

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 6173

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Your Roll No.....

Unique Paper Code : 234593

Name of the Course : B.Sc. (H) Geology

Name of the Paper : Computer Applications (GEHT-503)

Semester : V

Time : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any 5 questions out of which Question No. (1) is compulsory.
3. All questions carry equal marks.

1. (a) Check whether these statements are True or False : (5×1=5)

(i) SRAM is faster than DRAM.

(ii) Secondary storage devices are used for back-up storage.

(iii) Matlab is case sensitive.

(iv) Hardware is intangible entity.

(v) Hexadecimal number system is a positional weight system.

- (b) Write down the Matlab commands for plotting $y = \sin x$, $0 \leq x \leq 2\pi$ taking 100 linearly spaced points in the given interval. Label the axes and put "Plot created by me" in the title. (5)

- (c) Describe the methods of "Data Analysis using 5 number summary". (5)

P.T.O.

2. Write programs in C language : (2×7.5=15)

- (a) Get the input from the user and reverse that number and display it.
- (b) To Multiply 2 numbers using recursion

OR

Answer the following :

- (a) What does SDRAM, DIMM, POST and BIOS stand for ? (4)
 - (b) What is booting and how is it carried out in MS-DOS ? What are the files needed for booting ? (4)
 - (c) Write the commands of switching the current location (root directory of C drive) to E drive and creating a folder named "Data" there. (3)
 - (d) Write the syntax for copying all Microsoft word files from "Work" folder located in D drive to "Data" folder located in E drive. (4)
3. (a) Describe the hierarchy of physical storage devices available on the computer system. (6)
- (b) Describe any 3 output devices in brief. (3×3=9)
4. (a) Differentiate between categorical and quantitative statistical analysis. (3)
- (b) What is the difference between the result of the PERCENTILE and PERCENTRANK functions in excel. (2)
- (c) What is the empirical rule in statistics ? (4)
- (d) Explain Box plot wrt 1st and 3rd quartile. Define IQR. (6)

5. (a) What is chip ? Categorize the digital IC's according to levels of integration. (2+4)
- (b) Differentiate between Analog and Digital computers. (4)
- (c) Draw a block diagram of computer system and discuss the functions of each component. (5)

6. (a) Write the syntax for doing these computations in Matlab :

(i) $3 \frac{\sqrt{5} - 1}{(\sqrt{5} + 1)^2} - 1$

(ii) $e^{\pi\sqrt{163}}$

(iii) Solve $3^x = 17$ for x . (3×2=6)

- (b) Write the syntax to plot $y = 3x^2 + 7x - 2$, $0 \leq x \leq 200$ taking 50 linearly spaced points in the given interval in red colour using dashed lines. Label the axes and put "Quadratic equation" in the title. (5)

- (c) Write a short note on image processing in Matlab. (4)

7. (a) What are the measures of central tendency ? (3)

- (b) How is standard deviation, skewness, and coefficient of correlation aid in the understanding of data ? (6)

- (c) Explain with example in geological context, how statistics could be beneficial for interpretation of large datasets ? (6)

8. Carry out the following exercise :

- (a) Convert $(A5F)_{16}$ to its decimal, binary and octal representative. (3)

- (b) What does $(612)_8$ correspond to in decimal, binary and hexadecimal representation? (3)
- (c) Subtract $(767)_{10}$ from $(3C7)_{16}$ by giving the answer in binary. (3)
- (d) Using 1's and 2's complement method; show that $(63)_{10} - (33)_{10}$ will yield correct answer. (6)