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**PG CBCS**  
**M.SC. Semester-III Examination, 2021**  
**DEPARTMENT OF FOOD SCIENCE AND NUTRITION**  
**PAPER: FSN 301**  
**(STATISTICS, COMPUTER APPLICATION AND RESEARCH METHODOLOGY)**

**Full Marks: 40****Time: 2 Hours****Answer any FOUR questions of the following:****4X10=40**

1. Why chi-square tests is non-parametric and what are importance's this test?

Find out whether or not significance association between diabetes and hypertension, when 25 are hypertensive out of 50 are diabetes individuals, whereas out of 60 non-diabetic 20 are hypertensive with using the selected critical chi-square value as given below.

Critical  $\chi^2_{0.02(3)} = 9.84$ ,  $\chi^2_{0.02(2)} = 7.82$ ,  $\chi^2_{0.02(1)} = 5.41$ , 4+6

2. What are the dispersion statistics with example? Write the relationship between Skewness and Kurtosis.

Compute the SD and SE of the frequency distribution of BMI scores and interpret your results after computation of Confidence intervals.

Class Interval: 15-17, 18-20, 21-23, 24-26, 27-29, 30-32.

Frequencies: 3 5 8 9 4 2 2+5+5

3. Write the relationship between one-tail and two-tail t-test.

The Hb(g%) of 10 male college students and 10 female college students are given below. Find out whether or not the mean Hb% of male is significantly higher than that of female.

Male Hb (g%)	11.2	12.4	10.8	13.2	11.6	12.6	10.4	14.2	12.8	13.6
Female Hb (g%)	12.8	11.6	12.2	11.8	9.8	12.4	12.4	11.4	13.8	12.0

Critical t Score:  $t_{0.02(18)} = 2.552$   $t_{0.05(18)} = 2.101$

3+7

4. Why ANOVA is more preferable than t-test? Classify with examples of ANOVA and Write the computation of sum of squares, variances and 'F' ratio for multiple comparison of 3 set of sample means of a variable. 2+2+6

**(P.T.O.)**

(2)

5. Draw block diagram of computer architecture and explain its work. Difference between system software and application software. Elaborate the main features of MS word? 5+3+2
6. What is the difference between primary and secondary memory? What is Non-Volatile memory and why it is called Non-Volatile? Compare between Minicomputer and Micro Computer. State about 3<sup>rd</sup> generation of computer. 3+2+3+2
7. Define Ms-word and application of Ms-word. What is Pie Diagram, Bar diagram and Line diagram? State about usages of MS Excel and MS-Power Point. 3+4+3
8. Explain the basic research ethics that should be maintained to carry out the research proposal. 10
9. What are the personal quality requirements of a good researcher? What do you mean by plagiarism in research? 2+8
10. Write the different features of qualitative and quantitative research. 'Lab based research is qualitative and quantitative' - Explain it. 5+5

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