



Name:

Enrolment No:

**UPES**  
**End Semester Examination, December 2023**

**Course: Research Methodology & Report Writing**  
**Program: BBA /B.COM ALL**  
**Course Code: DSRM2001**

**Semester: III**  
**Time : 03 hrs.**  
**Max. Marks: 100**

**SECTION A**  
**10Qx2M=20Marks**

S. No.		Marks	CO
Q1	Which of the following is NOT a role of business research? i) Identifying business opportunities ii) Evaluating competitor strategies iii) Increasing employee salaries iv) Making informed decisions.	2	CO1
Q2	Which phase of the business research process involves defining the research problem and objectives? i) Data collection ii) Data analysis iii) Problem formulation iv) Report writing	2	CO1
Q3	Which of the following is NOT a type of research design? i) Experimental design ii) Descriptive design iii) Qualitative design iv) Survey design	2	CO1
Q4	What is the purpose of a pilot study in research design? i) To gather primary data ii) To test research hypotheses iii) To identify potential issues and refine the research plan iv) To finalize the research report	2	CO1
Q5.	What is a parameter in statistics? i) A sample characteristic ii) A population characteristic iii) A measure of central tendency iv) A measure of dispersion	2	CO1

Q6.	The mode of the following data 2,0,4,5,6,7,8,10,12,15 is i) 7 ii) 15 iii) 0 iv) Does not exist	2	CO1
Q7.	In simple random sampling, every item in the population has i) An equal chance of being selected ii) No chance of being selected iii) A fixed probability of being selected iv) A decreasing chance of being selected	2	CO1
Q8.	In which scale of measurement is the order of categories important, but the differences between them are not meaningful? i) Nominal ii) Ordinal iii) Interval iv) Ratio	2	CO1
Q9.	A significance level (alpha) of 0.10 in hypothesis testing corresponds to a confidence level of: i) 90% ii) 95% iii) 99% iv) 99.9%	2	CO1
Q10	Which statistical test is appropriate for comparing the means of two independent groups? i) Chi-squared test ii) T-test iii) ANOVA iv) Regression analysis	2	CO1
<b>SECTION B (Attempt Any Four)</b> <b>4Qx5M= 20 Marks</b>			
Q11	Explain the importance of business research in decision-making for organizations.	5	CO2
Q12	Identify the type of research in each of the following scenarios and justify your answer. i) A study that aims to understand the emerging trends in social media usage among teenagers. ii) An experiment to determine the impact of a new drug on reducing blood pressure in patients with hypertension.	5	CO2

	<ul style="list-style-type: none"> <li>iii) Research that investigates the factors influencing customer satisfaction in a particular restaurant chain.</li> <li>iv) A study examining the relationship between the amount of time spent studying and students' grades.</li> <li>v) A survey to assess the current levels of awareness and knowledge about climate change in a specific region.</li> </ul>		
Q13	Explain the key differences between cluster sampling and stratified sampling as two distinct probability sampling techniques. Provide a real-world example for each method and discuss when researchers might opt for one over the other	5	CO2
Q14	Explain the four scales of measurement (nominal, ordinal, interval, and ratio) and provide two real life examples for each.	5	CO2
Q15	In the context of research, errors can occur at various stages of the research process. Discuss the two types of errors: Type I (alpha) and Type II (beta) errors in hypothesis testing	5	CO2
<b>SECTION-C (Attempt any Three)</b> <b>3Qx10M=30 Marks</b>			
Q16	<p>Imagine you are conducting a research study to test the effectiveness of a new teaching method on student performance in mathematics. You want to investigate whether the new method leads to a statistically significant improvement in test scores. Design a hypothesis testing scenario for this research study.</p> <ul style="list-style-type: none"> <li>i) Formulate the null hypothesis (H0) and the alternative hypothesis (H1) for this study.</li> <li>ii) Define the significance level (alpha) you would use and explain its significance.</li> <li>iii) Describe the sampling and data collection process you would employ.</li> <li>iv) Explain the statistical test you would use to analyze the data.</li> <li>v) Discuss the decision criteria.</li> </ul>	10	CO3
Q17	The mean weight of 25 male students who showed participation in school athletics was 68.2 kgs with a standard deviation of 2.5 kgs. While 25 female students had a mean weight of 67.5 kgs with a standard deviation of 2.8 kgs. Test the hypothesis that male students who participate in school athletics are healthier than female students. (Use $\alpha=0.05$ . The tabulated value at 5% level of significance is 2.06.)	10	CO3

Q18	<p>You have collected data on the daily temperatures in a city over the past month. The temperature data is presented in a continuous series, with the temperature ranges and their corresponding frequencies as follows:</p> <table border="1"> <thead> <tr> <th>Temp</th> <th>No. of Days</th> </tr> </thead> <tbody> <tr> <td>40-50</td> <td>5</td> </tr> <tr> <td>50-60</td> <td>8</td> </tr> <tr> <td>60-70</td> <td>12</td> </tr> <tr> <td>70-80</td> <td>7</td> </tr> <tr> <td>80-90</td> <td>4</td> </tr> </tbody> </table> <p>Calculate Standard Deviation.</p>	Temp	No. of Days	40-50	5	50-60	8	60-70	12	70-80	7	80-90	4	10	CO3				
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40-50	5																		
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Q19	<p>You are tasked with developing a questionnaire to gather data on customer satisfaction for a local restaurant. The restaurant owner is interested in understanding customer preferences, feedback, and areas for improvement. Design a questionnaire for this purpose.</p>	10	CO3																
<b>SECTION-D (Attempt Any Two)</b> <b>2Qx15M= 30 Marks</b>																			
Q20	<p>Imagine you are a marketing manager for a global electronics company planning to launch a new smartwatch. Design a research plan that outlines the key steps you would take to ensure a successful product launch. Your plan should include the following elements:</p> <ul style="list-style-type: none"> <li>i) Research Objectives</li> <li>ii) Data Collection Methods</li> <li>iii) Sampling Design</li> <li>iv) Data Analysis</li> </ul>	15	CO4																
Q21	<p>A survey was conducted to study the relationship between the preferred mode of transportation (Car, Bicycle, or Public Transit) and age group (Young, Middle-aged, or Senior) among residents in a city. The survey collected data from 300 residents. The results are summarized in the following contingency table:</p> <table border="1"> <thead> <tr> <th></th> <th>Car</th> <th>Bicycle</th> <th>Public Transit</th> </tr> </thead> <tbody> <tr> <th>Young</th> <td>70</td> <td>20</td> <td>10</td> </tr> <tr> <th>Middle Aged</th> <td>40</td> <td>50</td> <td>30</td> </tr> <tr> <th>Senior</th> <td>10</td> <td>30</td> <td>40</td> </tr> </tbody> </table> <p>The critical value of chi-square for a significance level of 0.05 is 9.488.</p>		Car	Bicycle	Public Transit	Young	70	20	10	Middle Aged	40	50	30	Senior	10	30	40	15	CO4
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Q22	<p>A business consulting firm has been engaged to conduct research on consumer preferences for eco-friendly products in a specific market. The firm's objective is to help their client, a sustainable product manufacturer, develop strategies for product development and marketing. Develop a research plan for this study, addressing the following aspects:</p> <ul style="list-style-type: none"><li>i) Identify the most appropriate type of research for this business study. Justify your choice and explain how it aligns with the client's goals.</li><li>ii) Discuss various data collection methods suitable for understanding consumer preferences for eco-friendly products. Analyze the advantages and disadvantages of each method in the context of a business-focused research project.</li><li>iii) Suggest different sampling techniques for selecting a representative sample of consumers for the study. Explain how each sampling technique could be used effectively to collect data relevant to the client's business objectives.</li></ul>	<b>15</b>	<b>CO4</b>
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