Noida Institute of Engineering & Technology

Greater Noida

Note- Attempt any two questions of the following

Q.1. A rectangular box open at top is to have a given capacity. Find the dimension of the box requiring least material.

Q.2. A balloon in the form of a right circular cylinder of radius 1.5 m and length 4m is surmounted by hemisphere ends. If the radius is increased by 0.01 m and the length by 0.05 m. Find the percentage change in the volume of balloon.

Q.3.If $\emptyset(cx - az, cy - bz) = 0$, show that $a\frac{\partial z}{\partial x} + b\frac{\partial z}{\partial y} = c$.