Department of Mathematics
Faculty of Natural Science, Jamia Millia Islamia, New Delhi-25

Course Structure for B.A./B.Sc. (Subsidiary) under CBCS

Semester – I

Code	Title of paper	Unit	Credit	Internal Assessment	Semester Exam.	Total Marks
BSM-1.2C	Geometry of Two and Three Dimensions	4	4	25	75	100

BSM-1.2C	Geometry of Two and Three Dimensions	Unit	Credit	Lecture/ week
Internal Assessment: 25 Marks End Semester Examination: 75 Marks Duration of Examination: 2 Hrs.		4	4	4

Unit-I General equation of second degree, Pair of lines, Parabola, Tangent, normal. Pole and polar and their properties. Ellipse, Hyperbola, Tangent, normal, pole and polar. Conjugate diameters, Asymptotes, Conjugate hyperbola and rectangular hyperbola.

Unit-II Polar equation of a conic, Polar equation of tangent, normal, polar and asymptotes, General equation of second degree, Tracing of parabola, Ellipse and hyperbola.

Unit-III Equation of sphere, Tangent plane, Plane of contact and polar plane, Intersection of two spheres, radical plane, Coaxial spheres, Conjugate systems, Equation of a cone, Intersection of cone with a plane and a line, Enveloping cone, Right circular cone

Unit-IV Equation of cylinder, Enveloping and right circular cylinders, Equations of central conicoids, Tangent plane, Normal, Plane of contact and polar plane, Enveloping cone and enveloping cylinder, Conjugate diameters and diametral planes, Equations of paraboloids and its simple properties.

Books Recommended:

1. S. L. Loney: *The elements of coordinate geometry*, by Michigan Historical Reprint Series.

2. Ram Ballabh: *Text book of Coordinate Geometry*.

3. Shanti Narayan, *Analytical Solid Geometry*, S. Chand and Company.

4. P.K. Jain and Khalil Ahmad: *Textbook of Analytical Geometry*, New Age International (P) Ltd. Publishers.