

JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA

POST GRADUATE DIPLOMA IN MANAGEMENT

FIRST TRIMESTER (BATCH 2017-19)

Re-Appeal END TERM EXAMINATIONS

Set B

Course Name	Quantitative Analysis for Management-I	Course Code	OP101
Max. Time	2 hours	Max. Marks	40

Instructions: **Attempt all the questions. Marks are indicated against each question.**

1. "Cool-Sundae" is an ice cream parlour in NCR. The sale of ice-cream scoops follows normal distribution with the average ice-cream consumption of 300 scoops per day and standard deviation of 40 scoops. What is the probability that on a given day, the ice cream consumption will be less than 230 scoops? More than 375 scoops? Between 321 and 357 scoops?
(10)
2. "Reader's Corner" is a famous book store in NCR. The store sells all type of books and has a large customer base. The management of Reader's Corner perceives that on an average, post graduates spend more money on purchase of books as compared to graduates who visit their store. In order to validate this claim, the management conducted a survey and the following results were obtained.

t-Test: Two-Sample Assuming Equal Variances

	<i>Graduates</i>	<i>Postgraduates</i>
Mean Expenditure per month (Rs)	551.4	1155.714286
Variance	55830.26667	31248.52747
Observations	10	14
Pooled Variance	41304.69351	
Hypothesized Mean Difference	0	
Df	22	
t Stat	-7.181605684	
P(T<=t) one-tail	1.68682E-07	
t Critical one-tail	1.717144374	
P(T<=t) two-tail	3.37364E-07	
t Critical two-tail	2.073873068	

State the null and alternate hypothesis and explain the output obtained. At $\alpha = 0.05$, can Reader's Corner conclude that the perception is true?
(10)

3. Write short notes on following: -

(5 x 2 = 10)

- a. Types of Correlation
- b. Probability Approaches

4. "La Imaginieca" is an entertainment and food joint near Mumbai. The outlet heavily depends on promotion of its theme outlet. The management of the mainly depends on twomedia promotion, TV and Print Media. The management of "La Imaginieca" has recently engaged amanagement consultant for prediction of the effectiveness of these two promotion media. The consultant has used a software and submitted the following report based on past data. Analyse the report, develop a prediction equation. Also suggest which method is more effective. Predict what will be the expected sales revenue if Rs 70 Lacs and Rs 84 Lacs are spent on TV and Print media respectively. (10)

Summary Output - La Imaginieca

<i>Regrèssion Statistics</i>	
Multiple R	0.81807947
R Square	0.66925402
Adjusted R Square	0.62515455
Standard Error	168.749086
Observations	18

ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	864311.9674	432156	15.176	0.00024901
Residual	15	427143.8104	28476.3		
Total	17	1291455.778			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	245.095748	166.0582979	1.47596	0.16064	-108.84914	599.041	-108.85	599.041
TV (Lacs)	11.7972085	2.490036616	4.73777	0.00026	6.48982111	17.1046	6.48982	17.1046
Print Media (Lacs)	15.506225	3.558866959	4.35707	0.00056	7.92067963	23.0918	7.92068	23.0918