Govt. V.Y.T. PG Autonomous College, Durg (C.G.)
INTERNAL ASSIGNMENT 2024-25
B.Sc. III Sem
DSE (PHYSICS)

Total Marks 20

UNIT – II

Q1. Prove that if **a** and **b** are non-collinear, then x**a** + y**b** =0 implies x=y=0.(2 marks)

Q2. Each particle of a mass of liquid moves in a plane through the axis of z: find the equation of continuity. (2 marks)

Q3. Show that the divergrnce of an inverse-square force is zero. What is the divergence of a gradient? (6 marks)

OR

Q3. State and Prove Green's Theorem.(6 marks)

Q4.Verify divergence theorem for the vector V=$x^2\boldsymbol{i} + y^2\boldsymbol{j} + z^2\boldsymbol{k}$ taken over the cube $0 \leq x, y, z \leq 1$. (10 marks)

OR

Q4. Prove Stoke's theorem for the vector V(x+y, 2x-z, y+z) taken over the triangle ABC cut the plane 3x +2y+z=6 by the co-ordinate plane.(10 marks)