



**American University of Beirut
Geology Department.
Geol. 101 (section 2)
Final Exam**



②

Feb. 5th, 1998

Student Name: _____

POLICY ON THE EXAM

1. Leave all your **belongings** (except for pens) far from your place.
2. Be silent, **don't look** to the sides.
3. **Read** the questions **carefully** before answering.
4. Anyone found cheating will have their paper confiscated.
5. Make your answers clear (**confused answers will not be considered**).
6. If you finish in the **last five minutes**, remain seated **quietly** until all the exam papers have been collected.
7. **There is no penalty** in the first two parts, and concerning part III answer **only three questions**.

THANK YOU FOR YOUR COOPERATION

Part I. Choose the best answer (40 pts.)

1. Most of the earth's heavy elements are concentrated in the:

- a. crust b. lithosphere c. asthenosphere d. core
-

2. Subduction zones are located at . . . plate boundaries.

- a. divergent b. convergent c. transform
d. all of the above e. non of the above
-

3. Only . . . earthquakes occur along mid-oceanic ridges.

- a. shallow b. deep
c. destructive d. intermediate-depth
-

4. Richter scale measures the . . . of earthquakes and it is

- a. magnitude . . . arithmetic b. effect . . . arithmetic
c. magnitude . . . logarithmic d. effect . . . logarithmic
-

5. . . . is a typical type of chemical weathering.

- a. Frost wedging b. Abrasion c. Salt cracking d. Oxidation
-

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6. . . . (one type of mass wasting) occurs when a block of rock and regolith breaks away and move downslope as a coherent unit.

- a. Flow
 - b. Slide
 - c. Fall
 - d. Creep
-

7. The main elements of water cycle are:

- a. evapo(transpi)ration, precipitation and runoff
 - b. precipitation, runoff and temperature
 - c. evapo(transpi)ration, runoff and pressure
 - d. pressure, temperature and humidity
-

8. . . . drainage pattern develops where bedrock is relatively uniform and streams take the shortest route downslope, and the tributaries pattern resembles veins of a leaf.

- a. Radial
 - b. Trellis
 - c. Rectangular
 - d. Dendritic
-

9. The principle of . . . states that if a geologic feature (X) cuts across another body of rock (Y), X must be younger than Y.

- a. superposition
 - b. original horizontality
 - c. inclusions
 - d. cross-cutting relationships
-

10. The . . . isotopic dating method is an indispensable aid to the archaeological research, and in deciphering very recent events in geologic history.

- a. Potassium-Argon
 - b. Uranium-Lead
 - c. Carbon - 14
 - d. Thorium-Lead
-

11. . . . occurs when soft tissues are preserved as thin films of carbon.

- a. Petrification
 - b. Carbonisation
 - c. Replacement
 - d. Permineralization
-

12. In the biological classification (taxonomy) the correct gradually rising groups from species to kingdom is:

- a. genus-family-order-class-phylum
 - b. genus-order-class-family-phylum
 - c. genus-class-order-family-phylum
 - d. genus-phylum-class-order-family
-

13. The longest eon with a time span of about 2 billion years is:

- a. Hadean
 - b. Archean
 - c. Proterozoic
 - d. Phanerozoic
-

14. Witwatersrand supergroup (S. Africa) provides almost half of the world's supply of . . . since 1883.

- a. chromium
 - b. gold
 - c. iron
 - d. copper
-

15. Cold climates of Palaeozoic era are indicated by . . . glacial deposits in the continents of Southern Hemisphere (Gondwanaland).

- a. Ordovician and Permian
 - b. Ordovician and Devonian
 - c. Cambrian and Permian
 - d. Cambrian and Devonian
-

16. . . . are great elongate tracts that have been the sites of intense deformation (very old continental collision sites).

- a. Shields
 - b. Cratons
 - c. Platforms
 - d. Orogens
-

17. . . . are plants dominated only in Southern Hemisphere continents (Gondwanaland) of Palaeozoic.

- a. Psilophytes
 - b. Lycopsids
 - c. Sphenopsids
 - d. Glossopteris
-

18. Pelecypods, gastropods and cephalopods belong to:

- a. molluscs
 - b. brachiopods
 - c. arthropods
 - d. graptolites
-

19. During the first stage of the break up of Pangaea, . . . separated from

- a. Antarctica . . . Africa
 - b. S. America . . . Africa
 - c. N. America . . . Gondwana
 - d. Australia . . . Antarctica
-

20. Comptosurus was . . . -hipped

- a. lizard . . . ornithischia
 - b. bird . . . ornithischia
 - c. lizard . . . saurischia
 - d. bird . . . saurischia
-

Part II. Fill in the blanks (30 pts.)

1. The topographic features at divergent plate boundaries are called _____, whereas those at convergent plate boundaries are called _____.

2. Earthquake (or seismic) waves that propagate inside the material are called _____ waves; these waves are subdivided into _____ and _____ waves.

3. The soil forming factors (three out of five) are: 1.) _____; 2) _____; and 3) _____.

4. The factors (three out of five) that control mass wasting are: 1) _____; 2) _____; and 3) _____.

5. The _____ of a stream is a measure of the largest rock particle it can carry; whereas the _____ of a stream is the total amount of sediment it can carry.

6. The time-stratigraphic units of: a period is _____, an epoch is _____, and an age is _____.

7. According to the biological classification (taxonomy) the name of humans: Kingdom is _____; genus is _____; and species is _____.

8. The four essential components of life are: 1) _____; 2) _____; 3) _____; and 4) cell membrane

9. The possible causes of the extinctions at the close of the Palaeozoic are (in short): 1) _____; 2) _____; and 3) _____.

10. The most probable terrestrial causes of extinctions at the close of the Mesozoic (late Cretaceous) are: 1) _____; 2) _____; and 3) _____.

Part III. Answer only three of the following four questions (30 pts.)

1. Indicate and discuss the earth's layers, draw schemes.
2. Discuss the sediment deposition including channel deposits, and alluvial fans and deltas, draw schemes.
3. Indicate the gradual sequence of events or rock formations (from older to younger) for the given diagram (Fig. 1). A and B – Faults; U – Unconformity surface; G and D – Intrusive igneous bodies; K, L, M, N, O, P, Q, R, S and T – Sedimentary layers.

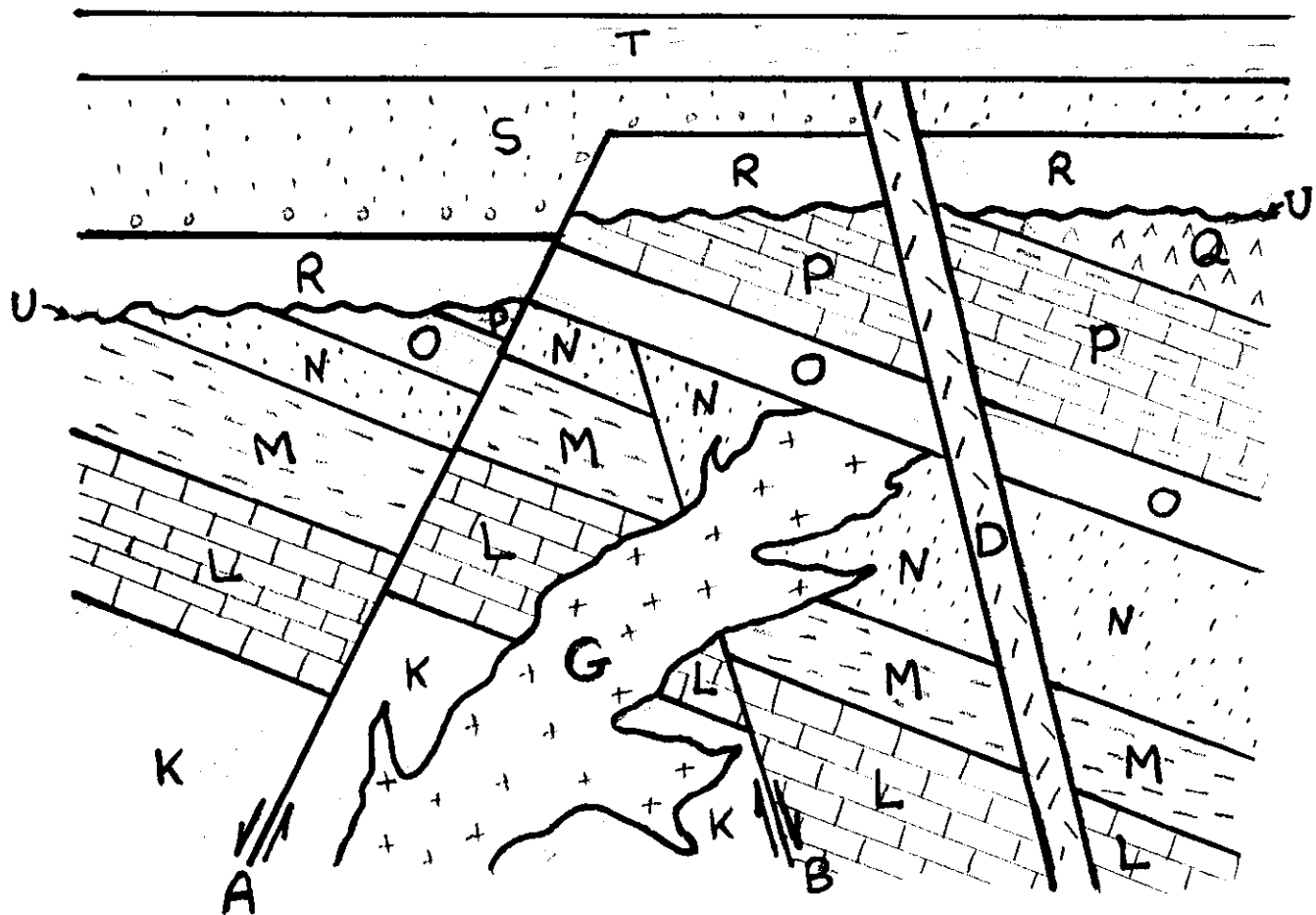


Figure 1

4. Name the five dinosaur species shown on Fig. 2 and indicate their size and type (Carnivorous or herbivorous).

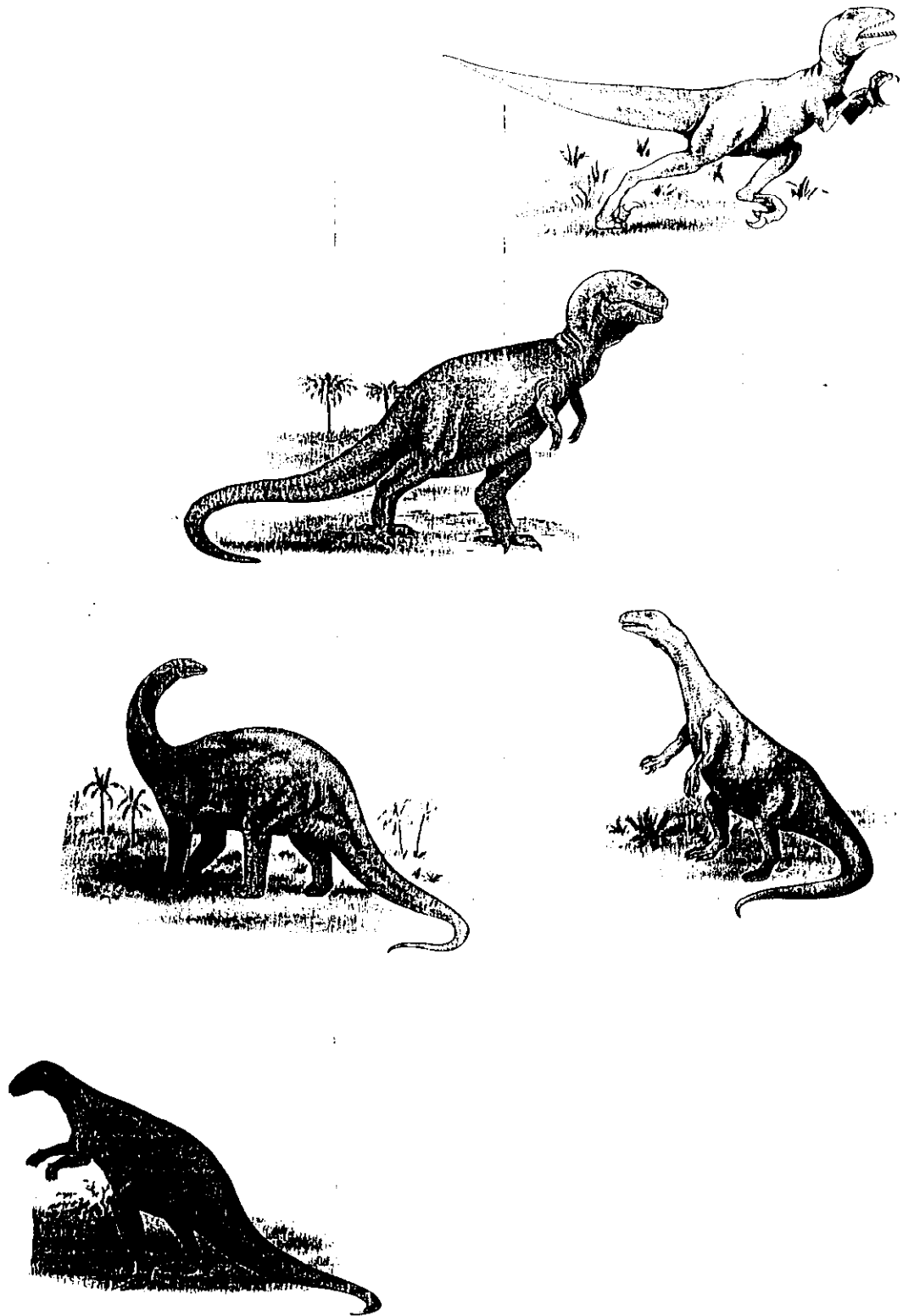


Figure 2

GOOD LUCK