

Sl. No. of Question Paper: 5737

Unique Paper Code: 234593

Name of the Paper: Computer Applications

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

Semester: Vth

Duration: 3 Hours

Maximum Marks: 75

F

Instructions for Candidates:

Attempt any 5 questions out of which question no. (1) is compulsory.

All questions carry equal Marks.

Q1. (A) Check whether these statements are True or False:

5*1 = 5

- I. SRAM consumes more power than DRAM.
- II. Binary number system is not a positional weight system.
- III. Secondary storage devices are used for back-up storage.
- IV. Cache memory is slower than main memory.
- V. SPSS is statistical analysis software developed by Microsoft.

(B) What are the main file types available in MATLAB for storing data or programs describe them in brief.

5

(C) Describe the applications of Matlab or Excel in geosciences.

5

Q2. (A) Write programs in C language:

2*5=10

1. To find a factorial of a number by using recursive function.
2. Write a program in C language for finding whether a given year is leap year or not.

(B) In brief describe the classification of computers.

5

Q3. (A) Explain computer generations with their important characteristics.

(5+6+4)

(B) Describe the following H/W devices with their working method.

1. Hard Disk Drive.
2. Printers.
3. Barcode readers.

(C) Write a short on: Operating System.
Plotters.

Q4. (A) Perform the following calculations:

5*2=10

1. $(17.75)_{10} = (??)_2$
2. $(E1F)_{16} = (??)_2$

3. Subtract $(FADF)_{16}$ from $(CD00A)_{16}$
4. Add $(ED0B)_{16}$ to $(029A)_{16}$
5. $(D0F)_{16} = (??)_{10}$

(B) Explain the following terms: 1. Categorical Data. 3

2. Ordinal Data.

3. Nominal Data.

(C) List the trendline types available in excel. 2

Q5. (A) Describe in detail the method for publishing reports in Matlab. (4+5+6)

(B) Write a function to draw a circle of a specified radius, with the radius as the input to the function.

(C) Write a function for multiplication of two matrices in MATLAB.

Q6. (A). What are the various methods for entering data in RockWorks describe in brief. (5+5+5)

(B) Differentiate between main memory and cache memory.

(C) Write down the keyboard shortcut for performing these tasks:

- I. Delete an item immediately without placing it in the recycle bin.
- II. Switch between open programs.
- III. Toggles Sticky Keys on and off.
- IV. Minimizes all open windows and displays the desktop.
- V. Switch between multiple windows in the same program.

Q7. (A) Write syntax to Perform the following calculations in Matlab: (6+5+4)

I. Area = πr^2 with $r = \pi^{1/3} - 1$.

II. $\log_{10}(e^3)$.

III. $y = \frac{t-1}{t+1}$ where t is a vector with 10 elements : 1,2,.....,10.

(B) Discuss the use of 'eval' function in Matlab with suitable example.

(C) Why do digital computers use binary numbers for their operation?

Q8. (A) Describe the hierarchy of physical storage devices available on the computer system. 5

(B) Using 1's and 2's complement method; show that $(37)_{10} - (15)_{10}$ will yield correct answer. 6

(C) Given that $292_{10} = 1204$ in some number system, find the base of that system. 4