X. Faults

A. Introduction:

1. **Significance and importance of faults**
2. **Faults, fault zones, shear zones**

B. Outcrop features of faults

1. **Slickenlines**
   - ***Striations***
   - ***Mineral fibres***
2. **Fault rocks**
   - ***Breccia, Cataclasite and Gouge***
   - ***Pseudotachylite***
3. **Deformation of the wall rocks: Damage zone**
   - ***Riedel fractures***
   - ***Folds associated with faults***

C. 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***

D. Fault regimes

1. **Rift zones and Normal faults**
   a) **Occurrence of rift zones**
   b) **Features of single normal faults**
   c) **Arrays of normal faults: Horsts and graben**
2. **Reverse faults, thrust and fold belts**
   a) **Foreland fold-thrust belts: occurrence**
   b) **Features of single thrust faults**
      - ***Ramps and flats***
      - ***Frontal, lateral and oblique ramps***
      - ***Folds associated with thrusts***
   c) **Arrays of thrust faults**
      - ***Imbricate fans and duplexes***
      - ***Triangle zones and tectonic wedges***
      - ***Rules for thrust propagation, and exceptions***
      - ***Cross-section balancing***
3. **Strike-slip faults**
   a) **Strike-slip, transpression and transtension**
   b) **Features of strike-slip faults**
   c) **Transtensional zones**
   d) **Transpressional zones**