PG/IIIS/RSG-302/18

M.Sc. 3rd Semester Examination, 2018

REMOTE SENSING AND GIS

PAPER –RSG-302(A + B)

Full Marks : 40

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

GROUP – A

(*Fundamentals of Research and Project Management*)

Answer any two questions

1. (*a*) Define "Research".

(*b*) What is "Research Methodology" ?

(*c*) Differentiate research methods from research techniques. 2 + 4 + 4

2. (*a*) Describe how to identify and prepare statement of the problem.

(*b*) Explain the importance of research design. 5 + 5

3. (*a*) What is sampling ?

(*b*) Explain the different methods of sampling. 3 + 7

4. (*a*) How can a GIS project be designed and managed ?

(*b*) What are the differences between conceptual and physical data models. 6 + 4

GROUP – B

(*Geostatistics*)

Answer any **two** questions

1. Draw and describe the normal distribution

curve of soil, water, cropland and forest for NIR band.

(*a*) Write short note on (*i*) dependent and independent variables (*ii*) Scatter diagram.

(*b*) Calculate mean, standard deviation and variance for a set of data as :

20, 24, 30, 32, 35, 38, 40, 45, 47, 52

4 + 3 + 3

2. Write the linear and polynomial regression equation with two variables. Mean population of villages in a district is 240 and standard deviation is 60. Calculate the probability if the population of a village is (*i*) less than 200 and (*ii*) greater than 260. 2 + 8

3. What is spatial autocorrelation ? How it is utilized for surface modelling ? Write a short note on different types of interpolation methods. 2 + 3 + 5

4. Write about variogram and its uses in geostatistics. Differentiate between deterministic and optimal interpolation. 5 + 5