



(An Autonomous Institution)

#### **DEPARTMENT OF MATHEMATICS**

### UNIT-II

VECTOR CALCULUS

## Scalar Yuantity

A Scalar Quantity is that which has magnitude and is not related to any direction. Vector Quantity:

A vector vuantity is that which has both magnitude and direction.

# Scalar point function: many to playouniteur el jour

If corresponding to each point P of a siegion R there corresponds a scalar denoted by  $\varphi(P)$  or  $\varphi(x,y,z)$  then  $\varphi$  is said to be a scalar point function for the siegion R.

Example: The temperature  $\varphi(P)$  at any point P of a body occupying a certain Jugion is a scalar point function.

### Vector point function:

If corresponding to each point P of a stegion R, there corresponds a vector denoted by F(P), then F is said to be a vector point function for the segion R.

Example: The acceleration F(P) of a particle at any time toccupying the position P in a certain stegion is a vector point function.

 $E pine T J - pine = (E \mp J)$   $E A = A = (E \pm J) \times$ 

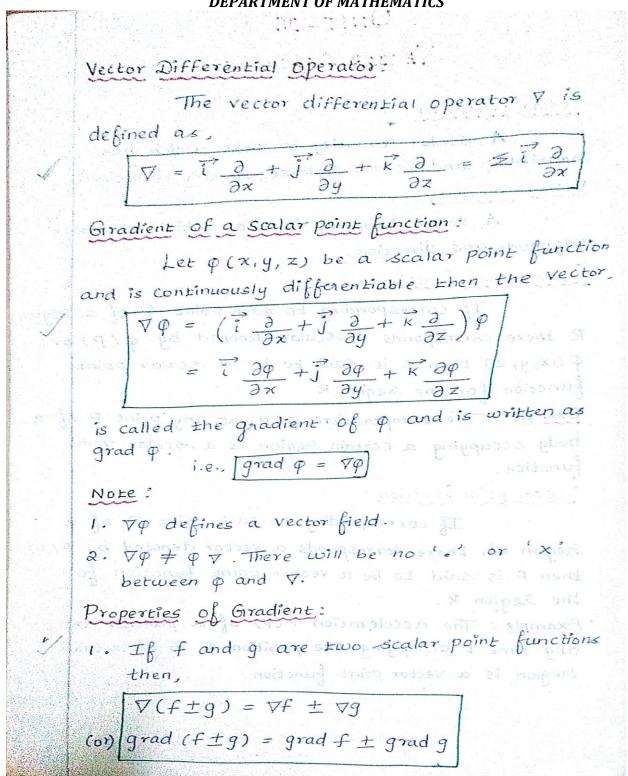




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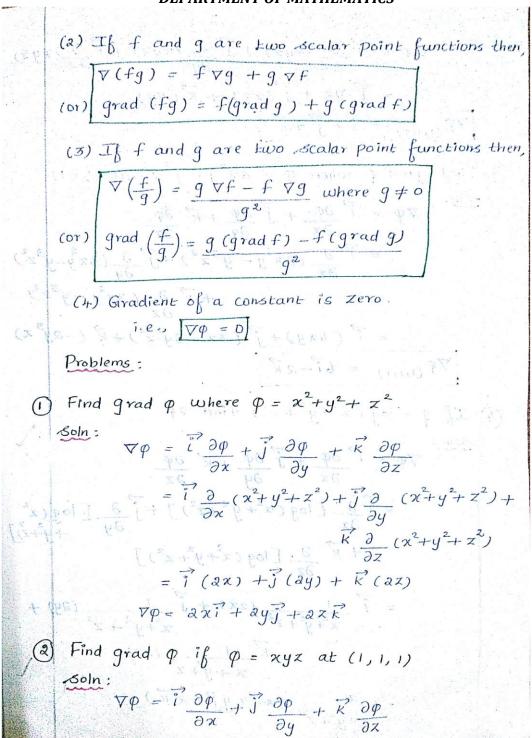




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