

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc**  
**Semester: II**  
**Syllabus with effect from: November-2011**

<b>Paper Code: US02CMTH01</b>	<b>Total Credit: 2</b>
<b>Title of Paper: Analytical Solid Geometry</b>	

Unit	Description in detail	Weightage (%)
<b>I</b>	Sphere, circles, family of spheres Passing through a circle, tangent planes and normal lines to a sphere.	<b>25%</b>
<b>II</b>	Quadric surfaces: conicoids, their identifications, plane sections. Spherical and cylindrical polar coordinates; their relation with Cartesian coordinates, Jacobian.	<b>25%</b>
<b>III</b>	Definition of a cone, vertex, guiding curve and generators; equations Cones, enveloping cone of a sphere; conditions for a cone to have three mutually perpendicular generators; tangent lines and plane at point.	<b>25%</b>
<b>IV</b>	Condition for tangency (statement only), reciprocal cones; intersection of two cones with a common vertex, Defination of a cylinder, its equations; enveloping cylinder of a sphere; the right circular cylinder and its equation	<b>25%</b>

**Basic Text & Reference Books:**

- Vasavada H.M., Analytical geometry of two and three dimensions, 1992
- Shanti Narayan and Mittal P.K., Analytical solid Geometry, S. Chand And Co. New Delhi, 2002(16th Revised edition)
- Introduction to calculus and differential equations, By D .J. Karia, N. Y. Patel, B. P. Patel, M. L. Patel.
- Dipak Chetterjee , Analytic Solid Geometry. Prentice - Hall of India Pvt.Ltd. New Delhi.

