

S.G.V.C Vidya Prasarak Trust's

M.G.V.C ARTS, COMMERCE AND SCIENCE COLLEGE MUDDEBIHAL

DEPARTMENT OF PHYSICS

Teachers Use ICT enabled tools for Effective teaching learning process

Name of the Staff Member: Prof-Annapurna Katti

Topic- Vectors

Class: B.Sc -I Semester

Date: 02.01.2024

Time: 8.30 to 09.30 am



PRINCIPAL,

M.G.V.C. Arts, Commerce & Science College
MUDDEBIHAL-586212. Dist: Vijayapur.

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SCALARS AND VECTORS

A physical quantity which can be represented by a number only is known as a scalar i.e, quantities which have only magnitude. Time, mass, length, speed, temperature, volume, quantity of heat, work done etc. are all scalars.

The physical quantities which have magnitude as well as direction are known as vectors. Displacement, velocity, acceleration, force, weight etc. are all examples of vectors.

Ex: Displacement, Velocity, acceleration, force, Magnetic intensity etc..

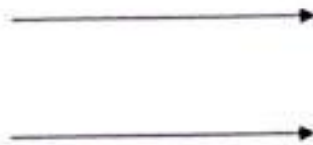
CLASSIFICATION OF VECTORS:

1. Zero Vector (Null Vector):

A vector whose magnitude is zero is called a zero vector or null vector. Zero vector has not definite direction. \vec{AA} \vec{BB} , are zero vectors. Zero vectors is also denoted by $0 \rightarrow$ to distinguish it from the scalar 0.

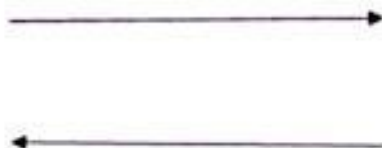
1. Equal Vectors:

Two vectors a and b are said to be equal if they have the same magnitude. i.e., $|a| = |b|$ and the same direction as shown in Fig. 32.4. Symbolically, it is denoted by $a = b$.



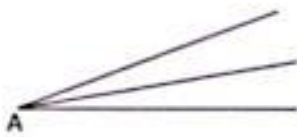
2. Negative of a Vector:

\vec{BA} is called the negative of the vector \vec{AB} , when they have the same magnitude but opposite directions.



3. Co-initial Vectors:

Two or more vectors having the same initial point are called Co-initial vectors.



4. Collinear Vectors:

Vectors are said to be collinear when they are parallel to the same line whatever be their magnitudes. In the adjoining figure, , and are collinear vectors. and are also collinear.

