

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: M.Sc (Mathematics)**  
**Semester: IV**  
**Syllabus with Effect from: November-2013**

<b>Paper Code: PS04EMTH06</b>	<b>Total Credit: 4</b>
<b>Title Of Paper: Geometric Topology: Homology Degree Theory &amp; Knots</b>	

<b>Unit</b>	<b>Description in detail</b>	<b>Weighting (%)</b>
I	Simplicial homology, cycles and boundaries.	25%
II	Homology groups, examples, simplicial maps. Degree of a map, Euler-Poincare formula.	25%
III	Borsuk-Ulam theorem, Lefschetz fixed point theorem and dimension.	25%
IV	Examples of knots, knot groups, covering spaces, Alexander polynomial.	25%

**Basic Text & Reference Books:-**

- M.A. Armstrong, Basic Topology, Springer International Edition, Springer-Verlag, 2004.
- J. Munkers, Topology: A first course, Prantice Hall of India, 1984.
- I.M. singer and J.A. Thorpe, Lecture notes on Elementary Topology and Geometry, Springer-Verlag, 1977.

