**MGM University**

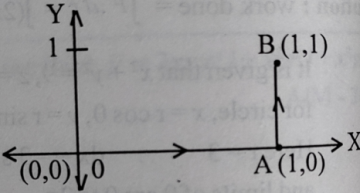
**Jawaharlal Nehru Engineering College, ChhatrapatiSambhajinagar.**

**Course : Single and multivariable Calculus Program: FY B.Tech Academic Year 2023-24 Part-I Unit 5 Course Code: APS21BSL101**

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**Vector Integration And Its Applications**

1. Evaluate where by joining the points (0,0 to (1,1) on path .
2. Evaluate along the path OAB as shown in figure. Given that



1. Find the workdone in moving a particle in the force field given by along the parabola from the origin to the point 4i+2j.
2. Evaluate by Green’s theorem ,where C is bounded by

and .

1. Evaluate by Green’s theorem d where and C is a triangle having vertices A(0,2) ,B(2,0) and C(4,2).
2. Evaluate by Stokes theorem d where , integrated round the square in the plane z=0 and bounded by the lines: ,
3. Evaluate: d by Stoke’s theorem ,where and C is the boundary of triangle with vertices at (0,0,0),(1,0,0), and (1,1,0).
4. Evaluate : for and S is the triangle : (1,0,0),(0,1,0),(0,0,1).
5. Evaluate : , where and is the surface of the sphere having center (3,-1, 2) and radius 3.
6. Use Gauss Divergence theorem to evaluatewhere is the closed surface bounded by planesand.