

Unit 10 - Week 8

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Assignment 8

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-11-11, 23:59 IST.

- 1)

What is the significance of mode choice modelling in transportation planning?

a. Calculating the existing ridership of various modes.

b. Estimating the number of trips generated.

c. Evaluation of transportation management policies.

d. Estimating the fare/ cost incurred from a particular mode.

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

1 point
- 2)

The framework for mode choice models generally used, follows which theory?

a. Prospect theory.

b. Deterministic choice theory.

c. Regret theory.

d. Probabilistic choice theory.

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d

1 point
- 3)

What does IIA stand for?

a. Irrelevant Interdependence of Alternatives.

b. Independence of Irrelevant Alternatives.

c. Interrelated Irrelevant Alternatives.

d. Independence of Interrelated Alternatives.

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point
- 4)

Error in MNL model is assumed to follow which distribution?

a. Normal distribution

b. Gamma distribution

c. Extreme value distribution

d. Uniform distribution

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

1 point
- 5)

How is travel time estimated for transit modes and personal vehicles while developing a mode choice model?

a. Household survey

b. Network analysis

c. Trip characteristics

d. None of the above

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point
- 6)

Behavioral intentions are a function of _____.

a. Attitude

b. Subjective norm

c. Monetary benefit

d. Both a and b

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d

1 point
- 7)

In a nested logit model, the logsum parameter (θ) must be _____.

a. $\theta \geq 0$

b. $\theta \leq 0$

c. $-1 \leq \theta \leq 1$

d. $0 \leq \theta \leq 1$

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d

1 point
- 8)

_____ property of MNL is violated if the choice probability of alternatives is affected by the introduction of a new alternative. *(Do not use abbreviations)*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) Independence of irrelevant alternatives

0 points
- 9)

If $\exp(U_A) = 0.415$ and $\exp(U_B) = 0.458$, at nest level T. Find U_T if at = (-0.52) and the IIA property holds. *(Round up to 4 decimal places)*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) -0.6560,-0.6558

1 point
- 10)

Maximum _____ estimation finds for each variable the β 's that can make the combined effect of the all the variables match with the dependent variable in a mode choice model.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) likelihood

1 point
- 11)

Match the following:

A. Household income	i.	Interaction between socioeconomic and alternative attributes
B. In-vehicle time	ii	Socio-economic factor
C. Travel time x Female	iii	Alternative attributes

a. A-ii, B-i, C-iii

b. A-ii, B-iii, C-i

c. A-i, B-iii, C-i

d. A-i, B-ii, C-iii

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point
- 12)

Which is better for inferring about MNL model fit?

a. R-square

b. Pseudo R-square

☐ a.

☐ b.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point
- 13)

Attitude, opinion, and perception is measured in which scale?

a. Ratio scale

b. Interval scale

c. Likert scale

d. None of these

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

1 point
- 14)

_____ factor analysis is done to verify a predetermined factor structure for a set of observations.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) Confirmatory

1 point
- 15)

In factor analysis, the number of factors can be determined based on total _____ explained.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) variance

1 point
- Answer the questions (16-20) based on the table of estimates of various parameters of a mode choice model predicting the selection of bus over auto-rickshaw.

Mode choice model for the selection of Bus over, Auto-rickshaw			
Name	Beta	t-test	p-value
ASC	-9.12	-3.07	0.00
Old age	0.0301	-1.23	0.22
Bus Crowding	-5.50	-2.69	0.01
Delay due to bus	-0.435	-3.88	0.00
Bus Fare	1.62	-5.52	0.00
Female	0.0899	-0.14	0.89
Bus Headway	-0.183	-2.92	0.00
Travel distance	0.535	4.39	0.00
Two-wheeler ownership	0.900	1.36	0.17
R-squared= 0.38			

16)

Which of the variable(s) can be removed from the model based on p-value ($\alpha=0.05$): i) Old age; ii) Bus Crowding; iii) Delay due to bus; iv) Bus Fare; v) Female; vi) Bus Headway; vii) Two-wheeler ownership?

a. i

b. v

c. vii

d. i, v, vii

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d

1 point

17)

Increase in crowding level _____ bus ridership.

a. Increases

b. Decreases

☐ a.

☐ b.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point

18)

Should we keep 'Bus Fare' in the model?

a. Yes

b. No

☐ a.

☐ b.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point

19)

If all other variables are 0, according to the given model will people choose a bus over an auto-rickshaw?

a. Yes

b. No

☐ a.

☐ b.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point

20)

If we remove the variable 'Bus Fare' from the model, the R-squared value of 0.38 will _____.

a. Increases

b. Decreases

☐ a.

☐ b.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

1 point