

Mid-term test

Total Points: 30

Please write CLEARLY and construct precise sentences. Unreadable hand writing and sentences that are not to the point and precise but of doubtful meaning will not be marked!

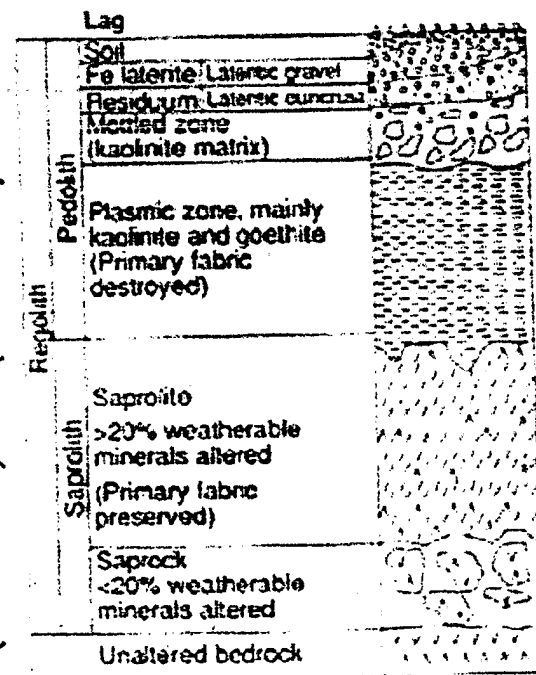
Questions:

1. (10 Points): According to the homogeneous accretion theory, the Earth and outer planets were accreted from the protoplanetary disc. Which processes led to the magma ocean, which were the subsequent differentiation processes and which elements took part in these processes? What is the reason for the separation of core and mantle and which elements were concentrated there?

2. (15 Points): Describe the processes acting in the formation of the below laterite profile (on the testform) and fill the following elements into the correct columns and rows (on this page):

Si; Al; Fe; Ca; Mg; K; Na; Rb; (PGE); Au; Ni; Co; Cr; Cu; .

(a) Generalized lateritic regolith profile



Leached (eluviation)

Partly retained

Enriched (illuviation)

<del>Ni</del> , Al <del>Au</del> , K Ca, Mg Fe	Si, Al Rb, Cr Co Cu	Fe, <del>Al</del> , Mg, Ca Fe, Au, PGE <del>Ni</del> , Cu Cu, Co
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3 (5 Points): Which physical parameters are important in concentration processes of clastic sedimentary ore deposits?

Stable

silica