

Birla Institute of Technology and Science, Pilani
Second Semester 2023-24

Comprehensive Examination(Closed book)

ECON F435

Marketing Research

Date :- 15/5/2023

M.Marks:30

Time: 3Hour

Note: Please attempt all six questions. All questions carry equal marks.

Q1. In the table given below is the monthly consumption of pizza and personal expenditures of a sample of five students from BITS Pilani, Pilani Campus. Perform correlation and regression analysis to calculate how these are correlated and how much the dependent variable will change for one unit change in independent variable.

Student No.	Frequency of Pizza Consumption per month	Monthly Personal expenditure in (1000 Rs.)
1	2	2
2	1	2
3	3	3
4	6	4
5	4	4

Q2. Elaborate upon the use of Exploratory Factor Analysis (EFA) in Marketing Research as well as the process of carrying it out. What is meant by the terms Eigen value and communalities?

Q3. A company wants to know if consumers prefer their fruit juices to be sugar-free. They have undertaken research at the BITS Pilani campus, where they randomly sampled 1000 girls and 1000 boys in each of the four classes (i.e. a total of 8000 students). If the percentage of students preferring sugar-free fruit juice is those as shown in the table given below, what conclusions can the company reach? [Critical value of the test statistic from tables :-

$\chi^2 = 6.25$ with d.f=3 and degree of confidence 90%]

	1st yr. students	2nd yr. Students	3rd yr. students	4th yr. students
Girls	60%	48%	41%	29%
Boys	55%	53%	37%	33%

Q4. The sweet candy company is sales testing three flavours of hard candy– watermelon, strawberry and apricot. The new flavours will also be tested at three different price levels viz. Rs. 5, Rs.6 & Rs.7. The company selects 12 stores that have historically have had similar candy sales.

The three flavours of candy are placed in three randomly selected stores each and the candy is priced at Rs. 5 in one store, Rs. 6 in the second and Rs. 7 in the third store. One of the company’s popular flavours (mint) is placed in the remaining three stores and is given the same three prices as the other flavours. Unit sales are monitored for three months, with the results shown below. What conclusions can you draw from the experiment? [Critical values of the test statistic from tables :- $f_{3,6}=4.76$ & $f_{2,6}=5.14$ at 95% confidence level.]

Price	Strawberry sales	Apricot sales	Watermelon sales	Mint sales
Rs.7	15	31	14	20
Rs.6	19	59	31	51
Rs.5	47	81	54	58

Q5. Explain in some detail which and how can a dependence multivariate technique be used for new product development and an interdependence multivariate technique for product positioning.

Q6. Discuss what is meant by reliability and validity of a measurement and how are these measured?