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**JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA**

**PGDM (Sec-B)**

**THIRD TRIMESTER (Batch 2022-24)**

**END TERM EXAMINATION, APRIL 2023**

**Set-1**

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

**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: 11-20% - Minus 5 Marks, above 20% - Reappear

**Note: Attempt all questions**

**Q. No. 1** For each of the situations below, decide whether the research should be exploratory, descriptive, or causal? Explain your answer.

1. A pharmaceutical company wants to test the efficacy of a new drug for treating a specific medical condition. They conduct a randomized controlled trial, where patients are randomly assigned to either a group that receives the new drug or a control group that receives a placebo. The company measures the effect of the drug on patient outcomes, such as symptom improvement and quality of life, to determine if the drug is effective in treating the condition. **(2 Marks)**
2. A car manufacturer wants to test the impact of a new safety feature on accident rates. They conduct a quasi-experiment, where they track accident rates before and after installing the safety feature in a group of vehicles. The manufacturer compares the accident rates of the group with the safety feature to a control group that did not receive the feature to determine if it had a significant impact on reducing accidents. **(2 Marks)**
3. A gym owner wants to know if offering a free fitness class to new members will lead to increased membership sign-ups. The owner conducts a causal study by randomly assigning new members to either a group that receives the free class or a control group that does not. The owner then tracks membership sign-ups over several months and compares the results between the two groups to determine if the free class led to a significant increase in sign-ups. **(2 Marks)**

**Q. No. 2** Identify the research technique procedure that will be used by research firm to gather insights.

a. A pharmaceutical company is developing a new drug and wants to gather feedback from experts in the field before moving forward with clinical trials. The company wants to know if the drug's mechanism of action is sound and if there are any potential side effects that they should be aware of. **(3 Marks)**

b. A tech company is considering developing a new product that would incorporate artificial intelligence (AI) technology. They want to understand the attitudes and opinions of top executives and AI experts before making a decision. **(3 Marks)**

**Q. No. 3**

a. Evaluate the situation, select appropriate sampling design and write steps to implement the same in the following situations:

1. A hospital wants to survey patients who have been discharged in the last month to determine their satisfaction with their care. **(3 Marks)**
2. A marketing company wants to conduct a survey of homeowners to determine their interest in purchasing a new home security system. The company knows that homeowners in certain income brackets may be more likely to purchase the system than others. **(3 Marks)**
3. Imagine you are a researcher studying public attitudes towards vaccinations in the wake of the COVID-19 pandemic. You want to develop a survey that can be administered to a large sample of the population to measure their attitudes towards vaccinations in general, as well as their attitudes towards the COVID-19 vaccine specifically. The survey will be used to inform public health messaging and vaccine distribution efforts.
4. Design an attitude measurement scale for this situation, you would start by defining the construct of interest, which in this case is attitudes towards vaccinations. **(3 Marks)**
5. Write a research objective and hypothesis in this situation. **(3 Marks)**

**Q. No. 4**

**a.** A company wants to evaluate the effectiveness of a new safety training program for its employees. The company selects a sample of 50 employees and divides them into two groups: Group A, which will receive the traditional safety training, and Group B, which will receive the new safety training. Both groups will be evaluated on their safety performance before and after the training. **(7 Marks)**

**Data:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Employee** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| **Group** | A | A | A | A | A | A | A | A | A | A | B | B | B | B | B | B | B | B | B | B |
| **Pre-Training Safety Score** | 70 | 60 | 75 | 85 | 90 | 80 | 65 | 75 | 80 | 95 | 65 | 75 | 80 | 70 | 85 | 70 | 75 | 80 | 90 | 95 |
| **Post-Training Safety Score** | 80 | 65 | 80 | 90 | 95 | 85 | 70 | 80 | 85 | 100 | 75 | 80 | 85 | 80 | 90 | 75 | 80 | 85 | 95 | 100 |

**b.** A manufacturer and marketer of electric motors would like to build a regression model consisting of five or six independent variables to predict sales. Past data has been collected for 15 sales territories on sales and six different independent variables. Build a regression model and recommend whether or not it should be used by the company. Data for following variables is given below; Sales in Rs. Lakh in the territory, Market potential in the territory (in Rs. Lakh), No. of dealer of the company in the territory, No. of salesman in the territory, Competitor activity in the territory on a 5-point scale (1=low, 5=high level of activity by the competitors, No. of service people in the territory, No. existing customers in the territory. **(9 Marks)**

**Data:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S.No. | Sales | Potential | Dealers | Salesman | Competitor | Service | Customers |
| 1 | 5 | 25 | 1 | 6 | 5 | 2 | 20 |
| 2 | 60 | 150 | 12 | 30 | 4 | 5 | 50 |
| 3 | 20 | 45 | 5 | 15 | 3 | 2 | 25 |
| 4 | 11 | 30 | 2 | 10 | 3 | 2 | 20 |
| 5 | 45 | 75 | 12 | 20 | 2 | 4 | 30 |
| 6 | 6 | 10 | 3 | 8 | 2 | 3 | 16 |
| 7 | 15 | 29 | 5 | 18 | 4 | 5 | 30 |
| 8 | 22 | 43 | 7 | 16 | 3 | 6 | 40 |
| 9 | 29 | 70 | 4 | 15 | 2 | 5 | 39 |
| 10 | 3 | 40 | 1 | 6 | 5 | 2 | 5 |
| 11 | 16 | 40 | 4 | 11 | 4 | 2 | 17 |
| 12 | 8 | 25 | 2 | 9 | 3 | 3 | 10 |
| 13 | 18 | 32 | 7 | 14 | 3 | 4 | 31 |
| 14 | 23 | 73 | 10 | 10 | 4 | 3 | 43 |
| 15 | 81 | 150 | 15 | 35 | 4 | 7 | 70 |