ROLL NUMBER				

SET A

INDIAN SCHOOL MUSCAT
FIRST PERIODIC TEST

SUBJECT: MATHEMATICS

CLASS: XI

13 .09.2022

Sub.Code: **041**

Time Allotted: 50mts.

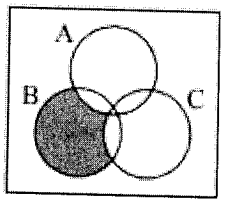
Max .Marks: 20

GENERAL INSTRUCTIONS:

All questions are compulsory

Section-A(1 x 5 = 5 Marks)

1. The set expression for the shaded region in the given figure is ---------- 1



2. If A and B are finite sets, then check whether the following statement is TRUE or FALSE 1

   n (A – B) = n (B) – n (A ∩B)

3. Given that x, y and b are real numbers and $x < y$, $b < 0$, then 1

   (a) $\frac{x}{b} < \frac{y}{b}$ (b) $\frac{x}{b} \leq \frac{y}{b}$ (c) $\frac{x}{b} > \frac{y}{b}$ (d) $\frac{x}{b} \geq \frac{y}{b}$

4. Solution of linear inequality in variable x is represented on the number line is-------- 1

5. Write the solution set of $3x - 7 > 5x - 1$ for all $x \in R$? 1

Section-B(2 x 3 = 6 Marks)

6. In a group of 65 people, 40 like cricket, 10 like both cricket and tennis. How many like tennis only and not cricket? How many like tennis? 2

7. Find the solution set of the inequalities $3x - 7 > 2(x - 6)$ and $6 - x > 11 - 2x$. 2

8. If $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $A = \{1, 2, 3, 5\}$, $B = \{2, 4, 6, 7\}$ and $C = \{2, 3, 4, 8\}$, then find 2
   (a) $(B \cup C)'$ (b) $(C - A)'$

Section-C(3 x 3 = 9 Marks)

9. In a town of 10,000 families, it was found that 4000 families buy newspaper A,2000 families buy newspaper B and 1000 families buy newspaper C. 500 families buy A and B, 300 buy B and C and 400 buy A and C. If 200 families buy all the three papers. 3
   Find the no. of families which buy
   (i) newspaper A only
   (ii) newspaper B only
   (iii) none of the newspapers A, B, and C.

10. A manufacturer has 600 litre of a 12% solution of acid. How many litres of a 30% acid solution must be added to it so that acid content in the resulting mixture will be more than 15% but less than 18%. 3

11. There are 20 students in a chemistry class and 30 students in a physics class. Find the number of students which are either in physics class or chemistry class in the following cases. (i) Two classes meet at the same hour (ii) The two classes met at different hours and ten students are enrolled in both the courses. 3

End of The Question Paper

ROLL NUMBER					SET	B

INDIAN SCHOOL MUSCAT
FIRST PERIODIC TEST
SUBJECT : MATHEMATICS

CLASS: XI

Sub.Code: 041

Time Allotted: 50mts.

13 .09.2022

Max .Marks: 20

GENERAL INSTRUCTIONS:

All questions are compulsory

Section-A(1 x 5 = 5 Marks)

1. Solution of linear inequality in variable x is represented on the number line is--------. 1

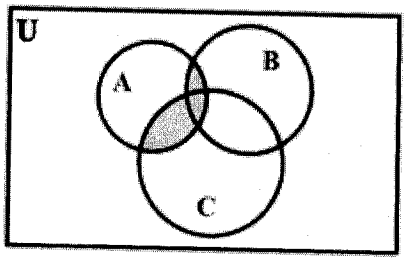
2. Given that x, y and b are real numbers and x > y, b < 0, then 1

(a) $\frac{x}{b} < \frac{y}{b}$ (b) $\frac{x}{b} \leq \frac{y}{b}$ (c) $\frac{x}{b} > \frac{y}{b}$ (d) $\frac{x}{b} \geq \frac{y}{b}$

3. If A and B are finite sets, then check whether the following statement is TRUE or FALSE 1

n (A – B) = n (B) – n (A ∩B)

4. The set expression for the shaded region in the given figure is ---------- 1



5. If $3x + 17 \leq 2(1 - x)$, then $x \in$ _____. 1

Section-B(2 x 3 = 6 Marks)

6. If $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $A = \{1, 2, 3, 5\}$, $B = \{2, 4, 6, 7\}$ and $C = \{2, 3, 4, 8\}$, then find 2
   (a) $(B \cup C)'$ (b) $(C - A)'$

7. Two sets A and B are such that $n(A \cup B) = 21$, $n(A' \cap B') = 9$, $n(A \cap B) = 7$ find $n(A \cap B)'$. 2

8. Find the solution set of the inequalities $3x - 7 > 2(x - 6)$ and $6 - x > 11 - 2x$. 2

Section-B(3 x 3 = 9 Marks)

9. A manufacturer has 600 litre of a 12% solution of acid. How many litres of a 30% acid solution must be added to it so that acid content in the resulting mixture will be more than 15% but less than 18%. 3

10. There are 30 students in a chemistry class and 20 students in a physics class. Find the number of students which are either in physics class or chemistry class in the following cases. (i) Two classes meet at the same hour (ii) The two classes met at different hours and ten students are enrolled in both the courses. 3

11. In a class, 18 students took Physics, 23 students took Chemistry and 24 students took Mathematics. Out of these 13 took both Chemistry and Mathematics, 12 took both Physics and Chemistry and 11 took both Physics and Mathematics. If 6 students offered all the three subjects, find: 3

    (1) The total number of students.
    (2) How many took Maths but not Chemistry.
    (3) How many took exactly one of the three subjects.

End of The Question Paper

ROLL NUMBER					

SET C

INDIAN SCHOOL MUSCAT
FIRST PERIODIC TEST
SUBJECT:MATHEMATICS

CLASS: XI

Sub.Code: 041

Time Allotted: 50mts.

13 .09.2022

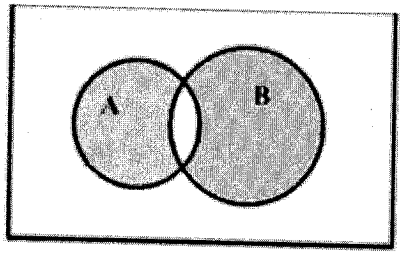
Max .Marks: 20

GENERAL INSTRUCTIONS: All questions are compulsory

Section-A(1 x 5 = 5 Marks)

1. Write the solution set of $3x - 7 > 5x - 1$ for all $x \in R$? 1

2. The set expression of the shaded region in the given figure is ---------- 1



3. Solution of linear inequality in variable x is represented on the number line is--------. 1

4. Write the set $A = \{x : x \in z, x^2 < 25\}$ in roster form. 1

5. Given that x, y and b are real numbers and $x < y$, $b > 0$, then 1

(a) $\frac{x}{b} < \frac{y}{b}$ (b) $\frac{x}{b} \leq \frac{y}{b}$ (c) $\frac{x}{b} > \frac{y}{b}$ (d) $\frac{x}{b} \geq \frac{y}{b}$

Section-B(2 x 3 = 6 Marks)

6. Find the solution set of the inequalities $3x - 7 > 2(x - 6)$ and $6 - x > 11 - 2x$. 2

7. In a group of 65 people, 40 like cricket, 10 like both cricket and tennis. How many like tennis only and not cricket? How many like tennis? 2

8. If $U = \{1,2,3,4,5,6,7,8,9\}, A = \{2,4,6,8\}, B = \{2,3,5,7\}$, then verify De Morgan's law. 2

Section-C(3 x 3 = 9 Marks)

9. A manufacturer has 600 litre of a 12% solution of acid. How many litres of a 30% acid solution must be added to it so that acid content in the resulting mixture will be more than 15% but less than 18%. 3

10. There are 30 students in a chemistry class and 40 students in a physics class. Find the number of students which are either in physics class or chemistry class in the following cases. (i) Two classes meet at the same hour (ii) The two classes met at different hours and ten students are enrolled in both the courses. 3

11. In a survey it is found that 21 people like product A, 26 people like product B and 29 like product C. If 14 people like product A and B, 15 people like product B and C, 12 people like product C and A, and 8 people like all the three products. Find 3

    (i) How many people are surveyed in all?

    (ii) How many like product C only?

    (iii) How many like exactly two products?

End of The Question Paper