



# UTHM

Universiti Tun Hussein Onn Malaysia

## UNIVERSITI TUN HUSSEIN ONN MALAYSIA

### FINAL EXAMINATION SEMESTER II SESSION 2023/2024

- COURSE NAME : RESEARCH METHODOLOGY FOR REAL ESTATE
- COURSE CODE : BPE 35303
- PROGRAMME CODE : BPD
- EXAMINATION DATE : JULY 2024
- DURATION : 3 HOURS
- INSTRUCTIONS :
1. ANSWER ALL QUESTIONS
  2. THIS FINAL EXAMINATION IS CONDUCTED VIA
    - Open book
    - Closed book
  3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

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THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

**Q1** Simple linear regression is a comparison of two models, one is where the independent variable does not exist, while the other uses the best fit regression line.

(a) Formulate the relationship between variables in a linear function. (5 marks)

(b) Discuss the formula in **Q1(a)** in detail. (10 marks)

(c) Illustrate linear function in suitable graph. (10 marks)

**Q2** A model is a representation of a certain phenomenon, in which it often described a relationship between variables. Error analysis is concerned with the changes in the output of the model as the parameters to the model vary on mean value.

(a) Explain with illustration, homoscedasticity in error analysis. (10 marks)

(b) Discuss with illustration, R-squared when determined in reduction proportional in error. (15 marks)

**Q3** Central tendency (or measure of central tendency) is a central or typical value for a probability distribution. Colloquially, measures of central tendency are often called averages.

(a) Explain with illustration, variance as a measure of dispersion. (5 marks)

(b) Differentiate the measures of central tendency in skewed and symmetric conditions with illustrations. (10 marks)

(c) Justify the effect of outliers on mean and median in descriptive statistics with illustrations. (10 marks)

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**Q4** Regression analysis is a technique that fits a straight line as close as possible between all the coordinates of two or more continuous variables plotted on a two-dimensional graph to summarize the relationship between the variables.

**Table Q4.1 : Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886	.785	.785	4.525

**Table Q4.2 : Coefficients**

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	12.325	3.194		3.859	.000	6.027	18.624
Sq. Feet	.389	.074	.368	5.252	.000	.243	.535
CBD distance	-2.010	1.023	-.101	-1.965	.051	-4.027	.007
School distance	.050	.062	.054	.801	.424	-.073	.173
Room No.	.335	.073	.347	4.607	.000	.192	.479

Dependant variable: House price

- (a) Explain the variability estimation for the above multiple regression analysis. (5 marks)
- (b) Formulate the relationship between variables for the above model. (10 marks)
- (c) If the following data are included;
  - (i) Sq. Feet : 1200
  - (ii) CBD distance : 10km
  - (iii) School distance : 8km
  - (iv) Room No. : 3

Calculate the house price value using the model derived in Q4 (c).

(10 marks)

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- END OF QUESTIONS -