

## Physics - FSC Part 1 Physics Chapter 2 Short Questions Preparation

Q1. Write down the condition for a body to be in complete equilibrium.

**Ans 1:**

Q2. What is the minimum number of unequal vector in to a null vector?

**Ans 1:** The minimum number of unequal vector to result in to a null vector must be three. If we add three vector of unequal magnitude in such a way that they forms the sides of a triangle, then their resultant must be zero.

In the given figure three vectors A, B, and C are added according to head to tail rule and they form the side of a triangle. Now for getting their resultant, we will combine the tail of A with the head of C which already coincides each other. Thus we get a null vector or zero vector as a resultant

$$R = A + B + C = 0$$

Q3. State condition of rotational equilibrium.

**Ans 1:** The vector sum of all torque acting on any object must be zero.

When this condition of equilibrium is satisfied, there is no angular acceleration and body will be in rotational equilibrium. Hence, a body cannot rotate about center of gravity under the action of its weight.

Q4. Discuss the subtraction of vector ?

**Ans 1:**

Q5. Define and explain vector product ? (or) Cross Product.

**Ans 1:**

Q6. Define Torque (or) Moment of force?

**Ans 1:** The turning effect produced in a body about a fixed point due to an applied force is known as torque (or) Moment of force.

Q7. Define equilibrium ?

**Ans 1:** Equilibrium: The state of a body, under the action of several forces acting together and there is no change in the translation motion as well as its rotational motion is known as equilibrium.

Q8. What is the minimum number of unequal vector in to a null vector? Explain

**Ans 1:** The minimum number of unequal vector to result in to a null vector must be three. If we add three vector of unequal magnitude in such a way that they forms the sides of a triangle, then their resultant must be zero.

In the given figure three vectors A, B, and C are added according to head to tail rule and they form the side of a triangle. Now for getting their resultant, we will combine the tail of A with the head of C which already coincides each other. Thus we get a null vector or zero vector as a resultant

$$R = A + B + C = 0$$

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Q9. The resultant of two vector, one is double in magnitude than the other, perpendicular to the smaller force. What is the angle between the two forces ?

**Ans 1:**

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Q10. The vector sums of three vectors give a null vector. What can be orientation of the vectors?

**Ans 1:** If the three vectors are oriented in cyclic order i.e in the form of triangle, then they will give rise to null vector.

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