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| **Semester: July 2024****Maximum Marks: 50 Examination: End Sem Exam Date: Duration:2.5hrs** |
| **Programme code:18.****Programme: MBA for Working Executive** | **Class:** FY | **Semester/Trimester: II****Batch 1 (2023-24)** |
| **College:**  **K. J. Somaiya Institute of Management** | **Name of the department/Section/Center:** Centre for Executive Education |
| **Course Code:**  | **Name of the Course: Business Research Methods** |
| **Instructions :** 1. **Question paper is based on Theoretical understanding and Analytics, Excel computations are not expected. Write your answers on the given platform .**
2. **Question number 1, 2 and 3 is compulsory**
3. **Attempt any two from 4 to 6**
4. **All questions carry equal weightage**
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| **Question No.** |  |  **Max.****Marks** |
| 1. | 1. Name and Explain the sampling technique applied in the following Research Scenarios
2. A department store that wishes to examine whether it is losing or gaining customers draws a sample from its list of credit card holders by selecting every tenth name.
3. A motorcycle manufacturer decided to research consumer characteristics by sending one hundred questionnaires to each of its dealers. The dealers would then use their sales records to track down buyers of this brand of motorcycle and distribute the questionnaires
4. A practitioner would like to estimate a population mean to within 50 units with 99% confidence given that the population standard deviation is 250. What sample size should be used?
 | 5M5M |
| 2. | Draft a set of questions that would help address the questions related to media habits of a person living in a rural village.In designing the questionnaire, include various scales of measurements (Not more than 10-12 questions) | 10 M |
| 3.  | Caselet -A mid-sized tech company, TechSolutions Inc., is experiencing a high employee attrition rate, especially among its software development and engineering teams. Over the past year, the company has observed a turnover rate of 25%, which is significantly higher than the industry average of 15%. This high attrition rate is causing several issues, including increased recruitment and training costs, loss of institutional knowledge, and decreased team morale and productivity.If you are approached to address this problem how do you go ahead, what research design will you adopt? | 10M |
| 4. | The following data (Table 1) give the experience of machine operators and their performance ratings given by the number of good parts turned out per 100 pieces:* Write the objective statement.
* Write the Null and the Alternate hypothesis.
* Explain R square, adjusted R square, beta and significance (refer table 2, 3).
* Test the hypothesis based on the output and calculate score of performance if an operator has 14 years’ experience and had 5 promotions.

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| Table 1 |
| Operator : | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Experience(*x*)  | 16 | 12 | 18 | 4 | 3 | 10 | 5 | 12 |
| No. of promotions | 4 | 4 | 5 | 2 | 1 | 2 | 1 | 4 |
| Performance Ratings (*y*) : | 87 | 88 | 89 | 68 | 78 | 80 | 75 | 83 |

**Model Summary**

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| Table 2 |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .872(a) | .760 | .721 | 3.833 |

a Predictors: (Constant), Experience, promotions**Coefficients(a)**

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| Table 3 |
| Model |   | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 69.670 | 2.928 |   | 23.792 | .000 |
| No. of Promotions | .8212 | .292 | .526 | 2.816 | .005 |
| Experience | 1.133 | .260 | .872 | 4.365 | .001 |

 | 10M |
| 5  | **A survey was conducted in a study to find out a difference in the perception towards luxury car across various income levels. The factors considered were** Comfort, safety, power, durability, styling, Looks, warranty, reliability which are measured on 1 to 7 . Income variable is categorical $35-50K, $50-65K,and $65K+The result Is given below

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| --- | --- | --- | --- |
| Serial no | Factor  | Significance | Alpha |
| 1 | Comfort  | 0.0133 | 0.05 |
| 2 | Safety  | 0.141 | 0.05 |
| 3 | Power  | 0.151 | 0.05 |
| 4 | Durability  | 0.018 | 0.05 |
| 5 | Styling  | 0.187 | 0.05 |
| 6 | Looks  | 0.588 | 0.05 |
| 7 | Warranty  | 0.055 | 0.05 |
| 8 | Reliabilty  | 0.096 | 0.05 |

1. Which technique is most suitable to address this case
2. Is there a difference in the perception of the Factors across three income levels
3. Write the hypothesis and conclusion at 95% confidence level
 | 10M  |
| 6 .  |  **Task completion time for matched pair is sample is given below** If t cal is 2.20 and t critical is 2.17 at df=5 and P value is 0.08 at 95 % confidence level . 1. Which tool can best solve the matched pair experiments
2. Write the hypothesis
3. What is the conclusion?
 | 10M  |