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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
(TAKE HOME)
SEMESTER II
SESSION 2019/2020**

COURSE NAME : ECONOMETRICS TECHNIQUES FOR
REAL ESTATE ANALYSIS

COURSE CODE : BPF 33003

PROGRAMME CODE : BPD

EXAMINATION DATE : JULY 2020

DURATION : 24 HOURS

INSTRUCTION : ANSWER ALL QUESTIONS
OPEN BOOK EXAMINATION

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

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TERBUKA

- Q1** Factor analysis is a method of data reduction. It does this by seeking underlying unobservable (latent) variables that are reflected in the observed variables (manifest variables). There are many different methods that can be used to conduct a factor analysis (such as principal axis factor, maximum likelihood, generalized least squares, unweighted least squares). There are also many different types of rotations that can be done after the initial extraction of factors, including orthogonal rotations, such as varimax and equimax, which impose the restriction that the factors cannot be correlated, and oblique rotations, such as promax, which allow the factors to be correlated with one another. Factor analysis is a technique that requires a large sample size. It is based on the correlation matrix of the variables involved, and correlations usually need a large sample size before they stabilize.

Data given in **Appendix 1** is a housing transaction database for Batu Pahat. You are required to run Factor Analysis using Principal Component Analysis (PCA) for the database, and later interpret the analysis output based on the housing market given.

Through Statistical Package for Social Science (SPSS) software;

- (a) Provide and interpret the Correlation Matrix table. (10 marks)
- (b) Provide and interpret KMO and Bartlett's Test table. (10 marks)
- (c) Provide and interpret Total Variance Explained table. (10 marks)
- (d) Provide and interpret Rotated Component Matrix derived through VERIMAX. (10 marks)
- (e) Summarize the above reduction factors procedure using orthogonal rotation for Batu Pahat housing market variables. (10 marks)

– END OF QUESTIONS –