

Riviera International Academy

Assignment-2077

(Jestha 25, 2077, Sunday)

Class: Nine

Subject – Opt. Mathematics

1. If the translation vector is defined by $T = \begin{pmatrix} 2 \\ -4 \end{pmatrix}$, find the images of the following points under the translation.
- a. $A(2, 5)$ b. $P(-3, -2)$ c. $M(-2, 6)$ d. $B(-4, 3)$
e. $C(4, -7)$ f. $F(0, 0)$
- a. What is the translation vector if point $A(3, -5)$ is translated to $A'(-1, 2)$.
b. If a translation vector maps $A(-4, 8)$ to $A'(2, 3)$, find the translation vector.
c. Find the translation vector which maps $P(x, y)$ to $P'(x + a, y + b)$.

Subject- Science

1. Define the following:
a. Uniform velocity b. Inertia c. Momentum d. 1N force
2. What is the relation between the acceleration of a body and mass? Which Newton's law of motion gives the relation? State the law.
3. Define balanced and unbalanced force. If three forces are applied in a body and the body does not move, is the force balanced or unbalanced? Justify.
4. A stone is thrown upwards with a velocity of 72Km/hr. If air resistance is neglected, find the maximum height travelled by it and the time taken for it to return to the initial position.

Subject- HPE

1. What is HDI? Elucidate its concept in three paragraphs.
2. What is PQLI (Physical Quality of Life Index)? Write in two paragraphs.
[Note: The reference material is found in HPE Classroom]

The End.