ROLL NUMBER				

SET A

INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

MATHEMATICS

CLASS: X **Sub.Code: 041** **Time Allotted: 50mts.**

Max .Marks: 20

Date:19.04.2023

GENERAL INSTRUCTIONS:

*1.This Question paper contains **four sections A,B,C** and **D**. Each section is compulsory.*

*2.**Section A** has 3 **MCQ's** and 1 Assertion-Reasoning question of 1 mark each.*

*3.**Section B** has 3 **very short answer (VSA)** type questions of 2 marks each.*

*4.**Section C** has 2 **short answer (SA)** type questions of 3 marks each.*

*5.**Section D** has 1 **Sourced based / Case based Question** carrying 4 marks.*

SECTION :A

1. The exponent of 5 in the prime factorization of 1250 is 1

   (a) 3 (b) 4 (c) 2 (d) 1

2. Median of the data ,when mode = 106 and mean = 100 is 1

   (a) 102 (b) 96 (c) 110 (d) None of these

3. The simplified form of $\frac{x^2-5x+6}{(x-3)}$ is 1

   (a) x+2 (b) x-2 (c) (x+3)(x-2) (d) None of these

4. Assertion (A) : If LCM (p , q) = 30 and HCF (p , q) =5, then $p \times q = 150$. 1

   Reason (R) : LCM of (a, b) × HCF of $(a, b) = a \times b$

   (a) Both (A) and (R) are true and (R) is the correct explanation of (A)
   (b) Both (A) and (R) are true but (R) is not the correct explanation of (A)
   (c) (A) is true but (R) is false
   (d) (A) is false but (R) is true

SECTION :B

5. If $u_i = \frac{x_i - 25}{10}$, $\sum f_i u_i = 20$ and $\sum f_i = 100$, then find the value of $\bar{x}$. 2

6. Given below is a cumulative frequency distribution of 'less than type': 2

Marks obtained	Less than 20	Less than 30	Less than 40	Less than 50
Number of students (cumulative frequency)	8	13	19	25

Change the above data into a continuous grouped frequency distribution.

7. Calculate the mean of the following data 2

Class	4-7	8-11	12-15	16-19
Frequency	5	4	9	10

SECTION :C

8. Prove that $\sqrt{3}$ is an irrational number. 3

9. If the mode of the following distribution is 31, then find the value of p. 3

Class	5-15	15-25	25-35	35-45	45-55
Frequency	3	p	15	11	6

SECTION : D

10. Three sets of English, Hindi and Mathematics books have to be stacked in such a way that all the books are stored topic wise and the height of each stack is the same .The number of English books is 96, the number of Hindi books is 240 and the number of Mathematics books is 336, where as the thickness of the books remains the same. 4

    (i) Find the maximum number of books in each stack.

    (ii) Find the number of stacks of English, Hindi and Mathematics books.

    (iii) If 48 books are removed from the set of Mathematics books, find the maximum number of books in each stack and the number of stacks of Mathematics books.

    OR

    (iii) If only English and Mathematics books have to be stacked after removing 48 Mathematics books, find the maximum number of books in each stack and the number of stacks of English and Mathematics books .

ROLL NUMBER				

SET B

INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

MATHEMATICS

CLASS: X Sub.Code: 041 Time Allotted: 50mts.

19 .04.2023 Max .Marks: 20

GENERAL INSTRUCTIONS:

*1.This Question paper contains **four sections A,B,C** and **D**. Each section is compulsory.*

*2.**Section A** has 3 **MCQ's** and 1 Assertion-Reasoning question of 1 mark each.*

*3.**Section B** has 3 **very short answer (VSA)** type questions of 2 marks each.*

*4.**Section C** has 2 **short answer (SA)** type questions of 3 marks each.*

*5.**Section D** has 1 **Sourced based / Case based Question** carrying 4 marks.*

SECTION :A

1. The simplified form of $\frac{x^2+5x+6}{(x+3)}$ is 1

   (a) x+2 (b) x-2 (c) (x-3)(x-2) (d) None of these

2. The exponent of 2 in the prime factorization of 1250 is 1

   (a) 3 (b) 4 (c) 2 (d) 1

3. Median of the data ,when mode = 106 and mean = 100 is 1

   (a)102 (b) 96 (c) 110 (d) None of these

4. Assertion (A) : If LCM (p , q) = 40 and HCF (p , q) =5, then $p \times q = 200$. 1

   Reason (R) : LCM of (a , b) × HCF of (a , b) = $a \times b$

   (a) Both (A) and (R) are true and (R) is the correct explanation of (A)
   (b) Both (A) and (R) are true but (R) is not the correct explanation of (A)
   (c) (A) is true but (R) is false
   (d) (A) is false but (R) is true

SECTION :B

5. If $u_i = \frac{x_i - 25}{10}$, $\sum f_i u_i = 20$ and $\sum f_i = 100$, then find the value of $\bar{x}$. 2

6. Given below is a cumulative frequency distribution of 'less than type': 2

Marks obtained	Less than 10	Less than 20	Less than 30	Less than 40
Number of students (cumulative frequency)	8	13	19	25

Change the above data into a continuous grouped frequency distribution.

7. Calculate the mean of the following data 2

Class	4-7	8-11	12-15	16-19
Frequency	5	4	9	10

SECTION :C

8. Prove that $\sqrt{2}$ is an irrational number. 3

9. If the mode of the following distribution is 31, then find the value of p. 3

Class	5-15	15-25	25-35	35-45	45-55
Frequency	3	p	15	11	6

SECTION :D

10. Three sets of English, Hindi and Mathematics books have to be stacked in such a way that all the books are stored topic wise and the height of each stack is the same .The number of English books is 96, the number of Hindi books is 240 and the number of Mathematics books is 336, where as the thickness of the books remains the same. 4

    (i) Find the maximum number of books in each stack.

    (ii) Find the number of stacks of English, Hindi and Mathematics books.

    (iii) If 48 books are removed from the set of Mathematics books, find the maximum number of books in each stack and the number of stacks of Mathematics books.

    OR

    (iii) If only English and Mathematics books have to be stacked after removing 48 Mathematics books, find the maximum number of books in each stack and the number of stacks of English and Mathematics books .

ROLL NUMBER				

SET C

INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

MATHEMATICS

CLASS: X Sub.Code: 041 Time Allotted: 50mts.

19.04.2023 Max .Marks: 20

GENERAL INSTRUCTIONS:

*1.This Question paper contains **four sections A,B,C** and **D**. Each section is compulsory.*

*2.**Section A** has 3 **MCQ's** and 1 Assertion-Reasoning question of 1 mark each.*

*3.**Section B** has 3 **very short answer (VSA)** type questions of 2 marks each.*

*4.**Section C** has 2 **short answer (SA)** type questions of 3 marks each.*

*5.**Section D** has 1 **Sourced based / Case based Question** carrying 4 marks.*

SECTION : A

1. The exponent of 5 in the prime factorization of 1250 is 1

   (a) 3 (b) 4 (c) 2 (d) 1

2. Median of the data ,when mode = 106 and mean = 100 is 1

   (a) 102 (b) 96 (c) 110 (d) None of these

3. The simplified form of $\frac{x^2-5x+4}{(x-4)}$ is 1

   (a) $x-4$ (b) $x-1$ (c) $(x-4)(x-1)$ (d) None of these

4. Assertion (A) : If LCM (p , q) = 30 and HCF (p , q) =5, then $p \times q = 150$. 1

   Reason (R) : LCM of (a , b) × HCF of (a , b) = $a \times b$

   (a) Both (A) and (R) are true and (R) is the correct explanation of (A)
   (b) Both (A) and (R) are true but (R) is not the correct explanation of (A)
   (c) (A) is true but (R) is false
   (d) (A) is false but (R) is true

SECTION : B

5. If $u_i = \frac{x_i - 25}{10}$, $\sum f_i u_i = 20$ and $\sum f_i = 100$, then find the value of $\bar{x}$. 2

6. Given below is a cumulative frequency distribution of 'less than type': 2

Marks obtained	Less than 20	Less than 40	Less than 60	Less than 80
Number of students (cumulative frequency)	8	13	19	25

Change the above data into a continuous grouped frequency distribution.

7. Calculate the mean of the following data 2

Class	4-7	8-11	12-15	16-19
Frequency	5	4	9	10

SECTION : C

8. Prove that $\sqrt{5}$ is an irrational number. 3

9. If the mode of the following distribution is 31, then find the value of p. 3

Class	5-15	15-25	25-35	35-45	45-55
Frequency	3	p	15	11	6

SECTION : D

10. Three sets of English, Hindi and Mathematics books have to be stacked in such a way that all the books are stored topic wise and the height of each stack is the same .The number of English books is 96, the number of Hindi books is 240 and the number of Mathematics books is 336, where as the thickness of the books remains the same. 4

(i) Find the maximum number of books in each stack.

(ii) Find the number of stacks of English, Hindi and Mathematics books.

(iii) If 48 books are removed from the set of Mathematics books, find the maximum number of books in each stack and the number of stacks of Mathematics books.

OR

(iii) If only English and Mathematics books have to be stacked after removing 48 Mathematics books, find the maximum number of books in each stack and the number of stacks of English and Mathematics books .