

## Riviera International Academy

### Assignment-2077

(Shrawan 25, 2077, Sunday)

Class: Ten

#### Subject- Computer

1. Write a program using SUB..END SUB to display the highest number among any three numbers input by a user in the main module.
2. Write a program to declare a sub procedure that displays the longest name among any three names input by a user in the main module.
3. Write a program to calculate and display the volume of a room using SUB.. END SUB statement.

#### Subject- HPE

##### 1. Short answers.

- a. How can the principles of sustainable development be applicable?
- b. 'Population control can help in sustainable development'. Justify this statement.
- c. How does the sustainable development help in the proper use of resources?
- d. What types of natural resources are emphasized for use by sustainable development? Why?

#### .विषय – नेपाली

क) हाम्रो देशमा संविधान बन्यो तर अझै राम्ररी कार्यान्वयन गर्न सकिएको छैन।

ख) अब त मा स्वदेशमै बसेर काम गर्छु।

ग) आज त हामी गुरुसित नगरकोट गयौं अनि सुर्योदय नियल्यौं।

घ) धत् ! तिमी जस्ता ज्ञानी मान्छेले यस्तो कुरा गर्न सुहाउँछ ।

ङ) अचेल हरि आफ्नो किताब लिएर खुरुखुरु पढ्न बस्छ।

प्रश्न :माथिका वाक्यबाट तलका शब्दको पदवर्ग पहिचान गर्नुहोस्। हाम्रो अब धत् ! लिएर संविधान त गर्न खुरुखुरु बन्यो हामी ज्ञानी बस्छ तर सित अचेल किताब राम्ररी अनि आफ्नो कुरा

## Subject- Mathematics

Source: photo of exercise are given below

Work: complete exercise 3.2

Do your work neatly

### *Population Growth and Depreciation*

- c) At present the population of a town is 80,000. At what growth rate of population would it be 88,200 in two years?
- d) The population of a municipality in the beginning of 2074 B.S. was 1,80,000 and at the end of 2076 B.S. was 2,39,580. Find the rate of growth of population per year.
5. a) The population of a town before 3 years was 3,75,000 and the annual growth rate is 2%. If the number of in-migrants and out-migrants at the end of 3 years were 1,480 and 875 respectively, and 2,750 people died within the times, find the present population of the town.
- b) The population of a village increases every year by 5%. At the end of two years, if 460 people were migrated to other village and the population of the village remained 26,000, what was the population of the village in the beginning?
- c) The population of a town increases every year by 10%. At the end of two years, if 5,800 people were added by migration and the total population of the town became 30,000, what was the population of the town in the beginning?
- d) The population of a village increases every year by 2%. If 950 people migrated to other places at the end of two years and the population of the village remained 9,454, what was the population of the village in the beginning?
- e) In the beginning of 2074 B.S., the population of a town was 1,00,000 and the rate of growth of population is 2% every year. If 8,000 people migrated there from different places in the beginning of 2075 B.S., what will be the population of the town in the beginning of 2077 B.S.?
- f) In the beginning of the year 2017, the population of a village was 25,000 and the rate of growth of population is 10% every year. In the beginning of 2018, if 500 people migrated to other places, what will be the population of the town in the beginning of 2021?
- a) The population of a town before 3 years was 1,75,000. If the annual growth rates of the population in the last 3 years were 2%, 4% and 5% respectively every year, find the population of the town at the end of 3 years.
- b) The population of a village decreased by 5% in 2075 B.S. and by 10% in 2076 B.S. What would be the population of the town in the beginning of 2077 B.S. if its population in the beginning of 2075 B.S. was 32,000?
- a) The population of a town in the beginning of 2019 was 1,68,000. If the annual rate of growth of population is 2.5%, find the increased population at the end of 2020.
- b) The present population of a state is 97,65,625. If the rate of growth of population is 4% p.a., find the increased population after 2 years.
- a) The rate of growth of a plant is 5% every month. If the height of the plant in the beginning of Baisakh 2077 is 20 cm, find its height at the end of Asar 2077.

## Population Growth and Depreciation

- b) The growth rate of a certain type of useful bacteria is 10% per day. During a research work in a laboratory, if the bacteria are grown upto the number of  $2.662 \times 10^8$  in 3 days, how many bacteria were there before 3 days?
- c) A house owner made an agreement to increase the house rent by 10% every year. If the rent of the house this year is Rs 16,000, find the house rent after 3 years.
- d) Due to the annual increment of price of land in a rapidly growing area by 25% the present value of a piece of land is Rs 12,50,000 per ropani. How much was the value of the land before 4 years?

### Project work

9.
  - a) Make the different groups of your friends. Visit different parts of your Ward and collect the statistics of the present population of your Ward. Visit to the concerned Ward Administration Office and get the statistics of the population of the Ward in the last census report. Calculate the rate of growth of population of your Ward.
  - b) How many students were there in your school before 2 years and how many students are there in this year? Collect these data from your school administration office and calculate the growth rate of students in your school.
  - c) Visit the available website and search the rate of growth of population of various countries in the world. Compare these rates with the rate of growth of population of our country.

## 4.2 Depreciation

When any asset such as furniture, vehicles, machinery items, etc. are being used for some time, their values are decreased. The reduction of value of an item due to its constant use is known as **depreciation**.

Depreciation may be simple or compound. In simple depreciation, the amount of reduction is constant every year from every depreciated value.

For example, suppose the original cost of a machine is Rs 36,000 and every year it is depreciated by Rs 3,600.

Then, after 1 year its price = Rs 36,000 - Rs 3,600 = Rs 32,400  
After, 2 years its price = Rs 32,400 - Rs 3,600 = Rs 28,800  
After, 3 years its price = Rs 28,800 - Rs 3,600 = Rs 25,200 and so on.

On the other hand, in case of compound depreciation, the amount of reduction is calculated every year from every depreciated value. The compound depreciation is calculated in the similar way of calculation of compound interest, but here the rate is gradually decreasing.

$$\therefore P_1 = P \left(1 - \frac{R}{100}\right)^T$$

Where,  $P$  is the original price,  $R$  is the rate of depreciation,  $T$  is the time period in years and  $P_1$  is the depreciated value after  $T$  years.

## EXERCISE 4.1

### General Section

- If the initial population of a place is  $P$  and the rate of population growth is  $R\%$  p.a., write the formula to find the population of the place in  $T$  years.
  - If the initial population of a region is  $P$  and the rate of growth of population is  $R\%$  p.a., write the formula to find the increased population after  $T$  years.
  - The rates of annual growth of population of a town in 3 years are  $R_1\%$ ,  $R_2\%$  and  $R_3\%$ . If the present population of the town is  $P$ , write the formula to find the population after 3 years.
- The population of a town in the beginning of 2076 B.S. was 32,400. Within a year its population increased 3% by birthrate and 2% by immigration. Find the population of the village in the beginning of 2077 B.S.
  - The population of a village increased from 10,000 to 11,000 in one year. Find its rate of growth of population.
  - One year ago, the population of a village was 10,000. If the present population of the village is 10,210, find the population growth rate.

### Creative Section

- The present population of a village is 30,000. If it is increased at the rate of 10% per annum, what will be the population after 2 years?
  - According to the students enrollment statistics published in 2075 B.S., the number of admitted students in 2074 B.S. in a region was 3,20,000. If the annual rate of growth of the number of students is 5%, how many students were admitted in 2077 B.S.?
  - 3 years ago, the population of a village was 16,000. The rate of population growth of that village is 5%. What is the population at present?
  - After two years the population of a town will be 33,620 at the population growth rate of 2.5% p.a. Find the present population of the town.
  - A village has population 1,75,760. If its population growth rate is 4% p.a., find its population before 3 years.
- In how many years will the population of a town be 2,09,475 from 1,90,000 at a growth rate of 5% per annum?
  - The population of a town is 96,250. In how many years would it be 1,04,104 if its population increases at the rate of 4% every year?

The End.