20.-Z00L0GY, A.

- (Any five questions to make a full paper)

1. Describe any species of the Protozoa you have practically studied, giving its classification and the distinctive characters of the various subordinate subdivisions of the province.

2. Give the characters of the insecta with the names of its sub-divisions and as many local species belonging to each as you have collected or studied from collections.

3. Discuss the general characters of the Gasteropoda. Cadelmintha, Reptilia or Amphibia with special reference to some species which you have dissected, concluding with a list of such species as you know to be indigenous to the province. 4. Give an outline classification (a) of our Fishes, or (b) of our Birds, or (c) of our

Mammals.

5. Describe your work in (a) dredging, or (b) in collecting insects, or (c) in taxidermy, or (d) in general osteology, so as to prove to your examiner that you have had the experience you describe.

6. Describe with a similar motive one of your dissections.

21.-GEOLOGY, A.

(Any five questions make a full paper.)

1. What geological formations are represented in Nova Scotia, and where are they

severally best developed? 2. What minerals are characteristic of the Triassic trap? of the Cambrian? What fossils are characteristic of the Devonian? of the Carboniferous?

3. Compare the Cambrian and Carboniferous of Nova Scotia with reference (a) to

thickness of the formation, (b) to folding and faultings and (c) to denudation. 4. Give from memory a geological section of the province from the Atlantic to the straits of Northumberland, cutting the Cobequids so as to diagramatically represent all the formations present.

Discuss the different sub-divisions of the Pleistocene formation in these provinces 5 with reference to the physiographical conditions prevailing at the various times.

Write notes on, felsite, breccia, dolomite, concretions, strike, kainozoir, Lepidoden-6. dra, orohippus joints, metamorphic.

7. Discuss the origin and distribution of gypsum and limestone in Nova Scotia.

22.-ASTRONOMY,-A.

(Any five questions make a full paper.)

1. (a) Distinguish between "apparent" and "mean" solar time; (b) between the "civil" and "astronomical" day; and (c) between "sidereal" and "synodic" month.

2. Discuss the amount of light and heat radiated from the moon.

3. Discuss the character and influence of sun spots.

4. Explain why there is not an eclipse of the sun at every new moon; and why eclipses are sometimes annular, sometimes total and sometimes partial.

5. Outline your knowledge of the planet Mercury. 6. (a) Explain the difference between "diurnal" and "annual" parallax. (b) What is the knowledge of the parallaxes of the heavenly bodies used for ? (c) How may the motion of a heavenly body to or from the earth in the line of sight be estimated ?

7. (a) Sketch the position of principal stars in any constellation you choose. (b) In what constellation are the pleiades, and what are the bounding constellations ? (c) Name the constellation in which any one of the planets may be seen to-night.

23.-NAVIGATION, A.

1. Explain the construction of Mercator's Charts, and show how, when the latitude and longitude of the beginning and end of a course are given, the course to be steered can be found.

2 Show how the leeway and an ocean current can be measured, and how the course can be corrected for each of them.

3 To what magnetic influences originating in the ship is the needle of the compass sensitive; and how can these be measured in order to properly correct the ship's course ?