

**UNIVERSITY OF KWAZULU- NATAL, DURBAN CENTRE
EXAMINATION: JUNE 2011**

**SCHOOL : ENVIRONMENTAL SCIENCES
LEVEL : HONOURS
MODULE : COASTAL GEOMORPHOLOGY
CODE : ENVS741**

DURATION : 3 HOURS

TOTAL MARKS : 300

**INTERNAL EXAMINER: DR. S. PILLAY
EXTERNAL EXAMINER: PROF S. GRAB
UNIVERSITY OF WITWATERSRAND**

**ANSWER ANY THREE OF THE FOLLOWING QUESTIONS
ALL QUESTIONS CARRY EQUAL MARKS**

1. Anthropogenic catchment utilization creates impacts that are increasingly finding expression in contaminant loading of coastal aquatic systems. Using case studies, write an essay on the impacts of trace metal contamination in estuaries and the nearshore environment as a consequence of such anthropogenic activities.
2. The dominant natural forces shaping the coastal zone emanates from tides, waves and currents. Discuss wave transformations that occur in deep, shallow and transitional depths and explain the implications of these transformations for coastal existing landforms.
3. A number of coastal classifications, both genetic and purely descriptive, have been developed and applied to coastlines of the world with varying degrees of success. Lately, the tectonic model of coastal classification has gained widespread recognition. Discuss this contention with reference to the utility of this model for coastal classification.
4. Records of sea level change in the southern African region indicate an increasing trend consistent with eustatic sea level rise. Discuss the recent changes that have occurred in eustatic sea level and the impacts of these changes upon the coastal zone of southern Africa.
5. Discuss the impacts of both natural and anthropogenic processes and activities occurring within the catchments of the KwaZulu-Natal on the coastal environments of the province.
6. Discuss, using case studies, the vulnerability of coastal resources to climate change and the need to implement relevant and viable Coastal Zone Management strategies.