

INDIRA UNIVERSITY, PUNE

SET-2

SCHOOL OF BUSINESS- MBA

Backlog Examination (2025 Pattern) April – 2026 - Semester – I

Subject Name: Business Research Methods and Statistics
Subject Code: 25MBA108

Max. Marks: 50
Time: 2:30 hours

Instructions

- Q1, Q2 and Q3 consist of internal options, solve any 1
- Q4 is compulsory
- Use of Simple calculator is allowed

CO #	Cognitive Ability	Course Outcome
CO3	Apply	Make use of scientific principles of research to SOLVE contemporary business research problems.
CO4	Analyse	Examine the various facets of a research problem and ILLUSTRATE the relevant aspects of the research process from a data driven decision perspective.
CO5	Evaluate	Judge the suitability of alternative research designs, sampling designs, data collection instruments and data analysis options in the context of a given real-life business research problem from a data driven decision perspective.
CO6	Create	Design and develop a comprehensive business research report by integrating appropriate statistical analyses, graphical data representations, and Microsoft Excel tools to support data-driven decision-making.

Q1.	Attempt any 1 out of 2 a) A research was conducted to find the daily screen time of teenagers. Below is the data collected from 14 respondents. i) Find Mean, Median, and Mode. ii) Calculate Range, Mean Deviation, & Standard Deviation. iii) Comment on the variability in screen time. Are most people close to the average?	(10 marks)	CO3
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	Supporting dataset: <table><tr><th>Person</th><th>Screen Time (hrs)</th></tr><tr><td>1</td><td>2.8</td></tr><tr><td>2</td><td>3.5</td></tr><tr><td>3</td><td>4</td></tr><tr><td>4</td><td>3.2</td></tr><tr><td>5</td><td>5.1</td></tr><tr><td>6</td><td>4.5</td></tr><tr><td>7</td><td>3.9</td></tr><tr><td>8</td><td>4.8</td></tr><tr><td>9</td><td>2.7</td></tr><tr><td>10</td><td>3.6</td></tr><tr><td>11</td><td>3.3</td></tr><tr><td>12</td><td>4.4</td></tr><tr><td>13</td><td>5.2</td></tr><tr><td>14</td><td>3.1</td></tr></table> b) Assume you are a research consultant for a Supermarket, where management has noticed a decline in regular customers. Choose the scientific research process to study this problem. Identify the ethical considerations that you must include during the study.	Person	Screen Time (hrs)	1	2.8	2	3.5	3	4	4	3.2	5	5.1	6	4.5	7	3.9	8	4.8	9	2.7	10	3.6	11	3.3	12	4.4	13	5.2	14	3.1	
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Q2.	Attempt any 1 out of 2 (10 marks) a) Develop 3 research objectives and 3 hypotheses that could guide a study on employee productivity working in two different manufacturing organizations. Examine how these hypotheses will help in understanding productivity differences among workers. b) Analyze an exploratory research plan aimed to identify reasons for the decline in sales of a popular detergent brand in Nagpur. Examine the effectiveness of different methods used for data collection and infer possible causes of the sales drop. Provide the managerial implication to address this problem.	CO4																														
Q3	Attempt any 1 out of 2 (10 marks) a) (i) ShopEase, a mid-sized retail chain, is facing a decline in customer loyalty despite implementing regular discounts and loyalty programs. The management believes that customer satisfaction and service experience may be influencing this issue.	CO5																														

	As a Business Research Analyst, evaluate the suitability of different research designs (exploratory, descriptive, and causal) for this study, and justify which design would be most appropriate to investigate the drivers of customer loyalty and improve customer retention. (5 Marks) ii) Considering the research design planned by ShopEase to understand the drivers of customer loyalty, evaluate the appropriateness of probability and non-probability sampling designs, and justify which specific sampling technique would be most suitable for this context, providing logical reasoning for your choice. (5 marks) OR b) (i) A FinTech company wants to assess users' trust and satisfaction levels after recent policy changes. Evaluate which data collection instrument (structured questionnaire, interview, or online survey) would be most effective and justify why. (5 Marks) ii) Maruti Suzuki wants to study the effect of influencer marketing on car purchase intentions among young professionals. Construct Hypotheses, Evaluate an appropriate hypothesis testing technique and justify its use based on data type that will be collected by you and research objective. (5Marks)	
Q4	Attempt the Question :- (20 Marks) An online retail company wants to examine whether online spending differs across age groups and whether transaction frequency influences total spending behavior. The management intends to use the insights for improving market segmentation and pricing strategies. As a Business Research Consultant, design a comprehensive research plan addressing the following tasks: i) Formulate an appropriate research title and problem statement defining the study's purpose and scope. (3 Marks) ii) Develop specific research objectives and hypotheses (H_0 & H_1) linking age, transaction frequency, and spending. (4 Marks) iii) Select and justify the most suitable research design (exploratory, descriptive, or causal). (3 Marks) iv) Propose an appropriate sampling design — define target population, technique, and sample size with justification. (3 Marks)	CO6

	v) Recommend suitable data collection methods and measurement scales for key variables. (3 Marks) vi) Identify appropriate statistical tests (e.g., ANOVA, regression) and explain their role in hypothesis testing. (2 Marks) vii) Suggest how the research findings can guide segmentation and pricing strategies. (2 Marks) Supporting dataset: <table border="1"> <thead> <tr> <th>Age Group</th><th>Avg. Monthly Online Spend (₹)</th><th>No. of Transactions per Month</th></tr> </thead> <tbody> <tr> <td>18–25</td><td>5,200</td><td>9</td></tr> <tr> <td>26–35</td><td>6,800</td><td>11</td></tr> <tr> <td>36–45</td><td>4,300</td><td>6</td></tr> <tr> <td>46–60</td><td>3,100</td><td>4</td></tr> </tbody> </table>	Age Group	Avg. Monthly Online Spend (₹)	No. of Transactions per Month	18–25	5,200	9	26–35	6,800	11	36–45	4,300	6	46–60	3,100	4	
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