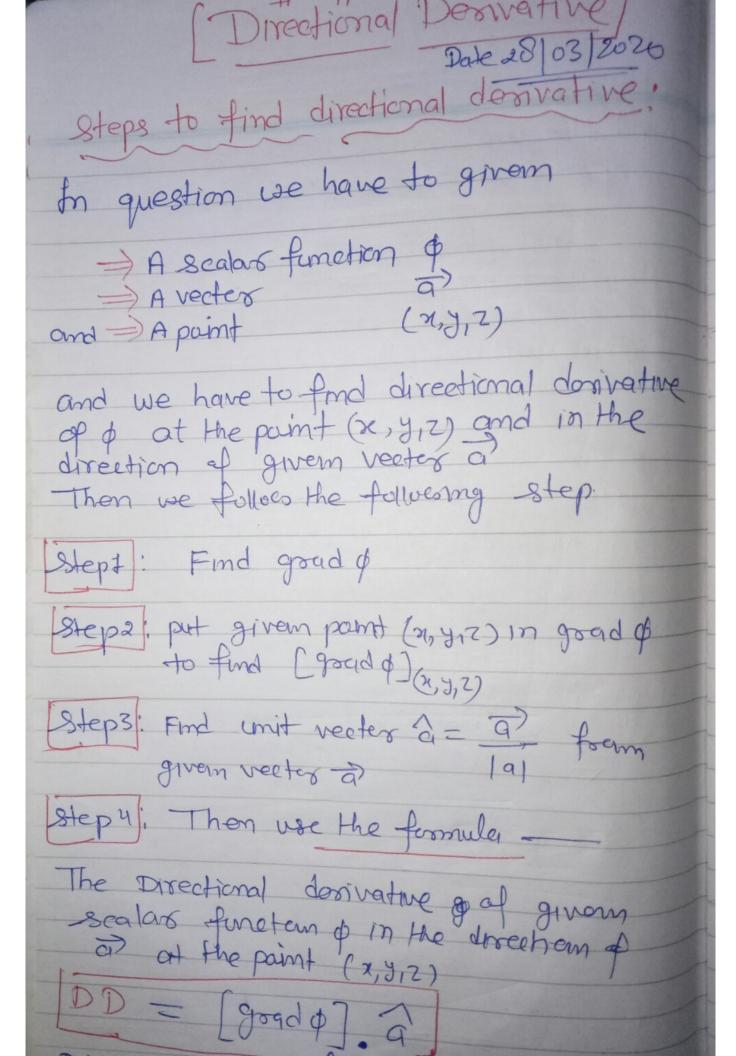
- 1. Teaching Material: Directional Derivative
- 2. Subject Name & code: BCA-405N
- 3. Unit: 3 [Vector]
- 4. Faculty Name :Mr. ABHISHEK PANDEY



Example Find directional derivative of x2+y2+z2=9 in the direction of vector 22+37+412 at the point (1,-1,2) Solytem Here we have -Jamen Sealar (1x, y12) = 22+y2+z3-9 Squem print = (1, 7, 2) Nocs, grad 0= 120 + 120 + 1200 = 10 (x2+y2+22-9) + f & (x2+y2+22-9)+20 (x20) 429 = j(2x) + f(27)+12(22) 90000= 2x1+2yf+222 Now [good o] = (2x1)] + (2x-1)] + (2x2)] =) [goadd] = 27-29 + 4/2] Now, we have to find unit vector $\frac{\partial}{\partial z} = \frac{21 + 3J + 412}{|a|}$ $\frac{\partial}{\partial z} = \frac{21 + 3J + 412}{|a|}$ $\frac{\partial}{\partial z} = \frac{2(1 + 3J + 4)2}{|a|}$ $\frac{\partial}{\partial z} = \frac{2(1 + 3J + 4)2}{|a|}$ 台一点(2月十分十八月) Directional desirative - (909dp) · d = (22-27+41c) · 29 (22+3/+4/2) = Rg (4-6+16) = 139 Age

Assignment Date 20/3/2020 (e.f) Find groud & cohen of 18 given by = 3x2-y3z3 at the point (15-15-1) Ang - 122 - 27 - 162 Sond a unit vector normal to the sunt (25-213) Ang => [=] [-]+2]+2]? (3) Find the directional desirative of the function $f(x, y, z) = xy^2 + yz^3$ at the point (2, 1, 1) in the direction of the veeter I +27 +22 ms = -11/3 Alel