BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI			
(END SEMESTER EXAMINATION)			
CLASS:	M.Tech		SEMESTER : II
BRANCH:	Remote Sensing		SESSION : SP/22
SUBJECT: ADVANCED REMOTE SENSING AND GEOSPATIAL MODELLING, RS 512			
TIME:			FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a) What is the source of Land surface Temperature (LST)? How LST is useful in assessment of Urban Heat Island effect? [CO1,2;BL 2,3] [5]

Q.1(b) How is SAR backscattering affected by ground-based factors? Explain in brief [CO2,BL1,2] [5]

OR

Find the azimuth resolution of RAR C- band image obtained with 6 m antenna length from 600 km range distance.

Q.2(a) What is Imaging Spectroscopy? Describe the specific features of Imaging Spectroscopy? [CO3; BL 3] [5]

Q.2(b) How is Hyperspectral imaging useful in vegetation species identification? Explain the basis. [CO3; BL 3] [5]

OR

What is the basic principle of LiDAR? Give example of any LiDAR system.

Q.3(a) What are the different types of Kriging? Explain any 2 widely used Kriging approaches. [CO4; BL 4] [5]

Q.3(b) What are the positional and attribute errors? Explain with real life example. [CO4; BL 3] [5]

OR

b)How will you quantify additive and multiplicative error? Explain with example. [CO4; BL 2,3]

Q.4(a) i)What is the role of Decision rule in MCA? Explain in brief [CO1,4; BL 2,3] [5]
ii)Calculate the criteria weights using PCM technique for the spatial problem of your city considering 3 criteria attributes.

OR

ii)What is Markov chain model? How does it work in land cover Change prediction?

Q.4(b) i) What is Compositing? Why it is important? [CO4; BL 2,3] [5]
ii) How Compositing is done in MODIS time series NDVI product creation? [CO4; BL 4]

OR

ii)What is Transitional Probability? How is useful in landcover change prediction?

Q.5(a) i) Explain different Web GIS server components in brief [CO5; BL 2,3] [5]
ii) Explain the following terminologies: WMS, WCS, WFS [CO5; BL 5]

OR

ii) Write full form of the following abbreviation: ICANN, IETF,HTML,KML,GML

Q.5(b) i) Explain three different protocols being currently used in Internet GIS? [CO1; BL 5] [5]
ii)Write short notes on the following: KML, Geoserver, Bhuvan [CO1; BL 5]

OR

ii)What is the difference between WFS and WMS? Explain with example.

27/04/2022

:::::DD/MM/YYYY:::::