M.Sc. 1st Semester Examination, 2019

REMOTE SENSING AND GIS

PAPER — RSG-104.1+ 104.2

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

Write the answers to questions of each Group in separate books wherever necessary

RSG-104.1

GROUP—A

Answer any **two** questions :　　　　2 × 2

1. What are the features of 4th generation of computer system ?

2. What do you mean by binary language and why is it used ?

3. Convert $(125)_{10} \rightarrow (?)_2$

4. What is a variable ? Give example.

GROUP—B

Answer any **two** questions : 4×2

5. (a) Give the basic syntax of if-else statement.

   (b) What does # include signifies in a C-programming ? $2 + 2$

6. State the difference between while and do-while loop. Briefly explain. 4

7. What is a pointer ? What is the utility of pointer in C-language ? 4

8. Write a C-program to add two integer numbers. 4

GROUP—C

Answer any **one** question :　　　　8×1

9. (a) How Hexadecimal and binary number systems are related ?

   (b) Convert $(375)_8 \rightarrow (?)_{16}$

   (c) Briefly discuss some of the characteristics of the computer system.　　　$2 + 2 + 4$

10. Write an program and draw a flow chart to find the maximum of a number among any three given numbers.　　　8

RSG-104.2

(*Probability and Statistics*)

GROUP—A

Answer any **two** out of **four** questions :　　2×2

11. Write the equation of Pearson correlation coefficient.

12. Compute the variance with the following data :

    0·8. 1·1, 1·2, 1·4, 1·84, 1·9, 1·92. 1·96, 2·02.

13. What are the basic packages used in R to process Raster and Vector data.

14. Discuss with diagram : Positive and negative skewed distribution.

GROUP—B

Answer any **two** out of **four** questions : 4×2

15. For a given mean (6) and S.D. (0·8) ; compute the probability of x less than 5.8.

16. Mean = 20; S.D. = 2·5 ; What is the probability that x will vary between 17·5 to 22·5.

17. Write the formula of conditional probability. Compute the probability of getting 3 in a dice roll.

18. Compute z-score for sample mean of 50, S.D. of 10 for $x = 45$.

GROUP–C

Answer any **one** question : 8×1

19. Compute the confidence intervals (95%) with mean and S.D. of 5 and 1.5, respectively; $n = 20$.

20. Test the hypothesis that sample mean (65) and population mean (70) are equal at 95% confidence interval. Population S.D. $= 10$, $n = 20$.

———————