

b) Explain various steps used for delineating a watershed using the D-8 approach and the following grid. Develop the stream network using a threshold of 4 and also demarcate the boundary taking the cell with elevation 11 as the final outlet.

58 →	52 ←	69 ←	71 ↓	58 ↓	49 ↙
54 ↓	67 →	56 →	49 ↓	46 ↓	50 ↙
49 ↓	53 →	44 →	37 ↓	38 ↙	48 ↓
44 •	58 ←	55 →	22 →	31 ↓	24 ↙
56 ↑	61 →	47 →	21 ↓	16 ↓	19 ↓
74 →	53 →	34 →	12 →	11 •	12 ←

(2, 8)

Q.4 Describe briefly the following

- (a) Global function
- (b) Data Models
- (c) Differential GPS
- (d) Digitization errors
- (e) Geoid

(2x5)



# Introduction to Geographic Information System

22 November, 2013

CE455 – Major

Q.1 a) What is the role of Interpolation in GIS?

b) Given the following data on the five surrounding points, interpolate the value for point 'O' using the Inverse Distance Weighted method taking the power to be 2.

Point	Distance from Pt. O	Value
1	18.0	20.82
2	20.9	10.910
3	32.3	10.38
4	36.1	14.6
5	47.2	10.56
O	0.0	?

(4, 6)

Q. 2 a) What is the role of projection systems in the GIS? Which are the attributes that are used for classifying the projection systems?

(6,4)

b) Explaining the UTM projection system.

Q. 3 a) What do understand by overlay analysis?