

**M.Sc. 1st Semester Examination, 2023**

**REMOTE SENSING AND GIS**

**PAPER – RSG-104**

*Full Marks : 50*

*Time : 2 hours*

**Answer all questions**

*The figures in the right hand margin indicate marks*

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

**PAPER – RSG-104.1**

**GROUP – A**

**Answer any two questions :**  $2 \times 2$

- 1. Draw the computer memory hierarchy diagram.**

2. What is the difference between freeware and open-source software ?
3. What is the difference between RAM and ROM ?
4. How many bits are required to store a Hexadecimal number in a computer ? Explain your answer.

GROUP-B

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

4 × 2

5. Convert  $(19D)_{16}$  into octal number system.
6. Mention the main functions of an Operating System.
7. Differentiate between System Software and Application Software. Which type of software is Spreadsheet ?

8. Write the command of MSDOS full process to :
- (a) Delete a file in a certain directory.
  - (b) Rename a file in a certain directory.

## GROUP - C

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

9. Suppose  $x = (348)_2$  and  $y = (1A)_{16}$ . Perform binary division between  $x$  and  $y$ , i.e.,  $x \div y$  and find the quotient and remainder in binary.
10. (a) State the algorithm of 1's complement method of binary subtraction. 5
- (b) Compute  $(11100-100110)_2$  using 1's complement method. 3

**PAPER – RSG-104.2**

**GROUP – A**

Answer any **two** of the following questions :  $2 \times 2$

1. What are the advantages of using flow-chart ?
2. To read a integer from the console we write in python : `int (input (“Enter a number”))`. Here what does `int` mean ?
3. What is the difference between tuples and lists in Python ?
4. What is the output of the following Python code ?  
`x = 5`  
`y = 2`  
`Print (y* x* *y)`

GROUP-B

Answer any **two** of the following questions : 4 × 2

5. What is the purpose of the *continue* and *break* statements in Python ?
6. What is the primary purpose of using identification in python code ? What happens if you neglect proper indentation ?
7. What is algorithm ? Write the properties of divide and conquire approach. 2 + 2
8. What is the purpose of using the if-elif-else statement in Python ?

GROUP-C

Answer any **one** of the following questions : 8 × 1

9. (a) Explain the difference between a for loop and a while loop in Python. 3

(b) Write a Python while loop that calculates the factorial of a number entered by the user.

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10. (a) Explain how the colors of an image are presented in Python.

(b) How do you read an excel file in Python and store the column value in lists ?

**[ Internal Assessment — 10 Marks ]**