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| **National Institute of Business Management**  **School of Computing and Engineering**  **Course work | Assessment Announcement Sheet** | | | |  | |
| **Course Name** | HNDSE | | | | |
| **Module Name** | Statistics for Computing | | | | |
| **Batch** |  | | | | |
| **Learning Outcomes Covered (Mention according to the Module Descriptor)** | Describe sampling and sampling distributions.  Apply fundamental concepts in descriptive statistics.  Analyze and apply hypothesis testing and Inferential Statistics  Measure the relationship between two variables and use inferential methods in the context of regression/correlation. | | | | |
| **Assessment | CW No** | Coursework 1 | | | | |
| **Assessment Mode** | **Group** | | **Group (if it is group mode only)** | | |
| **Group Size** | | **Grouping Criteria** |
| 4 | | Grouped by Lecturer |
| **Assessment Type** |  | | | | |
| **If other specify** |  | | | |
| **Hand in Date | Time** | 15/8/2024 | | | | |
| **Hand out Date | Time** | 16/9/2024 | | | | |
| **Submission Details (Format and Location)** | Submit to LMS | | | | |
| **Plagiarism Criteria** |  | | | | |
| **Assessment | CW Description**  **Title: A Comprehensive Analysis on a current issue in Sri Lanka**  **Objective:** The objective of this research assignment is to investigate the factors that influence a current issue. For an example job satisfaction among employees in a specific organization. The study involves the development of a conceptual framework, the preparation of a questionnaire, and the subsequent statistical analysis of collected data.  **Tasks:**   1. **Developing a Conceptual Framework: (ILO 1)**    * Identify and define the key factors that are hypothesized to influence the identified problem.    * For an example Identify and define the key factors that are hypothesized to influence job satisfaction (e.g., work-life balance, career development, interpersonal relationships).    * Develop a conceptual framework that illustrates the relationships between these factors (independent variables) and dependent variables. Identify at least three independent variables and one dependent variable.    * Provide a rationale for the selection of each factor and its expected impact on the problem. For an example Work life balance is positively impact on job satisfaction. 2. **Preparing a Questionnaire: (ILO 1, 2 ,3)**    * Design a structured questionnaire to collect data on the identified factors and the problem.    * Include a mix of closed-ended and Likert-scale questions to quantify responses.    * Ensure the clarity and relevance of each question to the research objectives.    * Pilot the questionnaire with a small group to test for clarity and make necessary adjustments. 3. **Sampling and Data Collection:(ILO 1, 2 ,3)**    * Define the target population (e.g., employees in a specific department or organization).    * Outline the sampling strategy (e.g., random sampling, stratified sampling) and justify your choice. Decide the sample size. (Minimum 250)    * Describe the data collection process, including how you plan to administer the questionnaire and ensure data quality. 4. **Statistical Analysis:(ILO 1, 2 ,3,4)**    * After collecting responses, conduct descriptive statistics to summarize the main characteristics of the sample.    * Perform inferential statistics (e.g., t-tests, analysis of variance) to compare mean scores of different factors on job satisfaction.    * Utilize correlation analysis to explore relationships between individual factors and overall problems.    * Consider multiple regression analysis to identify the relative importance of each factor in predicting results. 5. **Discussion and Recommendations: (ILO 1, 2 ,3,4)**    * Interpret the results of the statistical analysis.    * Discuss the implications of the findings for the organization and its management.    * Provide recommendations for improvements.   **Submission Guidelines:**   * Prepare a comprehensive research report that includes the conceptual framework, questionnaire, and statistical analysis. * Include visual representations such as conceptual framework diagrams, charts, and graphs. * Ensure clarity and conciseness in presenting your findings. * Prepare a presentation of a maximum of 15 minutes.   **Citation and Referencing:**  Students must appropriately cite and reference all sources used in their assignment.  Copying and pasting content from sources without proper acknowledgment is considered plagiarism.  **Grading Criteria:**   * Quality and coherence of the conceptual framework. (15 Marks) * Appropriateness and clarity of the questionnaire design. (15 Marks) * Rigor and appropriateness of the statistical analysis. (20 Marks) * Clarity and depth of interpretation and discussion. (15 Marks) * Overall presentation, organization, and quality of the report. (20 Marks) * Presentation. (Voice Examination) (15 Marks)   **Note:** Utilize statistical software (e.g., SPSS) for data analysis and ensure ethical considerations in the research process.  This assignment provides students with the opportunity to go beyond statistical analysis and engage in the full research process, from conceptualization to questionnaire development and data analysis.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Criteria** | **70%+** | **60%-69%** | **50%-59%** | **40%-49%** | **0%-39%** | | **Conceptual Framework (15 Marks)** | Clear identification and definition of key factors influencing the phenomenon.  Well-developed conceptual framework illustrating relationships (3 independent, 1 dependent).  Strong rationale for each factor's selection and impact. | Identification and definition of key factors is mostly clear, with some minor gaps.  Conceptual framework adequately illustrates relationships but lacks depth.  Adequate rationale for most factors but may be inconsistent or underdeveloped. | Basic identification and definition of key factors, with noticeable gaps.  Conceptual framework outlines relationships but lacks coherence or clarity.  Limited rationale for factors, with some inaccuracies. | Identification of factors is incomplete or unclear.  Conceptual framework lack’s structure or relevance.  Weak rationale or justification for selected factors. | No attempt made at developing a conceptual framework.  Complete lack of understanding or relevance of factors.  No rationale provided. | | **Questionnaire Design (15 Marks)** | Structured questionnaire design highly relevant to research objectives  Mix of question types (closed-ended, Likert-scale) effectively captures data.  Pilot testing results in clear, refined questionnaire. Clarity and relevance evident. | Questionnaire design is mostly relevant to research objectives, with minor gaps in question type selection.  Pilot testing identifies some areas for improvement.  Overall clarity and relevance are satisfactory. | Questionnaire design shows basic relevance but lacks diversity in question types.  Pilot testing highlights significant areas needing improvement.  Clarity and relevance are inconsistent. | Questionnaire design lacks relevance to research objectives.  Pilot testing reveals major flaws or misunderstandings.  Clarity and relevance are poor. | No questionnaire design provided.  Lack of understanding in designing relevant questions.  No pilot testing conducted. | | **Sampling and Data Collection (20 Marks)** | Clear definition of target population and meticulous justification of sampling strategy.  Rigorous data collection process ensuring high quality.  Appropriate sample size determination (minimum 250). | The definition of target population is mostly clear, with minor gaps in justification of sampling strategy.  The data collection process is mostly rigorous but lacks some detail.  Sample size decision is adequate but not fully justified. | Basic definition of target population with noticeable gaps in sampling strategy justification.  Data collection process outlined but lacks rigor or completeness. Sample size decision is questionable. | Definition of target population is unclear or incomplete. Weak or irrelevant sampling strategy justification. Data collection process lacks detail or reliability. Inappropriate sample size chosen. | No clear definition of target population or sampling strategy.  Data collection process description is absent or severely inadequate. Sample size decision is arbitrary or non-existent. | | **Statistical Analysis (20 Marks)** | Accurate application of descriptive and inferential statistics. Comprehensive interpretation of findings, supported by strong evidence. Thorough exploration of relationships through correlation and regression analysis. | Mostly accurate application of statistics, with minor errors or omissions. Interpretation of findings is clear, though some evidence may be lacking. Relationships explored adequately but with some gaps. | Incomplete or partially accurate application of statistics, with significant errors in interpretation. Limited evidence provided to support the findings. Relationships explored but inadequately. | Inaccurate application of statistics or clear misunderstanding evident. Interpretation of findings is superficial or incorrect. Relationships explored in a flawed manner. | No attempt made at statistical analysis. Complete lack of understanding in applying statistics.  No interpretation or exploration of relationships. | | **Discussion and Recommendations (15 Marks)** | Comprehensive analysis of statistical findings. Insightful discussion on implications for management. Well-supported recommendations for improvements. | Clear analysis of statistical findings, though depth or thoroughness may vary. Discussion of the implications is evident but lacks depth. Recommendations are provided, though may lack some support. | Basic analysis of statistical findings with limited insights provided. Discussion on implications is superficial. Recommendations lack depth or clarity. | Superficial or incorrect analysis of statistical findings. Discussion on implications lacks coherence or relevance. Recommendations are unclear or irrelevant. | No meaningful analysis, discussion, or recommendations provided. Lack of understanding in interpreting findings.  No recommendations offered. | | **Report Presentation (15 Marks)** | Well-organized presentation demonstrating effective collaboration among group members.  Engages the audience with clear communication of key findings. Excellent academic writing evident throughout. | Mostly organized presentation with adequate contributions from each group member.  Key findings are communicated clearly.  Very good academic writing displayed. | Presentation lacks organization or cohesion, with uneven contributions from group members.  Key findings are communicated but may lack clarity.  Good academic writing observed. | Disorganized presentation with minimal engagement. Contributions from group members are unclear.  Key findings are poorly communicated.  Reasonable academic writing shown. | No presentation provided.  Poor academic writing evident.  No communication of key findings.  Lack of engagement and organization. | | **Presentation (Voice Examination) (10 Marks)** | Delivery of a concise and engaging presentation within time limits.  Clear articulation of key findings and implications. Effective responses to questions. | The presentation is mostly concise and engaging. Key findings are articulated clearly. Responses to questions are effective.  Very good academic presentation skills demonstrated. | Presentation lacks conciseness or engagement. Key findings may lack clarity. Responses to questions are adequate.  Good academic presentation skills shown. | The presentation is unclear or lacks engagement. Key findings are poorly articulated.  Responses to questions are insufficient or inaccurate. Reasonable academic presentation skills displayed. | No presentation provided. Lack of understanding in presenting findings. Ineffective responses to questions. Poor academic presentation skills evident. | | | | | | |