

**D.M. – RHEUMATOLOGY**

**Paper I – BASIC SCIENCES AND DIAGNOSTIC PROCEDURES IN  
RHEUMATOLOGY AND CLINICAL IMMUNOLOGY**

*Q.P.Code: 161351*

**Time: Three Hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 15 = 30)**

1. Structure and constituents of bone, bone remodeling and osteoimmunology. Add a note on bone markers and different techniques for assessing bone density.
2. Complement system - describe activation pathways and regulatory proteins. Functions of complement system in immune response. Role of complements in autoimmune diseases. Add a short note on assays for complement activation.

**II. Write notes on:**

**(10 x 7 = 70)**

1. Chemokines.
2. Toll like receptors.
3. Adhesion molecules.
4. Antineutrophil cytoplasmic antibodies (ANCA).
5. Epigenetics in autoimmunity.
6. Th17/IL-23 pathway.
7. Tiers of Tolerance.
8. Markers of extracellular matrix modeling.
9. Indirect immunofluorescence-technique and disease associations.
10. Maturation and activation of B cells.

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