

**VI. Joints****A. Character and importance of joints****B. Features of joints***Orientation and organization**Features of joint surfaces: Plume structure**Joint-filling materials: veins***C. Typical occurrence and origin of joints***Primary joints in igneous rocks`**Joints around Intrusions**Joints associated with erosion, exhumation**Joints related to faults**Joints related to regional folding***VII. Faults****A. Introduction:****1. Significance and importance of faults****2. Faults, fault zones, shear zones****B. Map-scale features****1. Geometry***Strike, dip, footwall, hangingwall**Curved faults - listric, ramp, flat**Separation of layers***2. Slip***Separation vs. slip**Net slip**Dip slip**Strike slip**Oblique slip***3. Effects of fault curvature***Ramps, flats and fault-bend folds in thrust systems**Rollover folds in normal fault systems**Releasing and restraining bends in strike-slip faults***4. Variation in slip along faults***Fault tip points and tip lines**Rotational movement, scissor faults, and transfer zones**Fault propagation & detachment folds***C. Outcrop features of faults****1. Slickenlines***Striations**Mineral fibres***2. Fault rocks***Breccia, Cataclasite and Gouge**Pseudotachylite**Note on the term 'mylonite'***3. Deformation of the wall rocks***Riedel fractures**Folds***D. Fault regimes****a) Gravity regime****b) Thrust regime****c) Wrench regime****E. Rift zones and Normal faults****1. Arrays of normal faults****a) Horsts and graben,****b) Half-graben****c) Extensional duplexes****d) Transfer zones****2. Occurrence of rift zones****a) Continental rift zones****b) Passive continental margins**

- c) Oceanic rifts
- d) Extension within orogens

**F. Reverse faults, thrust and fold belts**

**1. Foreland fold-thrust belts**

- a) Occurrence
- b) Rock units involved

**2. Thrust belt geometries and kinematics**

- a) Thrust arrays
- b) Triangle zones and tectonic wedges
- c) Folds associated with thrusts
  - Fault-bend folds*
  - Fault propagation folds*
  - Detachment folds*
- d) Lateral ramps and transfer zones
- e) Rules for thrust propagation, and exceptions
- f) Cross-section balancing

- g) Thick-skinned structures and basement involvement

**G. Strike-slip faults**

**1. Strike-slip, transpression and transtension**

**2. Transtensional zones**

- a) Releasing bends
- b) Pull-apart basins and negative flower structures

**3. Transpressional zones**

- a) Restraining bends
- b) Positive flower structures

**VIII. Shear zones**

**A. Geometry**

**B. Fabrics**

**1. Lineations**

**2. Foliations**

- Simple foliation patterns*
- CS fabrics*
- Shear bands*

**3. Crystallographic preferred orientation**

**C. Matrix - porphyroblast relations**

- sigma structures*
- delta structures*

**D. Folds in shear zones**