

1. Define (35%)
 - (a) dispersion & group velocity (6%)
 - (b) PKiKP, sSP, P^* (6%)
 - (c) M_L & M_w (6%)
 - (d) geometrical spreading & attenuation Q factor (6%)
 - (e) Schlumberger method & Wenner method (6%)
 - (f) geoid & reference spheroid (5%)
2. What would affect the gravity measurement? How to correct these factors? (15%)
3. Describe and sketch the element of geomagnetic field (both in southern and northern hemisphere). What is the origin of geomagnetic field? (12%)
4. What is the relationship between magnitude and frequency of earthquakes? Please also state the physical meaning of the used parameters and coefficients. (8%)
5. What is "isostasy"? Give the main theories of isostasy in words and in mathematical expression. (15%)
6. What are the central concepts for the plate tectonic hypothesis? Please also state the plate boundary and the seismic evidence. (15%)