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**SARDAR PATEL UNIVERSITY**

M.Sc. GEOINFORMATICS

SEM - II, April 2018

Spatial Analysis &amp; Modeling( PS02CGIN22 )

DATE: 11<sup>th</sup> April, 2018

TIME: 10:00AM TO 1:00 PM

DAY: Wednesday

TOTAL MARKS: 70

**Q.1 Choose the correct answer.****[08]**

- (1) Statistical surface contain features of \_\_\_\_\_ dimension values.  
 (A) 1 D (C) 2 D  
 (B) 3 D (D) None of above
- (2) More than \_\_\_\_\_ % slope consider as bad slope for civil construction.  
 (A) 25 (C) 50  
 (B) 75 (D) 100
- (3) In TIN model TIN = \_\_\_\_\_ Irregular Network  
 (A) Triangular (C) Tested  
 (B) Tropical (D) None of above
- (4) Route analysis provide best analysis performance in \_\_\_\_\_ type file format.  
 (A) Vector data (C) Both (A) & (B)  
 (B) Raster data (D) None of above
- (5) \_\_\_\_\_ is an equation for gravity model in GIS.  
 (A)  $1/d$  (C)  $P_i P_j / d$   
 (B)  $P_i P_j$  (D)  $1/P_i P_j$
- (6) For index of random distribution following equation is use \_\_\_\_\_  
 (A) No of points / areas (C) Both (a) & (b)  
 (B) No of points X areas (D) None of above
- (7) To find Centroids of irregular polygon \_\_\_\_\_ method is used.  
 (A) Trapicone (C) Zonecone  
 (B) Trapezoid (D) None of above
- (8) In deductive model Its move from general knowledge to \_\_\_\_\_ answer  
 (A) General (C) Both (a) & (b)  
 (B) specific (D) None of above

**Q.2 Answer the following.(attempt any seven, each two marks)****[14]**

- (1) What Is linear & nonlinear interpolation?
- (2) What is higher level object in GIS?
- (3) Explain DEM model.
- (4) List advantage and dis advantage of raster data.
- (5) Explain importance of cut & fill analysis?
- (6) Explain importance of conflict resolution in cartography modeling
- (7) What is cartography overlay?
- (8) Define inductive and deductive model.
- (9) Explain concept of line intersect and its application.

- Q.3 (A) What is important of slope and view shade analysis in GIS? Explain each with necessary diagram [06]  
(B) Explain contour lines and TIN model in detail with schematic illustration [06]  
OR  
(B) Explain main four problems of interpolation in GIS. [06]
- Q.4 (A) Discuss complete raster to vector conversation process step by step in GIS. [06]  
(B) Explain route analysis for GIS in detail with suitable example. [06]  
OR  
(B) What is location and allocation problem? Explain each characteristic of problem with example. [06]
- Q.5 (A) Explain gravity model for GIS with necessary example. [06]  
(B) What is "Thiessen polygon analysis"? explain in detail with neat diagram [06]  
OR  
(B) Explain with neat diagram systematics structure for spatial data mining. [06]
- Q.6 (A) Draw and explain mountain cabin model flow chart, explain each phase in detail. [06]  
(B) Explain cartography, and cyclic modeling process using suitable example. [06]  
OR  
(B) What is model implementation and verification in GIS? [06]

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