

**Riviera International Academy**

**Revision Assignment-2078**

**Day 3 (Jestha17, 2078, Monday)**

**Class: Ten**

**Subject - Social Studies**

Unit V Discussion on Fundamental Rights.

**Subject- Nepali**

१. काल र पक्षको चार्ट बनाउने ।
२. सबै काल र सबै पक्षका ५/५ वाक्य लेख्नुहोस् ।

**Subject – Science**

**1. Prove the following.**

- a.  $F = ma$
- b.  $V = IR$
- c.  $V = u + at$

**Subject – Opt. Maths**

1. Define Cartesian product. Also find  $A \times B$  if  $A = \{3, 5, 7\}$  and  $B = \{1, 3\}$ .
2. Find the value of  $x$  and  $y$  if  $(x + 2, y + 3) = (y - 1, 10 - x)$ .
3. Let  $A = \{1, 2, 3\}$  and  $B = \{3, 4, 5\}$ . Find a relation  $R$  from  $A$  to  $B$  determined by the condition " $x < y$ ".
4. If  $f: A \rightarrow B$  be defined by  $f(x) = 2x - 1$  and  $A = \{0, 1, 3, 5\}$ . Also draw arrow diagram.
5. Find the domain of the function  $f(x) = 4x - 3$ , and range =  $\{1, 3, 5\}$ . Also draw its mapping diagram.
6. Evaluate the following:
  - a.  $\lim_{x \rightarrow 0} \frac{3x+5}{x+10}$
  - b.  $\lim_{x \rightarrow 1} \frac{x^3-1}{x-1}$
  - c.  $\lim_{x \rightarrow 1} \frac{x^2+4x-5}{x-1}$

- d.  $\lim_{x \rightarrow 0} \frac{\sqrt{1+x} - \sqrt{1-x}}{x}$
7. Let  $A = \begin{bmatrix} 1 & -2 \\ 3 & 4 \end{bmatrix}$  and  $B = \begin{bmatrix} 2 & 5 \\ -1 & 3 \end{bmatrix}$ , find  $2A + 3B$  and  $3B - 5A$ .
8. Let  $A = \begin{bmatrix} 1 & -2 \\ 3 & 4 \end{bmatrix}$  and  $B = \begin{bmatrix} 2 & 5 \\ -1 & 3 \end{bmatrix}$ , find  $(A \cdot B)$  and  $(B \cdot A)$
9. If  $\begin{pmatrix} 2 & -1 \\ 5 & -2 \end{pmatrix}$  and  $\begin{pmatrix} -3 & x \\ y & -4 \end{pmatrix} = \begin{pmatrix} -8 & 6 \\ -19 & 13 \end{pmatrix}$
10. Prove that:  $\frac{\tan x}{\sec x - 1} - \frac{\sin x}{1 + \cos x} = 2 \cot x$

## Subject – Mathematics

### Complete exercise 8.1.

**EXERCISE 8.1**

**General section**

1. Find the H.C.F. of the following expressions.

- $2x^2(x+2)(x-2)$  and  $4x(x+2)(x+3)$
- $4xy^2(x-1)(x+2)$  and  $6x^2y(x-1)(x-4)$
- $6a^2b^2(a-b)(2a+3b)$  and  $9a^3b^3(2a+3b)(a+b)$
- $12a^2b^3(a-3b)(a+b-2)$  and  $16a^3b^2(a+3b)(a+b-2)$
- $(p+q)(p-q)$ ,  $(p-q)(p^2+pq+q^2)$  and  $(p-q)(p+q)(p^2+q^2)$

2. Find the H.C.F. of the following expressions.

a) $a^2 - b^2$ and $a^3 + b^3$	b) $a^2 - 2a$ and $a^4 - 8a$
c) $x^2 - 9$ and $3x + 9$	d) $x^2 - y^2$ and $x^2 + 2xy + y^2$
e) $4x^2 - 100$ and $4x + 20$	f) $4x^3 + 8x^2$ and $5x^3 - 20x$
g) $a^2 - b^2 - 2a + 1$ and $a^2 - ab - a$	h) $x^3 - 8y^3$ and $x^2 + 2xy + 4y^2$
i) $p^4 - 16$ and $p^2 - p - 6$	j) $x^4 + 4y^4$ and $2x^3y + 4xy^3 + 4x^2y^2$
k) $a^3 - 1$ and $a^4 + a^2 + 1$	l) $16x^4 - 4x^2 - 4x - 1$ , $8x^3 - 1$

**The End.**