

M.Sc. 3rd Semester Examination, 2023

REMOTE SENSING AND GIS

*(Research Methodology, Project Management
and Geostatistics)*

PAPER—RSG-302.1 & 302.2(New)

Full Marks : 50

Time : 2 hours

The figures in the right hand margin indicate marks

*Candidates are required to give their answers in
their own words as far as practicable*

Illustrate the answers wherever necessary

PAPER—RSG-302.1

*(Fundamental of Research and Geospatial
Project Management)*

GROUP – A

Answer any **two** questions : 2×2

1. What are the goals of scientific method ?
2. Explain the importance of research design.
3. Explain the importance of sampling.
4. State the important uses of hypothesis.

GROUP – B

Answer any **two** questions : 4×2

5. Describe the characteristics of research.
6. Explain how the review of related literature is more useful for any researcher.
7. Explain the procedure for controlling variance.

8. Bring out the significance of questionnaire and interview in the field work.

GROUP – C

Answer any **one** question : 8×1

9. Describe the research process from the Identification of the problem to formulating hypothesis.
10. Report on Application of Remote Sensing (RS) and Geographical Information System (GIS) on any Natural Resource Management problem in India.

PAPER—RSG-302.2

(Geostatistics)

GROUP – A

Answer any **two** questions from the following :
2×2

11. How would you estimate weighted mean center ?
12. What is RMSE ?
13. What is 'Data Poor Areas' in spatial interpolation ?
14. Why local method is preferred over global interpolation method ?

GROUP – B

Answer any **two** questions from the following :

4 × 2

15. What will be the standard error of estimate given $r = -0.72$ and $SD_y = 14.7$. Interpret it with predicted $y = 21$.
16. Explain briefly about kriging ?
17. Mention the neighbourhood operations used in raster dataset with suitable diagrams.

18. Write a short note on Thiessen polygon.

GROUP – C

Answer any **one** question from the following :
8 × 1

19. Estimate the Z-score values using given dataset.

Area	Guru-daspur	Amrit-sar	Firoza-pur	Ludhi-ana	Jallan-dhar	Kapur-thal	Hoshi-arpur
Literac Y Rate in % (X)	61.8	58.1	48	67.3	68.4	63.3	70.7

20. Discuss different types of global and local interpolation methods with suitable example.

[Internal Assessment – 10 Marks]
