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**UNIVERSITY OF PETROLEUM
AND ENERGY STUDIES**



Mid Semester Examination, March, 2017

Program/course: BBA (RM)
Subject: Retail business analytics
Code :BBCR 179
No. of page/s: 3

Semester – IV
Max. Marks : 100
Duration : 3 Hrs

Section-A

Attempt all questions

[1 * 20 = 20]

Q.1. Exemplify the customer life time value for a retailer with suitable example. Also, explain in detail the concept of CLV and its implications to a retailer.

Section-B

Attempt all questions

[4 * 5 = 20]

Q.3. Mr. Hari is the product manager for the Toyota Prius. Honda has recently launched its own hybrid car which has proved to be a capable competitor to the Hari. Since the Honda launch, Hari has noticed that his sales have been slowing. She is considering dropping her price from its current level \$22,500 to a new reduced level \$17,000 in order to better compete with the Honda hybrid which is priced at \$17,500. Before he does so, he wants to understand how price sensitive consumer demand is for the Toyota Prius. At the \$22,500 price, Hari has been able to sell 60,000 units per year. When the Prius was first launched, it was priced much higher at \$32,500. During its first year at that price point, it sold 40,000 units. Tess knows that he needs to sell an incremental 60,000 units per year to hit his profit target, given the cost of the price reduction to \$17,500.

As a part of your answer answer the following:-

- a) Will he be able to achieve this sales level with his new price? Why or why not?
- b) What is the price elasticity of the Toyota Prius at the \$22,500 price level?
- c) Is the Prius price elastic or price inelastic?
- d) How many units should Hari expect to sell at the \$17,500 price point, assuming a linear demand curve? Will this achieve her profit target?

Section-C

Attempt all questions

[2 * 15 = 30]

Q.4.

a) Independent random samples of marks were selected from three classes namely LSCM, OC and General management. The subjects were then subjected to a presentation on aptitude building . The objective of the experiment was to see whether three classes have the similar levels of intelligence or not. After the presentation, all three classes were subjected to a written test and the marks obtained were recorded below

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
LSCM	10	407	40.7	9.788889
OC	10	360	36	9.333333
General management	10	300	30	2.666667

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	575.2667	2	287.6333	39.60275	9.34E-09	3.354131
Within Groups	196.1	27	7.262963			
Total	771.3667	29				

As a part of your answer:

- Write concerning null and alternate hypotheses.
- Critically interpret the results.

b) Company A's Web site charges a subscription fee of \$39.75 per month. The sum of variable and retention costs is about \$12.50 per account per month. If the CLV of each *newly acquired customer* is \$250, what must be the monthly customer retention rate? Assume a monthly discount rate of 1.5% and a constant renewal rate.

Section-D

Attempt all questions

[6 * 5 = 30]

Q.5: Given the following data

- Sales..... \$325,000
- Fixed manufacturing costs 33,000
- Fixed marketing and administrative costs 22,000
- Total fixed costs 55,000
- Total variable costs 230,000
- Unit price..... 80
- Unit variable manufacturing cost 55
- Unit variable marketing cost 5

Find out:

- a) Monthly operating profit when sales total \$360,000
- b) Break-even number in units.
- c) Number of units sold that would produce an operating profit of \$120,000.
- d) Sales dollars required to earn an operating profit of \$20,000.
- e) Number of units sold in March.
- f) Number of units sold that would produce an operating profit of 20 percent of sales dollars.