GEOLOGY 202 FINAL 1998

NAME..... DATE: June 19th 1998

Answer all sections: Read the questions carefully.

SECTION 1 40% of marks True or false

Tick the appropriate box and if *FALSE* give a brief explanation why. 1.5 marks a question. Where statement is false marks will be deducted for an inaccurate correction.

	T	F
1) Sediments of Wisconsin or Wurm age can often be dated by radiocarbon methods.	☐	☐
2) Amphibians have an amniotic egg.	☐	☐
3) The warmest global climates of the Cenozoic are believed to have been during the Pliocene.	☐	☐
4) Icthyosaurs were long necked marine reptiles of the Mesozoic.	☐	☐
5) Global sea levels were higher in the Late Jurassic and Late Cretaceous than the Early Cretaceous.	☐	☐
6) The Saurischians are the both the earliest and the largest dinosaurs	☐	☐
7) The Hercynian orogeny is the last major one to be involved in the formation of Pangea	☐	☐
8) Mammals first evolved during the Cretaceous.	☐	☐
9) Gymnosperms occurred first in the Permian	☐	☐
10) The ammonoids showed a progressively simpler suture with time.	☐	☐
11) The Agnatha or jawless fish were extinct at the end of the Paleozoic	☐	☐
12) There were almost no orogenies anywhere during the Cretaceous	☐	☐
13) The hominoids are – along with the apes – the subdivisions of the hominids.	☐	☐
14) Australopithecines are a species of Genus *Homo*	☐	☐
15) Werner's model for Earth History assumed that the earth had no internal heat.	☐	☐
16) A continuous fossil record of a change from Species A to Species B is best explained by the theory of Punctuated Equibrilium.	☐	☐
17) There is a virtually world wide iridium anomaly at the base of the Tertiary.	☐	☐
18) Of the three plate boundary types, the only one not seen along the west coast of the USA is a spreading margin	☐	☐
19) The last Ice Age ended around 100,000 years ago	☐	☐
20) There were no grass lands during the Cretaceous .	☐	☐

	T	F
21) Chalks are widespread in the Paleozoic and the Cretaceous	☐	☐
22) Australia and Antartica separated during the Jurassic.	☐	☐
23) Milankovitch cycles are due to varying movements of water in the oceans	☐	☐
24) K-Ar dating cannot be used to date lunar rocks because there is no atmosphere there.	☐	☐
25) Australopithecines probably walked on all fours	☐	☐
26) Neanderthals have never been found anywhere in the Near East area	☐	☐
27) Deep water fossils are often found in ophiolite sequences	☐	☐

SECTION 2 21% Geology of Lebanon.

Examine the stratigraphic table given as Attachment A. On the basis of this, and your knowledge from the field, answer the following questions in your answer books.

1) Between which units are there major unconformities?

2) In which unit are there well developed facies?

3) Why do you think biostratigraphic correlation is difficult between the Miocene of the Bekaa and the Miocene of the coast?

4) What conditions are necessary to get the preservation of the soft bodied faunas of units like those in the Lebanese Fish Beds?

5) What main processes have controlled the geologic evolution of Lebanon?

SECTION 3: 12% COMPULSORY

Explain briefly the nature and origin of **four** of the following tectonic features

- The Andes
- The Zagros
- The East Africa Rift
- The Chixculub structure
- The Mediterranean Sea
- The Urals

SECTION 4: 27% ESSAY QUESTIONS

Answer Three

1) Considering the large scale evolution of the lithosphere, what large scale fundamental changes took place in a) the Permian b) the Triassic c) the Cretaceous. Why is this associated with a) a large scale increase in diversity, b) rising global sea levels c) warmer climates.

2) What creatures would have been the top of the food chain in the following ecosystems. Give as much detail as possible

- Silurian seas
- Devonian land
- Permian land
- Jurassic seas
- Jurassic land
- Pliocene land
- Pliocene sea

3) Consider the following features. Choose **four** and in each case list the evolutionary advantages and, where relevant, the disadvantages.

a) heterotrophic nutrition
b) sexual reproduction
c) brains
d) placental reproduction
e) large size

4) Who do you consider to be the founders of the ideas of uniformitarianism? What can it be defined as (I do not want 'the present the key to the past.'). In what ways would the present seem different to an inhabitant of either the Archean or the Cretaceous?

5) Where has the earth's atmosphere come from? How has it changed? What effects have these changes had on a) life b) climate weather c) sediment deposition.

Best wishes CDW