

**JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA**

**PGDM / PGDM (M) / PGDM (SM)**

**IV TRIMESTER (Batch 2021-23)**

**END TERM EXAMINATION, NOVEMBER 2022**

Course Name	<b>Marketing Analytics</b>	Course Code	<b>MKT 20125</b>
Max. Time	<b>2 hours</b>	Max. Marks	<b>40 MM</b>

**INSTRUCTIONS:**

- a. Attempt all questions
- b. Use of calculators is allowed

1. One of the uses of conjoint analysis is being able to understand how customers make their decisions. It allows you to answer questions such as: When a customer is presented with products composed of several features, how do they prioritise? Which features do they see as the 'must haves' and which as the 'nice to haves'? Are there features they are willing to sacrifice? Which feature drives purchase and is linked to the price of the product.

A conjoint study was conducted by a firm to determine the role that five attributes play in influencing a consumer's preference for a vacuum cleaner. The five attributes and their levels are as follows:

Package design (either A, B or C)

- Brand (1,2 or3)
- Price (Rs 300, Rs 400, Rs 500)
- Did "Good Housekeeping" magazine approve product?
- Is product guaranteed?

The best prediction for the product is as follows:

$$\text{Predicted Rank} = 4.833 - 4.5*A + 3.5*B - 1.5*\text{Brand1} - 2*\text{Brand2} + 7.667*(\text{Rs 300 Price}) + 4.83 *(\text{Rs 400 Price}) + 1.5 *(Approved?) + 4.5 *(Guarantee)$$

What inferences can the firm's product manager draw from this equation for devising a pro-active marketing strategy? (12 marks)

2. In a consumer research, conducted by a fast food joint, the following information was obtained after data analysis. There are two types of food (say 1 & 2) and two types of condiments (say A & B)
- 3.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	79.04103	2.927777	26.99694	5.22E-41	73.21108	84.87098	73.21108	84.87098
Food	0.282645	3.380706	0.083605	0.933587	-6.4492	7.01449	-6.4492	7.01449
Condiment	-3.72505	3.380706	-1.10186	0.273956	-10.4569	3.006792	-10.4569	3.006792

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	93.0481	1.119533	83.11334	2.28E-76	90.81835	95.27784	90.81835	95.27784
Food	-27.7315	1.583258	-17.5155	2.11E-28	-30.8848	-24.5782	-30.8848	-24.5782
Condiment	-31.7392	1.583258	-20.0468	4.51E-32	-34.8925	-28.5859	-34.8925	-28.5859
FXC	56.02826	2.239065	25.02306	1.95E-38	51.56877	60.48774	51.56877	60.48774

Critically examine the data analysis output.

(6 marks)

4. While predicting the admission of a student to a programme, the following results were obtained. (ses refers to socio economic status).
- How can you use this data to predict the admission of a student in a particular programme?
  - How will you interpret the classification table? (8+4=12 marks)

#### Classification

Observed	Predicted			Percent Correct
	general	academic	vocation	
general	10	22	13	22.2%
academic	7	87	11	82.9%
vocation	4	17	29	58.0%
Overall Percentage	10.5%	63.0%	26.5%	63.0%

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### Parameter Estimates

type of program <sup>a</sup>		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B)	
								Lower Bound	Upper Bound
general	Intercept	-4.100	.2006	4.176	1	.041			
	math score	.016	.035	.198	1	.658	1.016	.948	1.089
	science score	.043	.028	2.323	1	.128	1.044	.988	1.103
	social studies score	.049	.025	3.996	1	.046	1.050	1.001	1.102
	[ses=1]	.892	.703	1.609	1	.205	2.439	.615	9.677
	[ses=2]	.509	.614	.687	1	.407	.601	.181	2.003
	[ses=3]	0 <sup>b</sup>			0				
	[type of school=1]	-1.349	.868	2.415	1	.120	.260	.047	1.422
[type of school=2]	0 <sup>b</sup>			0					
academic	Intercept	6.687	1.945	11.817	1	<.001			
	math score	.137	.036	14.541	1	<.001	1.147	1.069	1.230
	science score	.039	.029	1.893	1	.169	.951	.909	1.017
	social studies score	.094	.026	13.104	1	<.001	1.098	1.044	1.155
	[ses=1]	.016	.669	.001	1	.981	1.016	.274	3.770
	[ses=2]	-1.207	.557	4.690	1	.030	.299	.100	.892
	[ses=3]	0 <sup>b</sup>			0				
	[type of school=1]	-1.996	.813	6.077	1	.014	.136	.028	.659
[type of school=2]	0 <sup>b</sup>			0					

a. The reference category is vocational.

b. This parameter is set to zero because it is redundant.

5. Ex-ante forecasts for consumption information forecasts, n Therefore it

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Model	(Constant)	Average Cigarettes per Day
1		
2		

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Sig.  
<.001  
<.001

17.607 <.001  
373.920  
6583.470



	Average Consumption of Cigarettes per Day	145.457	17.775	.325	8.183	<.001
	Average Hours of Exercise per Week	-301.139	38.340	-.312	-7.854	<.001
3	(Constant)	-1595.815	1052.779		-1.516	.130
	Average Consumption of Cigarettes per Day	165.005	16.901	.368	9.763	<.001
	Average Hours of Exercise per Week	-309.298	36.109	-.320	-8.566	<.001
	Age at Survey Completion (Years)	104.760	12.708	.294	8.244	<.001
4	(Constant)	-2609.516	1056.174		-2.471	.014
	Average Consumption of Cigarettes per Day	138.081	17.585	.308	7.852	<.001
	Average Hours of Exercise per Week	-265.377	36.691	-.275	-7.233	<.001
	Age at Survey Completion (Years)	109.103	12.504	.306	8.725	<.001
	Average Consumption of Alcoholic Beverages per Week	47.730	10.370	.182	4.603	<.001
5	(Constant)	-3263.586	1059.163		-3.081	.002
	Average Consumption of Cigarettes per Day	139.414	17.384	.311	8.020	<.001
	Average Hours of Exercise per Week	-271.270	36.300	-.281	-7.473	<.001
	Age at Survey Completion (Years)	114.658	12.452	.322	9.208	<.001
	Average Consumption of Alcoholic Beverages per Week	50.386	10.275	.192	4.904	<.001
	Sex	509.271	139.565	.126	3.649	<.001

a. Dependent Variable: Total Health Care Costs Declared over 2020