

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: M. SC.
BRANCH: GEOINFORMATICS**

**SEMESTER : II
SESSION : SP/2023**

SUBJECT: GI510R1 RESEARCH METHODS AND STATISTICS IN GEOINFORMATICS

TIME: 3 HOURS

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.
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Q.1(a)	Describe three problems resulting from increasing vehicular density.	[6]	1 4
Q.1(b)	Write different data sources relevant to the field of Geoinformatics.	[4]	1 3
Q.2(a)	Describe the different components of a research proposal.	[5]	2 3
Q.2(b)	The world witnessed the adverse effects of the Covid-19 pandemic, and our country is one of the most critically affected nations. To perform a systematic study about the pandemic in India, how would you formulate a research project comprising the following components? i. Research objectives ii. Methodology	[5]	2 5
Q.3(a)	Why is sampling performed? How is sampling size determined?	[5]	3 3
Q.3(b)	Suppose, you are interested to know the months in year receiving rainfall consecutive for 3 days with 95 per cent confidence and estimate within $\pm 3\%$ of the true value. What could be the sample size for finding the solution?	[5]	3 4
Q.4(a)	Explain the significance of different factors used in the Universal Soil Loss Equation (USLE) $A = R \times K \times LS \times C \times P$ where, 'A' is the average annual soil loss; R is rainfall-runoff erosivity factor; K is Soil- erodibility factor; L is slope-length factor; S is the slope-gradient factor; C is the cropping-management factor, and P is support practice factor.	[6]	3 5
Q.4(b)	Describe the significance of structured, unstructured, and semi-structured interviews.	[4]	3 4
Q.5(a)	What is plagiarism and what are the plagiarism norms followed in India at present?	[5]	4 2
Q.5(b)	What are the basis of evaluating quality of a research article? What are different referencing styles?	[5]	4 2

:::26/04/2023 E:::