National University

of Computer & Emerging Sciences FAST Peshawar Campus

Name: Khizar Ali

Roll No: 22P-9269.

Program: **BAI**
Semester: Fall – 2022
Time Allowed: 1: 00 hour
Course: Programming Fundamentals

Examination: Sessional-I
Total Marks: 50 Weightage: 10
Date: 26 September 2022
Instructor: **Shoaib M. Khan**

NOTE: Attempt all questions.

1. Write a C program to find quotient and remainder of two Integers. **(10 marks)**

2. Write a C program to swap two numbers. **(10 marks)**

3. Write a C program to input basic salary of an employee and calculate its Gross salary according to following:

   Basic Salary <= 10000: HRA = 20%, DA = 80%
   Basic Salary <= 20000: HRA = 25%, DA = 90%
   Basic Salary > 20000: HRA = 30%, DA = 95%

   Hint: for basic salary 8000, Gross salary = Basic Salary + Basis Salary* 0.2 +Basic Salary*0.8
   DA (Dearness Allowance) and **HRA** (House Rent Allowance) **(15 marks)**

4. Write a C program for conducting the MCQ's test of five questions for an admission in university. The student with 60% marks will get admission. **(15 marks)**

National University

Student Name: Khizar Ali

Roll No: 22P-9269

Program:

Semester: Fall-2022

Examination: Sessional-I

Time Allowed: 01hour

Total Marks: Weightage: 15

Course: ~~Islamic Studies~~

Date:

Instructor Name:

NOTE: Attempt all questions.

Q1: Define revelation (Wahy), write its kinds, and its main modes of descention.

Q2: What is the difference between Makki and Madani verses (Surah), also write its main Characteristics.

Q3: Define Tafseer (exegesis) of the Holy Quran. Write its main sources in detail.

Q4: What do you know about Israelites? Write its main kinds.

Name: _____ Roll No. _____ Program: _____

National University

of Computer & Emerging Sciences Peshawar Campus

Student Name: Khizar Ali

Program & Section:

Semester: **Fall-2022**

Time Allowed: **60 minutes**

Course: **English Composition & Comprehension**

Roll No: 229-9269

Examination: **Sessional I**

Total Marks: **30**

Date: **Sep. 27, 2022**

Instructor Name: **Noreen Shah & Sana Gul**

NOTE: Attempt all questions.

Directions: Read the following passage carefully to answer the questions that follow.

The Secrets of a Very Long Life

A. Introduction

There are several places in the world that are famous for people who live a very long time. These places are usually in mountainous areas, far away from modern cities. Even so, doctors, scientists, and public health experts often travel to these regions to solve the mystery of a long, healthy life. In this way, the experts hope to bring to the modern world the secrets of s longevity.

B. Hunza in the Himalayan Mountains

Hunza is at a very high altitude in the Himalayan Mountains of Asia. There, many people over 100 years of age are still in good physical health. Additionally, men of 90 are new fathers, and women of 50 still have babies. What are the reasons for this good health? Scientists believe that the s people of Hunza have these three main advantages or benefits: (1) a healthful unpolluted environment with clean air and water, (2) a simple diet high in vitamins, fiber, and nutrition but low in fat, cholesterol, sugar, and unnatural chemicals; and (3) physical work and other activities, usually in the fields or with animals.

C. The Russian Caucasians and Vilcabamba

People in the Caucasus Mountains in Russia are also famous for their longevity. Official birth records were not available, but the community sys woman called Tsurba lived until age 160. Similarly, a called Shirali probably lived until 168: moreover, la widow was 120 years old. In general, the people not only live a long time, but they also live well. In other word they are almost never sick. Furthermore, when they de they not only have their own teeth but also a full head of hair, and good eyesight too. Vilcabamba, Ecuador, is another area famous for the longevity of its inhabitants This mountain region-like Hunza and the Caucasus also at a very high altitude, far away from cities b Vilcabamba, too, there is very little serious disease. Ce reason for the good health of the people might be the clean, beautiful environment; another advantage is the moderate climate. The temperature is about 77 Fahrenheit all year long, furthermore, the wind alwa comes from the same direction. In addition, the water comes from mountain streams and is high in minerals: perhaps as a result of this valuable resource, the region is rich in flowers, fruits, vegetables, and a wildlife.

Name _____ Roll No. _____ Program: _____

D. Differences in the Diets of People with Unusual Longevity

In some ways, the diets of the inhabitants in the three regions are quite different. Hunzukuts eat mainly raw vegetables, fruit (especially apricots), and chapatis-a kind of pancake; they eat meat only a few times a year. In contrast, the Caucasian diet consists mainly of milk, cheese, vegetables, fruit, and meat. In Vilcabamba, people eat only a small amount of meat each week; their diet consists mostly of grain, corn, beans, potatoes, and fruit. Even so, experts found one surprising fact in the mountains of Ecuador: most people there, even the very old, consume a lot of coffee and smoke 40 to 60 cigarettes daily!

E. Similarities in Diet

However, the typical diets of the three areas are similar in three general ways: (1) The fruits and vegetables are all natural; that is, they contain no preservatives or other chemicals. (2) Furthermore, the population uses traditional herbs and medicines to prevent and cure disease. (3) The inhabitants consume fewer calories than people do in other parts of the world. A typical North American eats and drinks an average of 3,300 calories every day, while a typical inhabitant of these mountainous areas takes in between 1,700 and 2,000 calories.

F. Other Possible Reasons for Healthy Longevity

Inhabitants in the three regions have more in common than their mountain environment, their distance from modern cities, and their low caloric natural diets. Because they live in the countryside and are mostly farmers, their lives are physically hard and extremely active. Therefore, they do not need to try to exercise. In addition, the population does not seem to have the stress of fast city work and recreation. As a result, people's lives are relatively free from worry-and therefore, illness or other so health problems. Thus, some experts believe that physical movement and a stress-free environment might be the two most important secrets of longevity. An additional health advantage of life in these long-lived communities may be the extended family structure: the group takes care of its members from birth to death.

G. The Validity of Longevity Claims

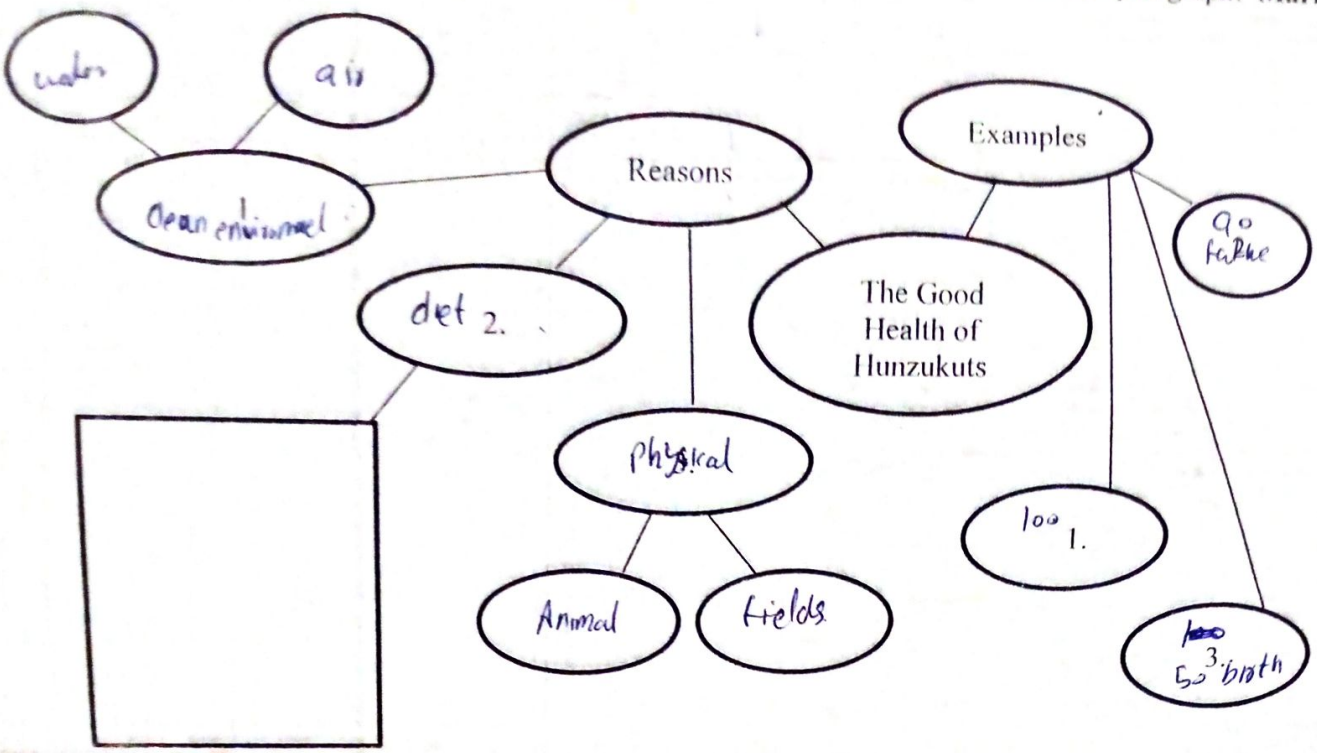
Nevertheless, some doctors theorize that members of especially long lived populations have only one thing in common: they don't have valid official government birth records. These health scientists think there is a natural limit to the length of human life; in their theories, it is impossible to reach an age of more than 110 years or so. Therefore, they say, claims 70 of unusual longevity in certain groups are probably false.

Now Answer the Following Questions.

1. What is the Thesis Statement of the passage? **Marks 3**

Program: _____

2. Read paragraph **B** very carefully and complete the following mind map of this paragraph: **Marks: 13**



3. What is the topic sentence of paragraph C? **Marks: 3**

4. What is the main idea of paragraph D? **Marks: 3**

5. Write at least two (2) major details of paragraph D. **Marks: 4**

6. Write a two sentence summary of paragraph E. (*You will lose marks for writing more than two sentences*). **Marks: 4**

Rubric for Questions	
Grammar *(.25 marks will be deducted for each mistake)*	_____ / 2
Mechanics *(.25 marks will be deducted for each mistake)*	_____ / 2

National University

of Computer & Emerging Sciences Peshawar Campus

Program: BS CS, SE, AI
Semester: Fall-2022
Time Allowed: 1 hour
Course: Linear Algebra MT-104

Examination: Sessional-I
Total Marks: 30, Weightage: 15%
Date: 27-9-2022
Instructor Name: Askar Ali

Note: Attempt all questions.

Problem 1 [10]

Determine the values of parameter w for which the following system possesses no solutions, unique solution and infinitely many solutions . The linear system is

$$x + 2y + z = 2,$$
$$2x + 2y + 3z = 1,$$
$$x + 2y - (w^2 - 3)z = w.$$

Problem 2 [10]

Determine all values of the unknown parameters in order for A is symmetric where

$$A = \begin{pmatrix} 7 & x+y-z & x-y \\ 4 & 6 & 2x-y-z \\ 1 & 3 & 4 \end{pmatrix}.$$

Hint: The matrix A is symmetric if and only if $A^T = A$.

Problem 3 [10]

Find the values of w for which A is invertible

$$A = \begin{pmatrix} 2 & 1 & 0 \\ w & 2 & w \\ 2 & 4 & 2 \end{pmatrix}.$$

The End

National University

of Computer & Emerging Sciences Peshawar Campus

Program: BS (SE & AI)
Semester: Fall-2022
Time Allowed: 01 hour
Course: MT1003-Calculus & Analytical Geometry

Examination: **SESSIONAL-I**
Total Marks: 50, Weightage: **15**
Date: 28/09/2022
Instructor: Osama Sohrab

NOTE: ATTEMPT ALL PROBLEMS.

Marks =10

Problem # 01

The sales of a small company were **$13,000** in its third year of operation and **$37,000** in its seventh year. Let y represent sales in the xth year of operation. Assume that a straight line can fit the data.

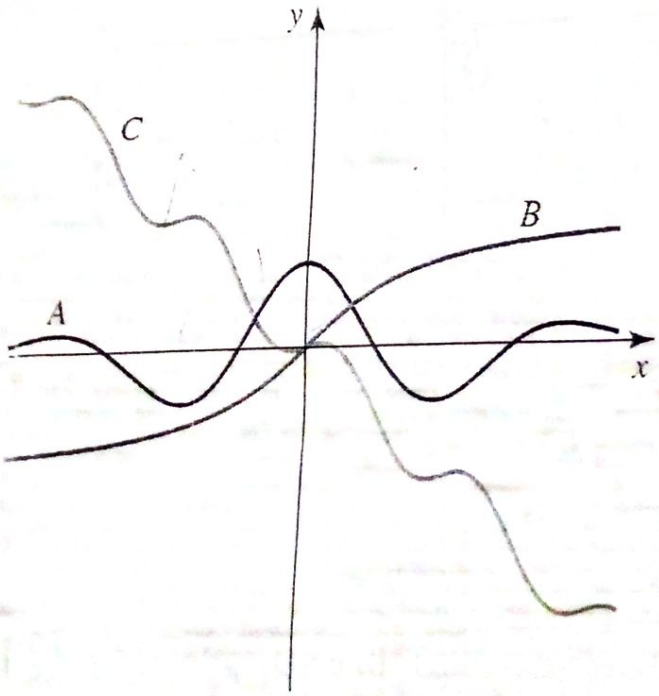
(a) Find the slope and an equation for the sales line.

(b) Use your answer from part (a) to find out how many years must pass before the sales surpass **$50,000**.

Marks=10

Problem # 02

(a) State whether the functions represented by graphs A, B, and C in the figure are even, odd, or neither.



(b) Compute all values of c such that $h(x) = \dfrac{x+1}{x^2+2cx+4}$ has domain $\mathcal{R}$.

Problem # 03 **Marks =10**

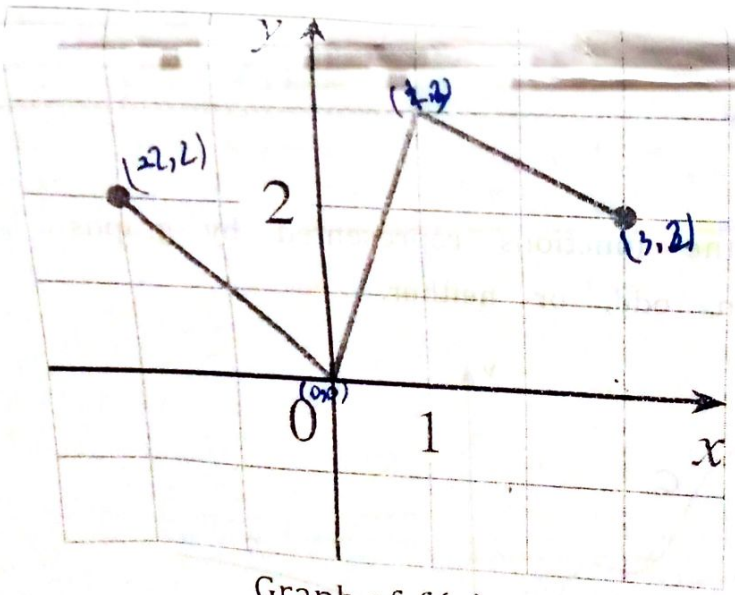
Graph each function, not by plotting points, but by starting with the graph of one of the standard function and apply an appropriate transformation:

(a) $y = -x^2 + 3x + 4$ (b) $y = -\sqrt{x+1} + 2$ (c) $y = \frac{1}{-1+x}$

Problem # 04 **Marks =10**

Find a formula for the function graphed. Also sketch the graphs of the following functions:

(a) $y = f(x) - 3$ (b) $y = f(x+1)$ (c) $y = -f(x)$



Graph of $f(x)$

Problem # 05 **Marks =10**

Solve the following inequalities :

(a) $x^2 + 7x + 12 \geq 0$

(b) $|2x + 1| \geq 0$

THE END