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25 (2) RTTB 205

2014

**RESEARCH TOOLS AND  
TECHNIQUES IN BUSINESS**

**Paper : 205**

*Full Marks : 70*

*Time : Three hours*

*The figures in the margin indicate full marks  
for the questions.*

*Answer any five questions.*

1. (a) "The researcher is not equipped to arrive at a focused and precise research question, till he carries out a thorough inventory check of the problem area." Examine the above statement and justify with examples why you agree/disagree with it. 6
- (b) A health drink/beverage manufacturer in a study finds that women are more health conscious and are looking at low calorie options. Any communication or advertisement for the product has to

*Contd.*

emphasize on aspects like 'staying slim' or 'less obesity'. The purchase probability is also influenced by education levels, lifestyles and nature of profession. Other factors such as brand availability, celebrity endorsement and dieticians recommendations also have impact on them.

- (i) Identify the management decision problem and management research problem. 1
  - (ii) Identify and classify the variables under study. 3
  - (iii) What research design would you recommend for the study and why? 4
2. What are Observation Methods? Write a brief note on the different types of Observation Methods. Explain how will you carry out content analysis with the findings under Observation Methods. 14
3. (a) P & G has developed a new toothpaste that provides tooth and gum protection for 24 hours after each brushing. It would like to determine consumers' response to this new toothpaste before introducing it in the market place.

(i) If a survey is to be conducted to determine consumer preference, which survey method would be appropriate? 1

(ii) How would you define the target population and sampling unit for the survey? What qualitative factors would you consider while designing the sample size? 3

(iii) Illustrate the use of primary scales in measuring consumer preference for toothpaste brands. 4

(iv) Describe the notion of internal consistency reliability. What are the measures of internal consistency reliability? State their merits and limitations. 6

(v) "Projective Techniques are different from Focus Groups and Depth Interviews which are frequently used in Exploratory Research Design." Justify the reasons behind use of Projective Techniques in Exploratory Research Design.

Illustrate with suitable example the use of either 'Word Association' or 'Sentence Completion' as a Projective Technique for measuring consumer attitudes. 9

(b) (i) The management of a local restaurant wants to determine the average monthly amount spent by the households in restaurants. Some households in the target market do not spend anything at all, whereas other households spend as much as Rs. 4000 per month. Management wants to be 95 per cent confident of the findings and does not want an error to exceed plus or minus Rs. 500.

What sample size should be used for this study?

After the survey was conducted, the average expenditure was found to be Rs. 2000 and the standard deviation was Rs. 400. Construct a 95 per cent confidence interval.

(Given 95 per cent area is covered within  $\pm 1.96$  standard deviations in a normal distribution).

Or

(ii) How do you distinguish between probability sampling and non-probability sampling? What is the significance concept of standard error in a sampling analysis?

(a) What is multiple regression? State the null hypothesis in testing the significance of the overall multiple regression equation. How is this null hypothesis tested?

(b) A travel agency wants to examine the relationship between "Tourists Attitude Towards a City" with "Duration of Stay" and "Popularity of the Destination." If the output of the findings is given below, interpret the results for the Travel Agency as required

Multiple R : 0.972

$R^2$  : 0.944

Std. Error : 0.859

F = 77.294 Significance of F = 0.02

Coefficients Estimation

Variable	b	$sE_B$	Beta (B)	t	Significance
Duration	0.288	0.086	0.313	3.35	0.008
Popularity	0.482	0.059	0.763	8.16	0.003
(Constant)	0.334	0.562			

Formulate the estimated multiple regression equation. Is the relationship significant? Explain its meaning.

Explain the term Multiple  $R$ ,  $R^2$  and Standard Error.

Which variable is influencing the "Tourists attitude towards a city"?

6. (a) What are the guidelines a researcher must follow for graphical and tabular representation of the research results? 6

*Or*

- (b) Discuss in detail the steps that a researcher needs to follow to formulate a good research report. Do the criteria become different for different kinds of reports? 6

- (c) (i) How does one go about preparing cross-table between two variables each having two categories? In what ways should percentages be calculated to interpret the results of a cross-tabulation? 5

- (ii) What conclusion can be drawn from the following table: 3

Purchase Intention	Income	
	Low Income	High Income
Low Purchase Intention	120	60
High Purchase Intention	80	190
	200	250

7. (a) What is factor leading matrix? How is it obtained? How can the entries in the table be used to compute eigenvalues for each factor and communality for each variable? 7

- (b) Write a note on factors affecting Internal and External Validity of an Experiment / Casual Research Design. 7