



P.V.G.'s
Mukhtangan English School & Jr. College,
44, Vidyanaagari, Parvati, Pune - 411009.
Unit Test - I (2025-26)
Standard - IX

Subject : Mathematics - I

Marks - 20

Date : 08.08.2025

Time : 8.30 am to 9.30 am

Q1. A) Four alternative answers are given for every subquestions. Choose the correct alternative and write it's alphabet with subquestion number. (2)

i) $A \cap A^I =$ _____

A) A

B) U

C) A^I

D) ϕ

ii) The $\frac{p}{q}$ form of 0.16 is _____

A) 0.4

B) $\frac{4}{25}$

C) $\frac{16}{99}$

D) $\frac{6}{100}$

B) Attempt the following sub questions. (2)

i) Write any two Rational numbers between 2.3 and 2.4.

ii) Write the following set by using Rule method. $X = \{1, 4, 9, 16, 25\}$

Q2. A) Attempt the following activity. (Any 1) (2)

i) If $A = \{1, 3, 5, 7\}$, $B = \{2, 4, 3, 6, 8\}$, then find $A \cup B$, $A \cap B$, $n(A \cup B)$ and $n(A \cap B)$ by filling in the boxes given below.

→ Solution : $A = \{1, 3, 5, 7\}$ $B = \{2, 4, 3, 6, 8\}$

$A \cup B = \{ \boxed{} \}$ $\therefore n(A \cup B) = \boxed{}$

$A \cap B = \{ \boxed{} \}$ $\therefore n(A \cap B) = \boxed{}$

- ii) Classify the following rational into terminating or non-terminating recurring type by filling in the boxes

a) $\frac{13}{5} \longrightarrow$

b) $\frac{2}{9} \longrightarrow$

c) $\frac{11}{6} \longrightarrow$

d) $\frac{15}{2} \longrightarrow$

Q2. B) Attempt the following. (Any 2)

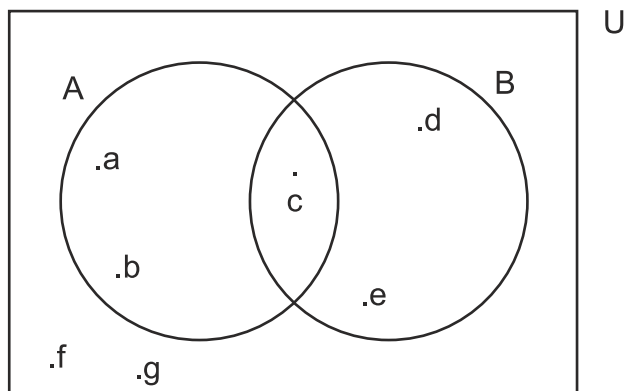
(4)

- i) If $n(A) = 70$, $n(B) = 80$, $n(A \cap B) = 20$ then find $n(A \cup B)$
- ii) Write the following rational number $\frac{17}{8}$ in decimal form.
- iii) Write any two subsets of set $P = \{a, b, c\}$

Q3. A) Attempt the following. (Any 1)

(3)

- i) Observe the following Venn diagram and answer the following.



- a) Set $A = \{ \text{ } \}$
- b) Set $B = \{ \text{ } \}$
- c) Set $U = \{ \text{ } \}$
- d) $A' = \{ \text{ } \}$
- e) $B' = \{ \text{ } \}$
- f) $A' \cap B' = \{ \text{ } \}$

- ii) Write the set in listing form and state whether the set is empty set, infinite set, finite set or singleton set.

a) $A = \{x \mid x < 2, x \text{ is a natural number}\}$

$A = \{ \boxed{} \}$

Type of set:

b) $B = \{y \mid y < -1, y \text{ is an integer}\}$

$B = \{ \boxed{} \}$

Type of set:

c) C is a set of even numbers from 1 to 9

$C = \{ \boxed{} \}$

Type of set:

B) Attempt the following. (Any 1)

(3)

- i) Write the following rational number in $\frac{p}{q}$ form $1.\overline{37}$

- ii) Represent the following sets using a Venn diagram.

$U = \{10, 20, 30, 40, 50, 60, 70, 80, 90\}$

$A = \{20, 40, 60, 80\}$

$B = \{30, 60, 90\}$

Also write $(A \cup B)$.

Q4. Attempt the following. (Any 1)

(4)

- i) Represent $\sqrt{5}$ on a number line and justify.
- ii) In a class of 80 students, 35 students took part in event A, 20 students took part in event B. 15 students participated in event A and B. How many students did not take part in any of these events?



