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Book of Abstracts

Adetutu, O. M. and Lawal, H. B., (2019). APPLICATION OF ITEM RESPONSE THEORY IN DETERMINING DISCRIMINATION AND DIFFICULTY OF ITEMS. Paper presented at 3rd Annual International Conference of the Professional Statisticians Society of Nigeria (PSSN) June 17-20, 2019.

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**Statistics, Democracy
and Nation Building**

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VENUE:

**CENTRE FOR EXCELLENCE,
AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA.**

Exponential Lindley Distribution Samson Kyje and Terna Godfrey Iyeren	G. I. Onwuka, R. V. J. Singh and A. I. Umar	A17 On the Properties, Inference and Usefulness of a Lomax Power Lindley Distribution Mohammed Sa'ad and Terna Godfrey Iyeren	A18 Statistical Analysis of a Power Gompertz Distribution with Application to Bladder Cancer Felix M. Kronitt, Blessing UkeAgbor and Terna Godfrey Iyeren	A19 Some Bayes' Estimators for Kumaraswamy Distribution Using Different Loss Functions T. M. Adegoke, P. Nasiri, G. K. Adegoke and A. M. Yahaya	A20 on AREML Estimation of Mean-Covariance Structures in Linear Mixed Models Anasur Rabe	A21 Another Generalized Transmuted Power Function Distribution: Properties and Applications E. E. Nwezza, C. K. Acha, U. U. Uwadi	B21 Analyzing Some Macroeconomic Variables in Nigeria with Vector ARMA model Yakubu Musa, Maazu Adamu, Jibrin A. Sanusi and H. G. Dikko	B20 Time Series Analysis of Fluctuating Global Crude Oil Prices From 2003 to 2016 Nafisa Lawal Diris	A22 An Efficient Dual to Ratio Estimators of Population Mean in Sample Surveys H. G. Dikko, A. Yahaya and H. Aliyu	B22 Multilevel Logistic Regression Model of the Determinants of Stillbirth in Nigeria Balogun Anuoluwapo Mercy and Wahed Babatundeyahya	B23 Application of Ordinal Logistic Model in the Nutritional Status of the Under-Five Indexed by Weight-For-Height (WFH) Anthony Ekpo and Wahed Babatundeyahya	D23 Unobserved Component Model with Multi-Interval Input Intervention: An Application to Crude Oil Production Adubisi O. D. Ohakwe J and Adubisi C. E. Shittu	C23 Analyzing Likert Scale Data using Cumulative Logit Response Functions with Proportional odds Isaac O. Ajo and Olanrewaju I. Shittu	D22 Application of Multivariate Techniques on Types of Repair (Mechanical/Electrical) M. N. Faroug, M. Tasi'u and D. A. Saddam	C22 Qualitative and Quantitative Research: Instrument for Data Collection and Method of Data Analysis Allahmana, Kwanza Markadi	D21 Application of Multiple Regression on Performance of Student of 300L Statistics and Computer Science M. N. Faroug, D. A. Jemilu, D. A. Isaac Adeola Adeniyi, Dolapo Abidemi Shobanke, Helen Olaronke Edogbanya and Wahed Babatundeyahya	C21 Parameterization of the COM-Poisson Distribution through the Mean Using Spectral Algorithms for Solving Nonlinear Equations Isaac Adeola Adeniyi, Dolapo Abidemi Shobanke, Helen Olaronke Edogbanya and Wahed Babatundeyahya	D20 Application of Item Response Theory in Determining Discrimination and Difficulty of Item O. M. Adetunji, Prof. Bayolawal	C20 Smoothing Spline Approach on Unequally Spaced Rainfall Data in Five Nigerian Cities T. O. Momodu and C. G. Udomboso	D19 Adjustments using Propensity and Disease Risk Scores Sant, S. S., Dikko H. G., Astibo O. E. and Tikur D.	C19 A Non-informative Prior Distribution Approach to Change-point Detection of a sequence of Normally Distributed Data and its Applications T. M. Adegoke and W. B. Yahya	D18 Nigeria's External Reserves and the Economy Acha Chigizie K. and Amulahu, Christain C.	C18 Analysis of Academic Students' Performance (Using Markov Chain Approach) Murata Adam Muhammad, Jamilu Yunus Falgore and Usman Hashim	D17 Analysis on the Influence of Some Social Factors on Community Violence Ibrahim Yusuf Inuwa, Aliyu Gumbo, Sabo Suleiman Muhammad	C17 On the Application of Principal Component Analysis on Rainfall Data - A Case Study of Kano State Ibrahim, A. S. and Nazir, M. I.	Methods Sani, S. S., Usman, M., Osi, A. A., Musa F. and Damisa S. A. Inyang	B17 Prevalence and Clinical Presentations of Hypertension in Usman Danfodiyo University Teaching Hospital, Sokoto Onwuka, G. I., Ogimi S. K. and James, T. O.	B18 Modelling and Forecasting Daily Stock Prices of First Bank of Nigeria PLC Using GARCH Family Models Ngazi G. Emenogu and Monday O. Adenomon
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personality traits, item discrimination and difficulty with other unobservable characteristics which can be measured with an instrument such as test, questionnaire and so on. In educational measurement, a discrete item response function (IRF) is associated with an examinee's trait level (e.g., skill, ability). The link between the two variables is called an item response function. This function, defined by a set of item parameters, models the probability of observing a given item response, conditional on a specific trait level.

IRF models the probability of observing a given item response, conditional on a specific trait level.

D21

Application of Multiple Regression on Performance of Student of 300L Statistics and Computer Science

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Abstract

The research project is the application of multiple regressions on performance of student of 300L statistics and computer science. Statistical theory, operation research and CGPA are the variable of consideration with statistics theory, operation research and class been the independent variable while the CGPA is the dependent variable, the data was generated using the elementary method from the examination office of the department of mathematics statistics and computer science of Kaduna polytechnic 2012-2013 academic session. The objective of the research project are to analyse the performance of the students based on classes, to determine the course that contribute more to the CGPA, to investigate the correlation between the independent variables, To build a model for predicting the students' performance. The statistical tools used for the purpose of these research analyses are multiple regression t – test for test of parameters, f- test ANOVA for regression also a descriptive analysis was used all using SPSS package, Findings of the research are as follows. The descriptive analysis used shows that statistics class performed better in in stat theory with mean performance of 54.6292 while computer science class performed better in operation research with a mean of 51.2792 as against 52.3400 for statistics class, the model is statistically significant and can be used for prediction while for the significant of the parameters beta for statistical theory, operation research and class are all the significant at P-value (0.00, 0.00 and 0.046) all less than $\alpha = 0.05$. The stat theory contribute 0.018 unit change in CGPA, operation research contribute 0.024 unit to CGPA, while the class contribute 0.241 to CGPA with statistics class performing better, to the course contribution using standardized beta it has shown that operation research contribute more than statistics theory with about 42 percent higher than the stat theory. As for the relationship between the independent variable while the curve is normal meaning is normally distributed.

D22

Application of Multivariate Techniques on Types of Repair (Mechanical/Electrical)

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Abstract

The project titled Application of multivariate techniques on types of repair (mechanical/electrical) of automobile car is aimed at determining the relationship between the types of repairs, to test if the vectors of the averages of the two groups (mechanical/mechanical) are the same and lastly to also develop a model that classify type of repair as mechanical or electrical and obtain probability of misclassification based on repair time and months since last service call. The tools for data analysis are Canonical correlation, linear discriminant analysis and Hotelling's T square. From the result of the analysis conducted we can conclude that...