

Riviera International Academy

Assignment-2077

(Ashad 31, 2077, Wednesday)

Class: Nine Date:- _____ Name:- _____

Subject- Computer

Answer the following questions.

- What is Windows Operating System?
- What do you mean by Desktop and Icon in windows based program?
- What is Recycled Bin? How do you restore files or folders from the Recycled bin?
- What is a taskbar?
- What is window? List its types.

Subject – HPE

1. Write short note on:

- Sample survey
- Vital Registration System
- Administrative records
- Secondary source of population data

विषय – नेपाली

भूत ,वर्तमान र भविष्यत् कालका पक्षहरू वाक्य बनाई अभ्यास गर्नुहोस् ।

धातुहरू -खा ,जा ,पढ् ,उठ् ,हाँस् ,गर् ,गाउ लेख् भूतकाल -सामान्य -अपूर्ण -पूर्ण -अज्ञात -

अभ्यस्त वर्तमान- -सामान्य -अपूर्ण -पूर्ण

भविष्यत् - -सामान्य -अपूर्ण -पूर्ण

Subject- Mathematics

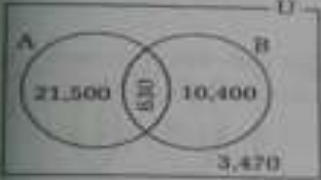
Source: Photo of exercise are given below

Work: complete all exercise from pages 21 & 22.

Do your work neatly

Solution:

Let A and B be the sets of people who cast vote to the candidates A and B respectively.
Here, $n(U) = 36,000$, $n_o(A) = 21,500$, $n_o(B) = 10,400$ and $n(A \cap B) = 630$

(i) 

(ii) Number of people who casted vote = $n(A \cup B)$
 $n(A \cup B) = n_o(A) + n_o(B) + n(A \cap B)$
 $= 21,500 + 10,400 + 630 = 32,530$
Now, number of people who did not casted vote = $n(\overline{A \cup B})$
Then, $n(\overline{A \cup B}) = n(U) - n(A \cup B) = 36,000 - 32,530 = 3,470$

(iii) Again, the number of valid votes = $21,500 + 10,400 = 31,900$

Example 11: 45 students of class 9 are taking part in Maths exhibition or in Science exhibition or in both exhibitions. Out of them 11 students are taking part in both exhibitions. The ratio of the number of students who are taking part in Maths to those who are taking part in Science exhibitions is 4 : 3.

(i) How many students are taking part in Maths exhibition?
(ii) How many students are taking part in Science exhibition only?
(iii) Show the above information in a Venn-diagram.

Solution:

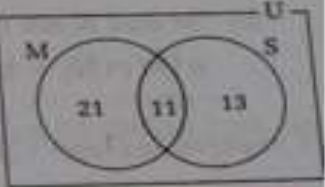
Let M and S be the sets of students who are taking part in Maths and Science exhibitions respectively.

Here, $n(M \cup S) = 45$, $n(M) = 4x$, $n(S) = 3x$ and $n(M \cap S) = 11$

Now, $n(M \cup S) = n(M) + n(S) - n(M \cap S)$
or, $45 = 4x + 3x - 11$
or, $x = 8$

(i) Then $n(M) = 4x = 4 \times 8 = 32$
Hence, 32 students are taking part in Maths exhibition. (iii)

(ii) Also, $n(S) = 3x = 3 \times 8 = 24$
And, $n_o(S) = n(S) - n(M \cap S) = 24 - 11 = 13$
Hence, 13 students are taking part in Science exhibition.



EXERCISE 1.2

General section

1. a) A and B are any two disjoint sets. If $n(A) = x$ and $n(B) = y$, find $n(A \cup B)$.
b) If $n(A) = p$, $n(B) = q$ and $n(A \cap B) = r$, show this information in a Venn-diagram and show that $n(A \cup B) = n(A) + n(B) - n(A \cap B)$.
c) If X and Y are two overlapping subsets of a universal set U, write the relation between $n(U)$, $n(X \cup Y)$ and $n(\overline{X \cup Y})$.

Set

- d) If M and N are two overlapping subsets of a universal set U. Write the relation between $n(M)$, $n(M \cap N)$ and $n_u(M)$.
- e) If A and B are two overlapping subsets of a universal set U. Write the relation between $n(B)$, $n(A \cap B)$ and $n_u(B)$.

2. From the adjoining Venn-diagram, find the cardinal numbers of the following sets.



- a) $n(U)$ b) $n(A)$ c) $n(B)$
d) $n(A \cup B)$ e) $n(A \cap B)$ f) $n(\overline{A \cup B})$
g) $n(\overline{A})$ h) $n(\overline{B})$ i) $n_u(A)$ j) $n_u(B)$

3. a) If $n(U) = 65$, $n(A) = 28$, $n(B) = 45$ and $n(A \cap B) = 20$, find

- (i) $n(A \cup B)$ (ii) $n(\overline{A \cup B})$ (iii) $n_u(A)$ (iv) $n_u(B)$

- b) P and Q are the subsets of a universal set U. If $n(P) = 55\%$, $n(Q) = 50\%$ and $n(\overline{P \cup Q}) = 15\%$, find: (i) $n(P \cup Q)$ (ii) $n(P \cap Q)$ (iii) $n(\text{only } P)$ (iv) $n(\text{only } Q)$

- c) X and Y are the subsets of a universal set U. If $n(U) = 88$, $n_u(X) = 25$, $n_u(Y) = 30$ and $n(X \cap Y) = 10$, find

- (i) $n(X)$ (ii) $n(Y)$ (iii) $n(X \cup Y)$ (iv) $n(\overline{X \cup Y})$

- d) A and B are the subsets of a universal set U. If $n(\overline{A \cup B}) = 18\%$, $n_u(A) = 38\%$ and $n_u(B) = 15\%$ find,

- (i) $n(A \cup B)$ (ii) $n(A \cap B)$ (iii) $n(A)$ (iv) $n(B)$

4. a) A and B are the subsets of a universal set U. If $n(U) = 100$, $n_u(A) = 30$, $n_u(B) = 35$ and $n(A \cap B) = 25$, illustrate this information in a Venn-diagram.

- b) M and N are the subsets of a universal set U. If $n(U) = 65$, $n(M) = 36$, $n(N) = 27$, $n(M \cap N) = 12$, illustrate this information in a Venn-diagram.

Creative section - A

5. a) A and B are the subsets of a universal set U. If $n(U) = 75$, $n(A) = 40$, $n(B) = 60$ and $A \subset B$ then illustrate these information in a Venn-diagram and find:

- (i) $n(A \cup B)$ (ii) $n(A \cap B)$ (iii) $n_u(B)$ (iv) $n(\overline{A \cup B})$

- b) M and N are subsets of a universal set U. If $n(M) = 70\%$, $n(N) = 57\%$ and $N \subset M$ illustrate these information in a Venn-diagram and find:

- (i) $n(M \cup N)$ (ii) $n(M \cap N)$ (iii) $n_u(M)$ (iv) $n(\overline{M \cup N})$

6. a) A and B are the subsets of a universal set U in which there are $n(U) = 54$, $n(A) = 32$, $n(B) = 22$ and $n(A \cap B) = 9$.

(i) Draw a Venn-diagram to illustrate the above information.

(ii) Find the value of $n(\overline{A \cup B})$.

b) X and Y are the subsets of U. If $n(X) = 55\%$, $n(Y) = 65\%$ and $n(\overline{X \cup Y}) = 0\%$.

(i) illustrate this information in a Venn-diagram.

(ii) Find $n(X \cap Y)$, $n_c(X)$ and $n_c(Y)$.

7. a) In a survey of 600 people in a village of Dhading district, 400 people said they can speak Tamang language, 350 said Nepali language and 200 of them said they can speak both the languages.

(i) Draw a Venn-diagram to illustrate the above information.

(ii) How many people cannot speak any of two languages?

(iii) How many people can speak Tamang language only?

(iv) How many people can speak the Nepali language only?

b) In a survey of 1500 people, 775 of them like Nepal Idol, 975 liked Comedy Champion and 450 people liked both the shows.

(i) Show the above information in a Venn-diagram.

(ii) How many people did not like both the shows?

c) In a group of 250 music lovers, 135 of them like folk songs and 150 like modern songs. By drawing a Venn-diagram, find:

(i) how many people like both the songs?

(ii) How many people like only one song?

d) In a survey of a group of farmers, it was found that 80% farmers have crops farming, 30% farmers have animals farming and every farmer has at least one farming.

(i) represent the information in a Venn-diagram.

(ii) What percent were there who have both farming?

(iii) What percent were there who like only one farming?

creative section - B

a) In a group of 500 students, 280 like bananas, 310 like apples and 55 dislike both the fruits.

(i) Find the number of students who like both the fruits.

(ii) Find the number of students who like only one fruit.

(iii) Show the result in a Venn-diagram.

b) In a survey of 900 students in a school, it was found that 600 students liked tea, 500 liked coffee and 125 did not like both drinks.

(i) Draw a Venn-diagram to illustrate the above information.

(ii) Find the number of students who like both drinks.

(iii) Find the number of students who didn't like tea only.

- c) In a survey of some people, it was found that 45 % of them were using internet, 60 % were using cellular data and 15 % of them were not using any type of Wi-Fi connection.
- Represent the above information in a Venn-diagram.
 - If there are 50 people who were using both types of Wi-Fi connections, find the number of people who participated in the survey.
9. a) In a group of 75 students, 20 liked football only, 30 liked cricket only and 18 did not like any of two games.
- How many of them liked at least one game?
 - Find the number of students who liked both the games.
 - How many of them liked football?
 - How many of them liked cricket?
 - Represent the result in a Venn diagram.
- b) In a survey of 200 families, 80 were found using 'A' brand tea only, 75 were found using 'B' brand tea only and each family is using at least one of the two brands.
- Draw a Venn diagram to illustrate the above information.
 - How many families are using both brands?
 - How many families are using 'A' brand?
 - How many families are using 'B' brand?
10. a) In an election of a municipality X and Y were two candidates for the post of a Mayor. There were 40,000 people in the voter list. Voters were supposed to cast the vote for a single candidate. 15,000 people cast vote for X, 23,650 people cast for Y and 300 people cast vote even for both the candidates.
- Illustrate the above information in a Venn-diagram
 - How many people did not cast vote?
 - Find the number of valid votes.
- b) There are 900 students in a school. They are allowed to cast vote either only for A or for B as their school prefect. 36 of them cast vote for both A and B, 483 cast vote for A and 367 cast vote for B.
- How many students did not cast the vote?
 - Find the number of valid votes
 - Show the information in a Venn-diagram.
- a) In a survey of 750 tourist who visited Nepal during 'Visit Nepal 2020', it was found that 260 tourists visited Pokhara but not Sauraha, 240 visited Sauraha but not Pokhara and 125 of them did not visit both places.
- Find the number of tourists who visited Pokhara or Sauraha.
 - Find the number of tourist who visited Pokhara and Sauraha.
 - How many tourists visited Pokhara.
 - Show the result in a Venn-diagram.

The End.