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**JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA**

**PGDM (SM)**

**Third TRIMESTER (Batch 2023-2025)**

**END-TERM EXAMINATIONS, April 2024**

**Set-1**

|  |  |  |  |
| --- | --- | --- | --- |
| Course Name | Business Research Methods | Course Code | 20503 |
| Max. Time | **2 hours** | Max. Marks | **40 Marks** |

**INSTRUCTIONS:**

1. Attempt all questions, marks are indicated after each question

2. Attempt questions as per sequence & mention the correct question and subpart number

3 Overall Permissible Plagiarism is 10%. Marks will be deducted if the Plagiarism is above the permissible limit. The Penalty Clause is: 15-20% - Minus 3 Marks, above 30% - Reappear

**Note: Attempt all questions**

**Q. No. 1**: **Scenario:** Microplastics, tiny plastic fragments less than 5 millimeters in size, are increasingly being found in the environment, including our oceans. There is concern that microplastics are making their way into the food chain, potentially harming marine life and ultimately reaching human consumers. However, the extent and impact of microplastic contamination in the food web is not fully understood.

1. Which research design(s) and method would be most appropriate for the researcher. Justify with an argument **(2 marks)**
2. State any two hypotheses towards this research **(2 Marks)**
3. Identify the respondent for the research. Justify with an argument **(2 Marks)**

**Q. No. 2**

1. A researcher is studying the effectiveness of a new fertilizer on corn yields. They have a list of 100 farms in a specific region that grow corn.
2. Prepare and justify a statement for random sampling technique based on the above-mentioned sampling frame **(2 Marks)**
3. Prepare and justify a statement for random sampling technique based on the above-mentioned sampling frame **(2 Marks)**
4. A marketing agency is interested in understanding the preferences of young adults (aged 18-25) for a new music streaming service. They decide to survey patrons at a local music venue on a Friday night. Explain and reason the type of sampling technique used.

**(2 Marks)**

A public health researcher wants to study the prevalence of a new flu strain in a large metropolitan area. Resources and time limit them to surveying a representative sample. They decide to divide the city into districts based on pin codes. They then randomly select 10 districts and plan to survey all residents within those districts who meet the age criteria for the study. Explain and reason the type of sampling technique used. **(2 Marks)**

**Q. No. 3**-

**Fitness App Preferences (8 Marks)**

This case explores user preferences and motivations for using fitness apps. Following is the research question suitable for a small questionnaire that utilizes various scales.

**Research Question:** How do demographics, current exercise habits, preferred workout styles, and satisfaction with existing fitness apps influence users' interest in subscribing to a new fitness app with personalized workout plans?

Create a questionnaire based on the research question. Mention and justify the measurement scale used?

**Q. No. 4 :** A researcher is investigating the effect of three different teaching methods (A=1, B=2, and C=3) on student performance in a Statistics course. They collect test scores from students who were randomly assigned to one of the three teaching methods. The dataset consists of the following scores: **(8 Marks)**

|  |  |
| --- | --- |
| Teaching Method | Score |
| 1 | 78 |
| 1 | 82 |
| 1 | 75 |
| 1 | 80 |
| 1 | 79 |
| 1 | 64 |
| 1 | 69 |
| 2 | 85 |
| 2 | 88 |
| 2 | 82 |
| 2 | 83 |
| 2 | 87 |
| 2 | 92 |
| 2 | 81 |
| 2 | 86 |
| 3 | 70 |
| 3 | 75 |
| 3 | 72 |
| 3 | 68 |
| 3 | 73 |
| 3 | 71 |
| 3 | 69 |
| 3 | 80 |
| 3 | 64 |
| 3 | 69 |

Perform an appropriate analysis to determine whether there are significant differences in the mean test scores among the three teaching methods. If there is a significant difference detected, perform post-hoc tests to determine which teaching methods significantly differ from each other, if any. Follow steps of hypotheses testing.

5-A marketing researcher is investigating the factors influencing consumer purchasing behavior in the smartphone market. The researcher has collected data from 100 participants on various variables related to their smartphone purchasing decisions. The dataset includes the following variables. All measured on a scale of 1-10

Quality Perception Score (QPS), Price Perception Score (PPS),

Purchase Intention (PI)

|  |  |  |
| --- | --- | --- |
| PI | QPS | PPS |
| 4 | 4 | 4 |
| 3 | 2 | 3 |
| 2 | 5 | 2 |
| 2 | 1 | 5 |
| 4 | 3 | 4 |
| 3 | 4 | 1 |
| 5 | 5 | 3 |
| 1 | 1 | 2 |
| 3 | 2 | 4 |
| 4 | 3 | 5 |
| 2 | 4 | 2 |
| 1 | 5 | 1 |
| 2 | 1 | 3 |
| 4 | 2 | 5 |
| 3 | 3 | 4 |

1. Frame the suitable hypotheses and justify the test used **(4 Marks)**
2. Interpret the regression coefficients and assess the significance of each predictor in predicting Purchase Intention. **(4 Marks)**
3. Predict PI when QPS=3 and PPS=5 **(2 Marks)**