Nan	ne:				110	PES					
Enr	olment No:				Ur	E 2					
		UNIV				ND ENERGY on, May 2020	STUDI	ES			
	gramme Name : B.Tech GIE					Semest					
	rse Name : GIS & Satellite Nav	vigation S	Systems				2 hrs an				
	urse Code: PEGI 3002of Page(s):						larks: 10	U			
	ructions:										
				SE	CTION A						
No	Question				Ansv	ver Choices				Marks	со
		Spatial	-	Spatial		Thematic	-	Thematic			
1	Which of the following principles helps in Interpolation	Autocor rection	Incorre ct	Autocorrelati on	Correct	Autocorrectio n	Incorre ct	Autocorrelati on	Incorre ct	1	CO2
		Groupe		0				0			
2	In a semivariogram lag is	d distance	Correct	Spatial Location	Incorre ct	Same as range	Incorre ct	Spatial dependance	Incorre ct	1	CO4
	If two points lie exactly at the same		Ŧ	D 1/	.				T		
3	location, the nugget value should be	1	Incorre ct	Equal to Range	Incorre ct	0	Correct	Equal to Sill	Incorre ct	1	CO4
									_		
4	An empirical variogram measures the spatial dependance as a fuction of	Wavele ngth	Incorre ct	Distance	Correct	Anisotropy	Incorre ct	None of the given options	Incorre ct	1	CO4
	Minimum number of NAVSTAR GPS		Incorre				Incorre		Incorre		
5	satellies in each orbit. Select one.	10	ct	4	Correct	8	ct	2	ct	1	CO1
6	Total number of operational IRNSS satellites is Select one.	7	Correct	6	Incorre ct	3	Incorre ct	2	Incorre ct	1	CO1
-	IRNSS is also known as	Bhaskar	Incorre		Incorre				Incorre		
7		а	ct	Gagan	ct	Navic	Correct	GPS	ct	1	CO1
	1 nanosecond error in timing, will generate error in ranging equal to		Incorre				Incorre		Incorre		
8	Select one	30 km	ct	300 m	Correct	30 m	ct	0.3 m	ct	1	CO1

9	Hurricane paths can be best studied with the help of	Linear Directio nal Mean Tool	Correct	Directional distribution toolset	Incorre ct	Standard distance tool	Incorre ct	Multi distance spatial cluster analysis	Incorre ct	1	CO2
		Setting									
		the value of				Adding the					
		each		By		weights of the					
		critera		standardizing		individual					
		weight		the values for		criteria and		By rating the			
		in a		comparison		dividing by		values			
10	The Index value in an Index model is	scale of	Incorre	of multiple	Incorre	the total of the		between 1	Incorre		GO (
10	calculated by	0 to 1	ct	variables.	ct	weights	Correct	and 10	ct	1	CO4
		Statistic al									
	The accuracy of geospatial data can best	Signific	Incorre		Incorre		Incorre	Root mean			
11	be measured by	ance	ct	Z value	ct	P value	ct	square error	Correct	1	CO2
		Root									
		mean				Average					
		square				standard error					
		error is	_	Average error	_	is close to the					
10	The best results from cross validation are	close to	Incorre	is close to	Incorre	root mean	Incorre	All of the	C (1	602
12	achieved when If you want to find out how precipitation	1	ct	zero	ct	square error	ct	given options	Correct	1	CO2
	changes with elevation of an area you		Incorre				Incorre		Incorre		
13	would choose	Kriging	ct	Cokriging	Correct	IDW	ct	Spline	ct	1	CO4
_	In undulating terrain with abrupt changes	Exact		<u> </u>			-		-		
	where cliffs and valley occur, you would	Interpol	Incorre	Abrupt		InExact	Incorre	Global	Incorre		
14	use	ator	ct	Interpolator	Correct	Interpolator	ct	Interpolator	ct	1	CO4
	An unknown point has three surrounding										
	points of known values of 50, 32 and 50										
	and measured distances of 4,2,6 respectively. The value of the unknown										
	point using IDW algorithm with a		Incorre				Incorre		Incorre		
15	POWER of 2 would be	39.4	ct	35.4	Correct	42.4	ct	47.4	ct	4	CO4

16	The minor axis in a standard deviational ellipse signifes	The minimu m distance	Incorre ct	The minimum angle of rotation	Incorre ct	The mimimum dispersion	Correct	The axis with minimum sampling points	Incorre ct	1	CO2
17	The tool in spatial statistics that will show the direction of cholera spread	Standar d Deviati on ellipse	Correct	Standard distance	Incorre ct	Anselin;s Moran's I	Incorre ct	Geirs-Ord	Incorre ct	1	CO2
18	Which of these measures is a measure of average of data	Median, range, normal distribut ion	Incorre ct	Standard deviation, range and mean	Incorre ct	Alpha, mean and mode	Incorre ct	Mean, median and mode	Correct	1	CO2
19	What is probabilty?	The likeliho od that your results are true	Incorre ct	The central tendency	Incorre ct	The likelihood that something occurs due to chance	Correct	The dispersion of the data	Incorre ct	1	CO2
20	Which Interpolation method is best for datasets varying very gradually	Spline	Correct	IDW	Incorre ct	Kriging	Incorre ct	Natural neighbor	Incorre ct	1	CO4
20	Which Interpolation method fits a linear regression fit between the sample points	Spline	Incorre	IDW	Incorre ct	Trend	Correct	Natural neighbor	Incorre ct	1	CO4
22	Minimum no. of satellites that must be tracked to provide sufficient measurements to determine the 3D position and receiver clock offset.	2	Incorre ct	4	Correct	6	Incorre ct	8	Incorre ct	1	CO1
23	Principle behind GPS position determination. Select one.	Two way ranging and timing	Incorre ct	Control segment calculationan d communicati on back to GPS receiver	Incorre ct	One way ranging and timing	Incorre ct	All of the given options	Correct	1	CO1

		non- geostati			Incorre		Incorre		Incorre		
24	The NAVSTAR satellites are	onary	Correct	geosationary	ct	polar	ct	equatorial	ct	1	CO1
		DEMs		8		F				_	
		can									
		directly		DEMs do not							
		accept		require				DEMs can			
		inputs		resampling if				efficiently			
		from		irregularly				store data			
	The advantage of a Digital elevation	elevatio		spaced input	Incorre	All of the	Incorre	over varied	Incorre		
25	model over TINs is that	n grids.	Correct	data is used	ct	given options	ct	terrain	ct	1	CO1
	Which of the following in not a source of		Incorre				Incorre		Incorre		
26	obtaining DEM data	Cartosat	ct	Landsat	Correct	Aster	ct	SRTM	ct	1	CO2
	Which of the following models considers	Stochas tic		Deterministi	T	Deduction	T	Ter des selies s	T		
27	presence of some randomness in its variables	tic model	Correct	Deterministic model	Incorre	Deductive model	Incorre	Inductive model	Incorre	1	CO4
21	variables	None of	Correct	model	ct	model	ct	IIIodei	ct	1	04
		the		Logistic		Local		Linear			
	GWR analysis uses a	given	Incorre	Regression	Incorre	Regression	Incorre	Regression			
28		options	ct	model	ct	model	ct	model	Correct	1	CO3
	The most critical component of spatial statistics is	Distanc	Incorre		Incorre			All of the	Incorre		
29		e	ct	Variability	ct	Proximity	Correct	given options	ct	1	CO2
	In Ripley's K function if the avearge										
	number of neighbors for evaluation										
	distance is greater than average	C1			-		-		-		
20	concentration of features throughout study	Clustere	C	D' 1	Incorre	D 1	Incorre	T. 1.4.1	Incorre	1	CO 2
30	area the distibution is	d Histogr	Correct	Dispersed	ct	Random	ct	Isolated	ct	1	CO3
	If the data in a QQ plot shows a non	Histogr am									
	normal distribution what would you use	Equaliz	Incorre	Linear	Incorre		Incorre	None of the			
31	to make it near normally distributed.	ation	ct	Stretching	ct	Resampling	ct	given options	Correct	1	CO3
	Which of the following CO type		Incorre			r0	Incorre		Incorre		
32	represents an outlier	HH	ct	HL	Correct	LL	ct	HV	ct	1	CO3
		Comple									
	The null hypothesis in spatial statistics is	te		Complete							
		Spatial		spatial							
		Rando	~	autocorrelatio	Incorre	Complete	Incorre	Complete	Incorre		
33		mness	Correct	n	ct	dispersion	ct	closeness	ct	1	CO2

34	Which tool can be used to show the location of unexpected high rates of Covid-19 in Delhi	Anselin' s Local Moran's I	Correct	Getis-Ord Gi*	Incorre ct	GWR (Geographical ly Weighted Analysis)	Incorre ct	Geometric	Incorre ct	1	CO3
51	To create a ranked map you would use	AHP	Incorre	01	~~~	7 mary 515)	Incorre	Process	Incorre	1	005
35	-	model	ct	Binary model	Correct	Index model	ct	model	ct	1	CO4
	Which of the following is a format for			211111 9 1110 401	conteet					-	
	transferring GPS data between software				Incorre		Incorre		Incorre		
36	applications.	.gpx	Correct	.gps	ct	.dbf	ct	.dxf	ct	1	CO1
	Which analysis method you would use to										
	show the nearest hospital to a traffic	Closet			_			_			
27	accident if you have the street data of the	Facility	a	Shortest	Incorre		Incorre	Least cost	Incorre	1	G 00
37	city.		Correct	Route	ct	Find nearest	ct	path	ct	1	CO3
	Using the IDW (Inverse Distance Weighted) tool an ArcGIS user interpolates a point feature class to a raster. The user notices that some high point values near the edge of the feature class seem to have a dramatic effect on the output. This occurs even in areas that are far from the high edge values. Which parameters should the user consider	z-value field	Incorre	weight		search radius	Incorre	direction	Incorre		
38	changing in the IDW tool?	~ /	ct		Correct		ct		ct	1	CO3
39	A regression model consists of the following components	Indepen dent variable s	Incorre ct	Dependent variables	Incorre ct	Residuals	Incorre ct	All of the given options	Correct	1	CO4
	What analysis would you use to answer	Hot-						Average			
	the following problem. "Why are people	Spot	Ŧ			Geographicall		Nearest			
40	persistently dying young in some states of India ? What might be causing this".	Analysi	Incorre	Regression	Connect	y weighted	Incorre	Neighbor	Incorre	1	CO3
40	india : what hinght be causing this .	S	ct	Analysis	Correct	Analysis	ct	Analysis	ct	1	003
	Which of the following is an InExact		Incorre		Incorre			None of the	Incorre		
41	Interpolator	IDW	ct	Spline	ct	Trend	Correct	given options	ct	1	CO4
	The value of Semi variance increases with		~~	~P				Bren sprons		-	
42	increasing distance	TRUE	FALSE							1	CO4
	DGPS cannot eliminate satellite clock										
43	errors.	FALSE	TRUE							1	CO1

1	Cross-validation to used to estimate			1	1	1				
	uncertainty to select the most appropriate									
44	model for interpolation.	TRUE	FALSE						1	CO3
	The higher the root mean square (RMS)									
	error, the better is the inerpolated surface									
45	representing the input points.	FALSE	TRUE						1	CO3
	The biggest disadvantage of a DEM is that									
	it does not conform to the traain variability									
46	of the area.	TRUE	FALSE						1	CO2
	P-value is the probability that the data									
	displayed could be displayed by random									
47	occurrence. The higher is the P- value, the	TDUE	EALCE						1	CO2
47	more is the randomness in your data. The difference in Central feature and	TRUE	FALSE						1	02
	Mean centre is that Central feature gives									
	Statistical centre while Mean Centre gives									
48	Spatial centre.	FALSE	TRUE						1	CO3
10	In an inexact interpolator the resulting	THEOL	IROL						1	005
	surface rarely passes through the input									
49	points.	TRUE	FALSE						1	CO4
	As you increase the order of the									
	polynomial in Trend Interpolation, the									
50	surface becomes more and more complex.	TRUE	FALSE						1	CO3
	The accuracy of a DTM created from GPS									
51	data will be low.	FALSE	TRUE						1	CO2
	DEMs can be created by digitizing from a									
52	paper map.	TRUE	FALSE						1	CO2
	A model is a simplified representation of a									
53	phenomenon or a system.	TRUE	FALSE						1	CO4
	Regression Analysis can be used to									
~ 4	explain "How much crime by population									602
54	density".	TRUE	FALSE						1	CO3
55	Theissen Polygons are used to create	EALCE	TDUE						1	CO2
55	contours.	FALSE	TRUE						1	CO3
	In Kriging technique points that have distances greater than Range have a									
56	weight of Zero.	TRUE	FALSE						1	CO4
50	Cross-Validation removes some portion of	INUL	FALSE						1	0.04
	data and uses the remaining data to check									
57	the prediction accuracy.	TRUE	FALSE						1	CO3
51	ne prodotion accuracy.	Incl	111202		1	- I	1	1	1	235

	SECTION B		
Q 1.	Comment on the general guidelines of choosing the best interpolation method for your application. How do you know which interpolated surface is best?	10	CO4
Q 2.	Discuss one different application individually, where you would choose IDW and Kriging to be the best Interpolation technique for creating the Interpolation surface. Specify what made you choose the selected method.	10	CO4
Q 3.	Discuss the potential applications of spatial statistics (including the tools used) in any TWO problems related to groundwater.	10	CO2
Q 4.	Illustrate the applications of regression modeling in GIS by citing two examples other than the one discussed in the class where regression helps in spatial analysis.	10	CO3