



**PRESIDENCY UNIVERSITY, BENGALURU  
SCHOOL OF MANAGEMENT**

Max Marks: 100

Max Time: 180 Mins

Weightage: 50 %

**Set A**

**COMPREHENSIVE EXAMINATION**

II Semester 2016-2017

Course: **MBA A 110 Business Research Methods &  
Quantitative Techniques**

6 June 2017

**Instructions:**

- i. Write legibly
- ii. Non-Programmable Calculators are allowed.
- iii. Statistical Tables are allowed.

**Part A**

(10 Q x 2 M= 20 Marks)

1. Define Business Research.
2. How does a hypothesis differ from a proposition?
3. List the steps in the problem-definition process.
4. Name the types of response bias.
5. What is a Completely Randomized Design?
6. A researcher wishes to compare two hotels on the following attributes: Convenience of location, Friendly personnel and Value for money. Design a Semantic differential scale to accomplish this task.
7. Suppose a survey researcher, studying expenditures on lipstick, wishes to have a 95 percent confident level (Z) and a range of error (E) of less than ₹ 2.00. The estimate of the standard deviation is ₹ 29.00. What is the calculated sample size?
8. Consider the partial relative frequency distribution of consumer preferences for four products—W, X, Y, and Z—that is shown below.

Product	Relative Frequency
W	0.15
X	
Y	0.36
Z	0.28

- a. Find the relative frequency for product X.
  - b. If 300 consumers were surveyed, give the frequency distribution for these data.
9. What is a Type II error? Give example.
  10. List the seven major elements of a formal research report.

## Part B

(8 Q x 5 M=40 Marks)

11. Name and describe the four possible functions research serves in business.
12. Explain, using suitable examples, the major stages in the research process.
13. Critically highlight the effectiveness of secondary data.
14. Why would you prefer mail surveys to collect data over other methods?
15. Compare and contrast the different levels of scale measurement.
16. Give an example of a longitudinal study that you wish to carry out. What particular problems might you encounter?
17. The marketing department at the Caddy Chocolate Company is investigating the attitudes and preferences of consumers toward the brands Caddy and a competing chocolate brand, Nutty. Twenty randomly selected shoppers are given a “blind taste-test” and are asked to give their chocolate preferences. The results are given in Table below - each shopper’s brand preference, Caddy or Nutty, is revealed to the shopper only after he or she has tasted both brands without knowing which chocolate is which. In addition, each survey participant is asked to answer two more questions: (1) Have you previously purchased Caddy or Nutty: Yes or No? (2) What is your flavor preference for chocolates: Dark or Milk? These responses are also given in Table below.

Shopper	Brand Preference	Chocolate Flavor	Previously Purchased	Shopper	Brand Preference	Chocolate Flavor	Previously Purchased
1	Caddy	Dark	No	11	Nutty	Dark	No
2	Caddy	Milk	Yes	12	Caddy	Dark	Yes
3	Caddy	Dark	No	13	Caddy	Dark	No
4	Nutty	Milk	No	14	Caddy	Dark	No
5	Caddy	Milk	No	15	Caddy	Milk	Yes
6	Caddy	Dark	Yes	16	Nutty	Dark	No
7	Nutty	Dark	Yes	17	Nutty	Milk	No
8	Nutty	Milk	No	18	Nutty	Dark	No
9	Caddy	Dark	Yes	19	Nutty	Dark	Yes
10	Caddy	Dark	No	20	Caddy	Dark	No

Construct a contingency table using Brand preference and purchase history. Based on the table, answer the following.

- a. How much percentage of shoppers who preferred Caddy in the blind taste test had previously purchased Caddy?
- b. How much percentage of shoppers who preferred Nutty in the blind taste test had not previously purchased Nutty?
- c. What kind of association / relationship, if any, seems to exist between brand preference and purchase history? [Chi-Square = 3.841, with 1 d.f.:  $p < 0.05$ ]

18. The scores for nine students in physics and math are as follows:

Physics	35	23	47	17	10	43	9	6	28
Mathematics	30	33	45	23	8	49	12	4	31

Compute the student's ranks in the two subjects and compute the Spearman rank correlation.

**Part C**

(2 Q x 20 M= 40 Marks)

19. You are working as a Team Leader in UniLab Software Solutions. The management feels that the employee productivity was declining continuously. The management finds that the use of mobile phones by staff members during meetings and working hours is a major hindrance. The management wants you to conduct a staff survey on attitudes towards the use of mobile phones in the staff / team meetings. The Management wants to develop a company policy regarding the use of mobile phones during office hours based on your recommendations.

In the above context, answer the following questions:

- Explain which research methods would be most appropriate for the above context and how would you design your experiment?
  - Design a short questionnaire to conduct a staff survey on attitudes towards use of mobile phones in staff / team meetings.
  - Describe how will you pretest and revise your questionnaire.
  - Explain how will you perform data analysis and summarize the results?
20. The chairman of the marketing department at a large state university undertakes a study to relate starting salary ( $y$ ) after graduation for marketing majors to grade point average (GPA) in major courses. To do this, records of seven recent marketing graduates are randomly selected, and the data shown below are obtained.

Marketing Graduate	GPA (X)	Starting Salary (Y)
1	3.26	33.8
2	2.60	29.8
3	3.35	33.5
4	2.86	30.4
5	3.82	36.4
6	2.21	27.6
7	3.47	35.3

- Find the least squares point estimates  $b_0$  and  $b_1$  and report their values. Interpret  $b_0$  and  $b_1$ . Does the interpretation of  $b_0$  make practical sense?
- Use the least squares line to compute a point prediction of the starting salary for an individual marketing graduate having a grade point average of 3.25. Compute SSE.
- Compute the sample correlation coefficient.
- Compute the coefficient of determination  $r^2$ . Comment on the goodness of fit.





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Max Marks: 50

Max Time: 120 Mins

Weightage: 25 %

**Set A**

**TEST 2**

II Semester 2016-2017

Course: **MBA A 110 Business Research Methods &  
Quantitative Techniques**

13<sup>th</sup> April 2017

**Part A**

(6 Q x 1 M= 6 Marks)

**State whether the following statements are True or False with a valid reason:**

1. The focus of qualitative research is on producing "numbers" that can be used in statistical tests.
2. Jaya received a phone call asking her to participate in a survey. She told the interviewer that she was too busy and could not participate. This is an example of nonresponse error.
3. A measurement scale in which respondents are asked to rank items based on their preferences is called a nominal scale.
4. A control group is one in which an experimental treatment is administered.
5. When the gender of respondents (male, female) is thought to affect in important ways the dependent variable, an experimenter can attempt to block out the effect of gender on the results of the study.
6. Pilot testing seeks to determine whether respondents have any difficulty understanding the questionnaire and whether there are any ambiguous or biased questions.

**Part B**

(6Q x 4 M= 24 Marks)

1. Discuss situations in which qualitative research is useful.
2. Critically highlight the effectiveness of secondary data.
3. Name and describe the types of response bias.
4. Why would you prefer mail surveys to collect data over other methods?
5. How would you use completely randomized-block designs for a market survey?
6. Compare and contrast the different levels of scale measurement.

**Part C**

(2Q x 10 M= 20 Marks)

1. Design a complete questionnaire to measure consumer satisfaction with an airline. Describe how will you pretest and revise your questionnaire.
2. A researcher wishes to compare two hotels on the following attributes: Convenience of location, Friendly personnel and Value for money.
  - a. Design a Likert scale to accomplish this task.
  - b. Design a semantic differential scale to accomplish this task.
  - c. Discuss major issues involved in the selection of a measurement scale.



**PRESIDENCY UNIVERSITY, BENGALURU  
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Max Marks: 50

Max Time: 55 Mins

Weightage: 25 %

Set A

**TEST 1**

II Semester 2016-2017

Course: **MBA A 110 Business Research Methods &  
Quantitative Techniques**

25<sup>th</sup> February 2017

**Part A**

(5 Q x 1 M= 5 Marks)

**State whether the following statements are True or False with a valid reason:**

1. Business research attempts to provide accurate information in order to reduce uncertainty in decision-making.
2. The procedures and techniques used by applied researchers and basic researchers differ substantially.
3. An organization's mailing list of current customers is an example of software.
4. One way to describe business research is to categorize it based on the four possible functions it serves in business: foundational, testing, issues, and validation.
5. The basic or scientific business researcher operates at two levels: on the abstract level of concepts (hypotheses) and on the empirical level of variables (propositions).

**Part B**

(5 Q x 5 M= 25 Marks)

1. Compare and contrast basic and applied business research. Discuss an example of each.
2. Explain why business research, like all business activity, continues to change.
3. Name and describe the four characteristics that help determine how valuable data may be to researchers and managers.
4. What is a theory, what are its goals, and why is it useful to business researchers?
5. Discuss how theories are developed. Give examples.

**Part C**

(1 Q x 20 M= 20 Marks)

1. Indian Railways is the largest employer in India. Trains are the country's most widely used and economical mode of transportation, and the railways handle 23 million passengers and 3 million tonnes of freight every day. For several decades, the transportation giant has been facing several challenges, such as huge under-investment, congestion, lack of modernization, unhygienic platforms and railway tracks, and frequent accidents.

Assume Indian Railways (IR) appoints you to carry out a six-month study on how it can increase its revenue. The Railway Ministry is not keen on increasing freight tariffs or passenger fares. Instead, the ministry is planning to generate revenues from sources such as advertising, export of railway equipment, cutting working expenses, modifying the parcel leasing policy, and monetizing land etc.

- a. Explain how do you proceed with your research work scientifically.
- b. List down the different types of data you need to collect. Describe each in terms of illustrating data, information or intelligence.