

## Unit 12 - Week 10

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## Assignment 10

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

Due on 2020-11-25, 23:59 IST.

- 1) Which of the following statement is incorrect 1 point
- a. CUBE Dynasim and VISSIM are suitable for dynamic traffic simulation

b. The accuracy of Operational street pollution model depends on the accuracy of the meteorological data

c. International Vehicles Emission Model is an emissions estimation software for on-road vehicle fleets

d. Motor Vehicle Emissions Simulator (MOVES) software is not suitable for mesoscopic analysis
- a.

b.

c.

d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
d.
- 2) Among the following statements regarding CUBE Dynasim and VISSIM the correct one is 1 point
- a. CUBE Dynasim is suitable for microscopic modeling and VISSIM is suitable for macroscopic modeling

b. GIS integration is available for CUBE Dynasim only

c. Parking simulation is not available in CUBE Dynasim and VISSIM

d. CUBE Dynasim and VISSIM are dynamic traffic simulation software
- a.

b.

c.

d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
d.
- 3) Among the following which one is not in CUBE Voyager's in-built program library? 1 point
- a. Generation

b. Distribution

c. Mode

d. Network
- a.

b.

c.

d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
c.
- 4) Streetlytics is suitable for 1 point
- a. Measuring population movement

b. Estimating freight movement within the city

c. Transit operation and management

d. Predicting residential location choice
- a.

b.

c.

d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
a.
- 5) The module required for developing four-stage commuters' travel demand model in CUBE is 1 point
- a. CUBE Voyager

b. CUBE Land

c. CUBE Dynasim

d. CUBE Cargo
- a.

b.

c.

d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
a.
- 6) Given below are some steps in activity-based travel demand modeling in CUBE 1 point
- (i) Preparation of skim matrices for networks

(ii) Determination of the number of stops and type of tours

(iii) Activity-scheduling

(iv) Activity aggregation

The activity-travel simulator includes

a. (i) & (ii)

b. (ii) & (iii)

c. (i) & (iv)

d. (ii) & (iv)

a.

b.

c.

d.

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

7) To create a link between two transport analysis zones in VISUM first you have to go to the tab named 1 point

a. Links

b. Connectors

c. Demand

d. Screenlines

a.

b.

c.

d.

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

8) The in-built population synthesis algorithm in CUBE follows 1 point

a. A heuristic combinatorial optimization approach

b. Markov process-based approaches

c. Iterative proportional fitting

d. Cross-entropy optimization

a.

b.

c.

d.

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

9) The factor not influencing road transport emission directly is/are 1 point

a. Physical infrastructures

b. Social infrastructures

c. Driving behavior

d. Fuel characteristics

a.

b.

c.

d.

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

10) Among the following transport emission measurement technologies which one is independent of dynamometer? 1 point

a. Dynamometer and driving cycle testing

b. Vehicle inspection and maintenance programs

c. Fuel-based model

d. Remote Sensing Devices

a.

b.

c.

d.

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

11) Match the following CUBE extensions with their function 2 points

CUBE Extension	Function
P. CUBE Voyager	i. Prediction of passenger travel demand
Q. CUBE Analyst	ii. Formulation of matrices directly from data
R. CUBE Cargo	iii. Dynamic traffic simulation
S. CUBE Dynasim	iv. Estimation of the impact of freight movement
T. CUBE Land	v. Prediction of land use changes

a. P-ii; Q-i; R-v; S-iii; T-iv

b. P-v; Q-iv; R-ii; S-iii; T-i

c. P-v; Q-iii; R-i; S-iv; T-ii

d. P-i; Q-ii; R-iv; S-iii; T-v

a.

b.

c.

d.

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

12) Some important features (denoted by (a), (b), (c)) of activity-based modeling in CUBE are (a) Activity-travel simulator is the preceding step of activity-travel aggregator (b) There are four sub-models under activity-travel simulators such as vehicle ownership model, activity scheduling, destination choice and residential location choice (c) Generation of synthetic population is outside the feedback loop. 2 points

a. (a) & (b) is correct but (c) is incorrect

b. (b) & (c) is correct but (a) is incorrect

c. (a) & (c) is correct but (b) is incorrect

d. (a) & (c) is incorrect but (b) is correct

a.

b.

c.

d.

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

13) Match the following models and software with their respective features given below 2 points

Models/software	Features
P. CUBE Voyager	(i) Macroscopic Modelling
Q. CMEM	(ii) Mesoscopic modeling
R. TRANSIMS	(iii) Emission modeling
S. CubeDynasim	(iv) Microscopic Modelling

The correct match from the set of options given below

a. P-(iv); Q-(iii); R-(ii); S-(i)

b. P-(i); Q-(ii); R-(iv); S-(iii)

c. P-(iii); Q-(i); R-(ii); S-(iv)

d. P-(i); Q-(iii); R-(ii); S-(iv)

a.

b.

c.

d.

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

14) Match the following and select the correct combination. 2 points

CUBE Extension	Purpose
P. Remote Sensing Devices	i. On-board emission analytical tools
Q. Fuel-based model	ii. Microscopic simulation model
R. VISSIM	iii. Macroscopic, microscopic, and mesoscopic analysis
S. Motor Vehicle Emissions Simulator	iv. Dynamometer based measure
T. PEMS	v. Infrared/ultraviolet absorption principle

The correct match from the set of options given below

a. P-ii; Q-i; R-v; S-iii; T-iv

b. P-v; Q-iv; R-ii; S-iii; T-i

c. P-v; Q-iii; R-i; S-iv; T-ii

d. P-i; Q-ii; R-iv; S-iii; T-v

a.

b.

c.

d.

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

15) Some important features (denoted by (a), (b), (c)) of activity-based modeling in CUBE are (a) highest and lowest zone number is mandatorily required to specify for trip generation model. (b) Skim table for time can be created through running 'network skim matrices' application. (c) There is no option to include 'highway skim matrices' in mode choice modeling. 2 points

a. (a) & (b) is incorrect but (c) is correct

b. (b) & (c) is incorrect but (a) is correct

c. (a) & (c) is incorrect but (b) is correct

d. (a) & (b) is correct but (c) is incorrect

a.

b.

c.

d.

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