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NPTEL

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Courses » Digital elevation models and applications

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Unit 4 - Week-3

Course outline

How to access the portal

Week-1

Week-2

Week-3

● DEMs Derivatives-1

● DEMs Derivatives-2

● DEMs Derivatives-3

● DEMs Derivatives-4

● DEM Based Surface Hydrologic Modelling-1

○ Quiz : Assignment: Week 3

● Feedback Week-3

● Answer key

Week-4

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Assignment: Week 3

The due date for submitting this assignment has passed. **Due on 2018-02-28, 23:59 IST.**

Submitted assignment

1) DEM represents: 1 point

- Irregularly spaced sample points
- A raster of rectangular cells
- A raster of regularly spaced sample points
- Irregularly shaped polygons

No, the answer is incorrect.

Score: 0

Accepted Answers:

A raster of regularly spaced sample points

2) The shape of a cell of a DEM can only be: 1 point

- Rectangular
- Circular
- Square
- Triangle

No, the answer is incorrect.

Score: 0

Accepted Answers:

Square

3) Overall shape of a DEM can only be: 1 point

- Rectangular and square
- Circular and triangular
- Square and circular
- Triangle and rectangular

No, the answer is incorrect.

Score: 0

Accepted Answers:

Rectangular and square

4) A 512 x 512 cells DEM of 8 bits positive integer would require computer memory to store: 1 point

- 512 MB
- 1.44 MB
- 2.1 MB
- 8 MB

No, the answer is incorrect.

Score: 0

Accepted Answers:

2.1 MB

5) An 8-bits DEM can have ___ total number of positive integer cell values:

1 point

- 64
- 128
- 256
- 65536

No, the answer is incorrect.

Score: 0

Accepted Answers:

256

6) A DEM that shows finer details is said to be of:

1 point

- High resolution
- Coarser resolution
- Moderate resolution
- Poor resolution

No, the answer is incorrect.

Score: 0

Accepted Answers:

High resolution

7) The DEM is NOT based on which of the following?

1 point

- Grid cells
- Discrete XY coordinate pairs
- Grid cells or pixels grouped to form spatial entities
- Tessellations

No, the answer is incorrect.

Score: 0

Accepted Answers:

Discrete XY coordinate pairs

8) Which of the following is NOT a raster data structure?

1 point

- Spaghetti
- Run-length encoding
- Quadtree
- Block encoding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Spaghetti

9) Which of the following is advantage of DEMs over TINs?

1 point

- DEMs do not require interpolation of point heights
- DEMs do not require resampling if irregularly spaced input data is used
- DEMs efficiently store data over varied terrain
- DEMs use a simple data model

No, the answer is incorrect.

Score: 0

Accepted Answers:

DEMs use a simple data model

10) In which of the following problems, DEMs are not utilized? 1 point

- Visibility analysis
- Hydrological models
- Landscape visualization
- Network analysis

No, the answer is incorrect.

Score: 0

Accepted Answers:

Network analysis

11) DEMs generated from InSAR and LiDAR data generally have a spatial resolution between 100-150m: 1 point

- True
- False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

12) The accuracy of a DEM created from GPS data will be low: 1 point

- True
- False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

13) DTMs can be created by digitizing from a paper map. 1 point

- True
- False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True

14) A 'surface significant' point in a TIN model is one which can be closely interpolated from its neighbours. 1 point

- True
- False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

15) A DEM is a digital model and ___D representation of a terrain's surface? 1 point

- 1
- 2
- 3
- 4

No, the answer is incorrect.

Score: 0

Accepted Answers:

3

16) A DEM is commonly created for a planet (including Earth), Moon, Mars or asteroid: 1 point

- True
 False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True

17) Spatial resolution of a DEM is?

1 point

- Can be improved later
 Vary with time
 Fixed once the DEM is created
 None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Fixed once the DEM is created

18) DSM is a surface which can be used to represent:

1 point

- Groundwater levels
 Chemical qualities of soils
 Chemical qualities of water
 All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

19) DEM is an ordered array of numbers that represent the spatial distribution of ____ attributes? **1 point**

- Terrain
 Air pollution
 Wavelength frequency
 None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Terrain

20) Which of the following is a type of DEM resolution?

1 point

- Special
 Spatial
 Temporal
 Spectral

No, the answer is incorrect.

Score: 0

Accepted Answers:

Spatial

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