15. Compute χ^2 value of the problem given below and find out whether the observed ratio is significantly differ or not from the ratio of 'Law of Independent assortment'. 8

$$\text{Critical } \chi^2_{(0.05)(2)} = 3.12$$

$$\chi^2_{(0.05)(3)} = 3.85$$

Black colour of cornea is dominated over blue colour and open eyelid is dominated over Ptosis. Ten couples of having black coloured cornea with open-eyelid mated with blue coloured cornea and Ptosis. In F_1 generation, there are twenty children and all have black cornea and open-eyelids. Due to crossing over among them, there are 40 children in F_2 generation where 25 children having black cornea with open eyelids, 8 children having black cornea with Ptosis, 5 children having blue cornea with open eyelids and 2-children having blue cornea with Ptosis.

8

16. Transfer the raw data into rank value and compute the r_p . Find out whether or not the blood cholesterol level has a significant positive correlation with dietary fat.

8

Critical $t_{0.05(10)} = 2.228$ (two tail)

$t_{0.05(10)} = 1.812$ (one tail)

Sl.	Blood cholesterol	Dietary fat intake g/day
1	140	28
2	150	22
3	155	20
4	145	30
5	165	35
6	185	40
7	175	38
8	170	45
9	180	42
10	165	40
11	155	27
12	158	36

[Internal Assessment – 10 Marks]
