

# CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate of Education Examination

0755 GEOLOGY 1

JUNE 2020

ADVANCED LEVEL

Centre Number	
Centre Name	
Candidate Identification No.	
Candidate Name	

**Mobile phones are NOT allowed in the examination room.**

## MULTIPLE CHOICE QUESTION PAPER

One and a half hours

### INSTRUCTIONS TO CANDIDATES

*Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.*

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

*Before the examination begins:*

3. Check that this question booklet is headed "ADVANCED LEVEL - 755 GEOLOGY 1"
4. Fill in the information required in the spaces above.
5. Fill in the information required in the spaces provided on the answer sheet using your HB pencil:  
**Candidate Name, Exam Session, Subject Code and Candidate Identification Number.**  
Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.

*How to answer the questions in this examination*

6. Answer **ALL** the 50 questions. All questions carry equal marks.
7. Non-programmable calculators are allowed.
8. Each question has **FOUR** suggested answers: **A, B, C** and **D**. Decide which answer is appropriate. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.

For example, if C is your correct answer, mark C as shown below:

[A] [B] [C] [D]

9. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
10. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
11. Do all rough work in this booklet using the blank spaces.
12. **At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.**

Turn Over

1. Why is granite not commonly used as an aggregate for road construction?
- A It has a high compressive strength
  - B It is coarse grained
  - C It is expensive to quarry
  - D It has a low compressive strength

Use the diagram below (figure 1) which shows the approximate mineral composition of igneous rocks to answer questions 2, 3 and 4.

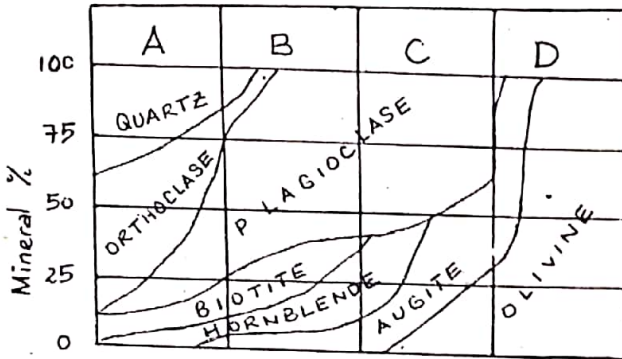


Figure 1

2. Name the two plagioclase minerals that would occur in A and in C respectively
- A Anorthite and Albite
  - B Albite and Labradorite
  - C Oligoclase and Andesite
  - D Anorthite and Andesite
3. Which mineral has the lowest density?
- A Quartz
  - B Orthoclase
  - C Biotite
  - D Hornblende
4. The most easily weathered mineral would be:
- A Olivine
  - B Augite
  - C Hornblende
  - D Plagioclase

Figure 2 is a field sketch which a student did not have time to label completely. Use the sketch to answer questions 5 and 6.

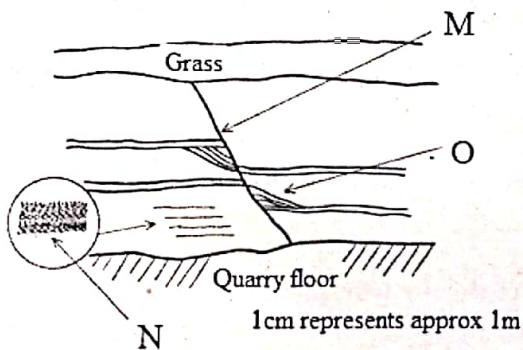


Figure 2

5. Name the features labeled M and O respectively
- A Vein and Cross bedding
  - B Fault and Cross bedding
  - C Spring line and cross bedding
  - D Dyke and cross bedding

6. In which environment was the feature N formed?
- A Shallow marine
  - B Deep marine
  - C Desert
  - D Lagoonal

7. From the jumbled list of rocks below, select the most likely sequence to show the formation of a gneiss from a granite:
- A Granite – Slate – Gneiss
  - B Granite – Gravel – Slate – Schist – Gneiss
  - C Granite – Gravel – Clay – Gneiss
  - D Granite – Clay – Slate – Schist – Gneiss

Use the information presented below to answer questions 8 and 9.

- Specimen K reacts with dilute HCl and forms cleavage rhombs.
  - Specimen L is pink in colour, has a hardness of 6 and cleaves in 2 directions at 90°
8. Identify specimens K and L respectively:
- A Limestone and Orthoclase
  - B Calcite and Orthoclase
  - C Marble and Orthoclase
  - D Calcite and Albite
9. What type of twinning is exhibited by specimen L?
- A Repeated twinning
  - B Carlsbad twinning
  - C Butterfly twinning
  - D Genticulate twinning

The diagram below ( figure 3) depicts volcanic activities. Use it to answer questions 10 and 11.

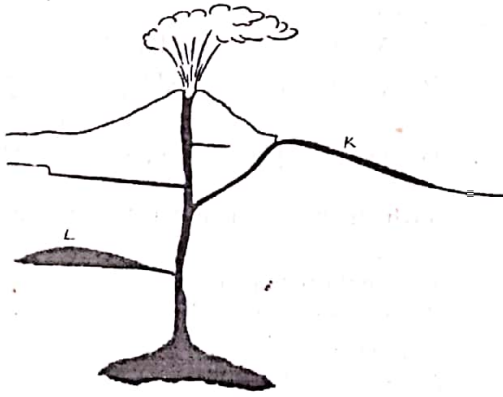


Figure 3

10. The texture of rocks formed at K and L will respectively be:
- A Fine grained and coarse grained
  - B Fine grained and medium grained
  - C Glassy and fine grained
  - D Medium grained and coarse grained

11. The igneous body L is:
- A Laccolith
  - B Phaccolith
  - C Dome
  - D Lopolith

12. Figure 4 below shows a photograph of a fossil. Identify the fossil in the photograph.

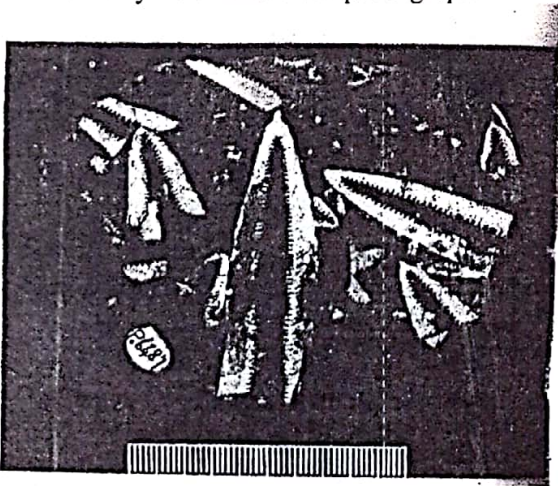


Figure 4

- A Trilobites
- B Graptolites
- C Fossilised leaves
- D Fossilised fish fins

13. A geology student studying a crystal model, realizes that it has two planes of symmetry and an axis of two-fold symmetry. To which system does the model belong?
- A Monoclinic
  - B Orthorhombic
  - C Tetragonal
  - D Hexagonal

The diagram below (figure 5) depicts a map. Use it to answer questions 14 and 15.

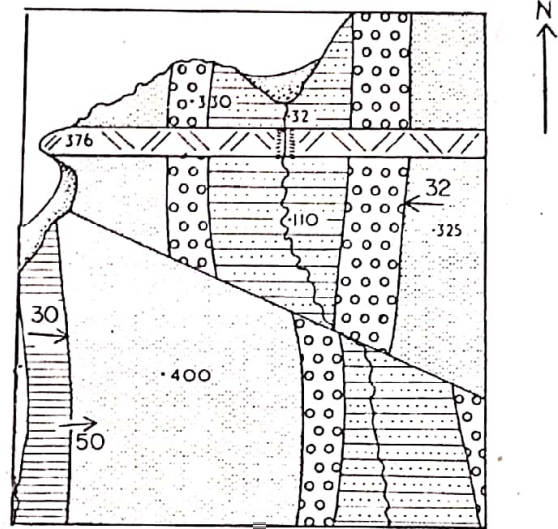


Figure 5

14. Identify the type of fault shown on the map
- A Normal fault
  - B Reverse fault
  - C Tear fault
  - D Thrust fault
15. Identify the folded feature on the map
- A Anticline
  - B Antiformal Syncline
  - C Synformal anticline
  - D Syncline

Use the diagram ( figure 6 ) of two fossil Trilobites W and X to answer questions 16 and 17.

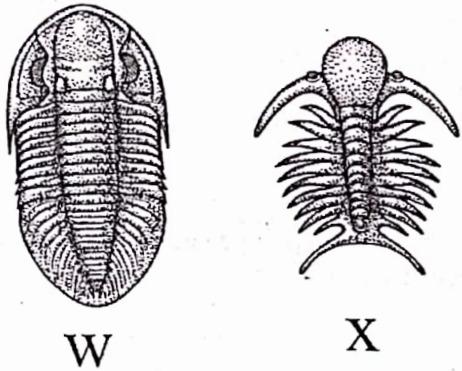


Figure 6

16. What term is used to describe the relationship between the pygidium and the cephalon in fossil W?
- A Macropygous
  - B Mesopygous
  - C Micropygous
  - D Isopygous
- 
17. State the mode of life of fossil X.
- A Burrower
  - B Crawler
  - C Swimmer
  - D Borer
- 
18. Fracture cleavage is formed by :
- A Microscopic wrinkling of materials between cleavage planes
  - B Streaked out limbs of microscopic folds
  - C Microscopic grains lying in parallel plains
  - D Closely spaced microscopic pattern

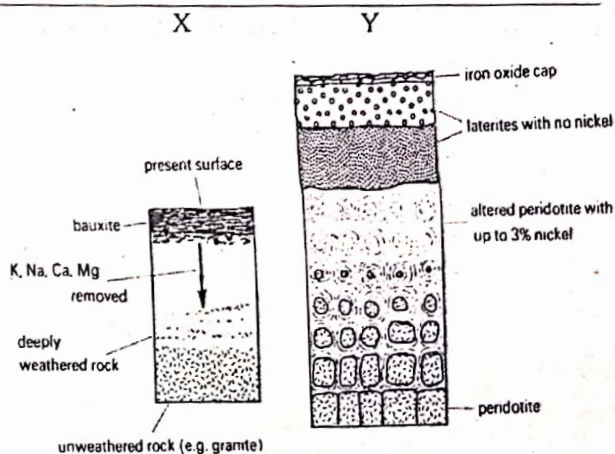


Figure 7

Use the diagram above (figure7) which represents weathering of granites and peridotite to answer questions 19 and 20.

19. Name the products formed at X and Y respectively.
- A Bauxite and Nickel
  - B Laterite and Bauxite
  - C Bauxite and Laterite
  - D Weathered rock and unweathered rock
- 
20. What name is given to the type of ore bodies Formed when a rock like peridotite is weathered?
- A Chemical ore deposit
  - B Secondary enrichment deposit
  - C Residual ore deposit
  - D Detrital ore deposit

The diagram below ( figure 8 ) shows the variations in velocity of P and S waves within the Earth's interior. Use the diagram to answer questions 21 and 22.

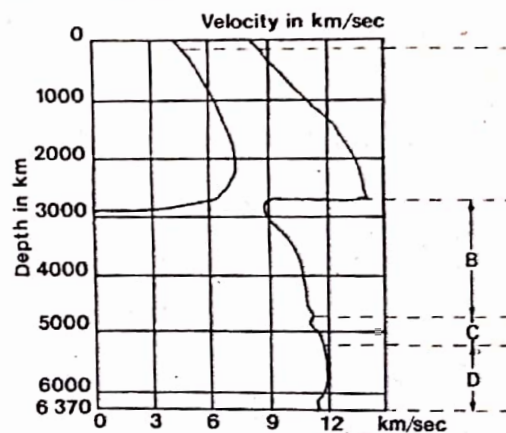


Figure 8

21. Which layers of the Earth correspond to B and C respectively?
- A Mantle and Outer core
  - B Outer core and Lehmann discontinuity
  - C Inner core and Gutenberg discontinuity
  - D Outer core and Gutenberg discontinuity
- 
22. What is the state of the layer D?
- A Fluid
  - B Semi plastic
  - C Solid
  - D Nickel and iron

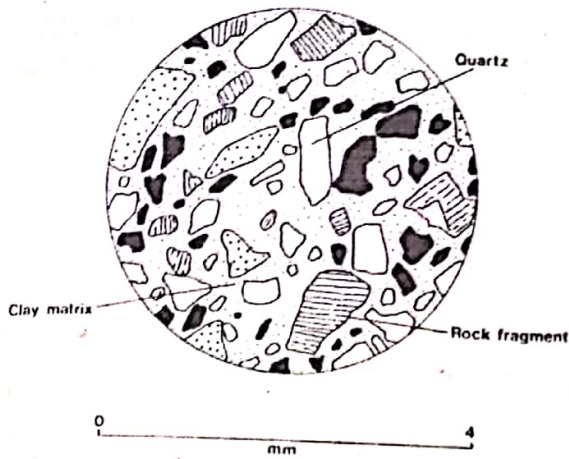


Figure 9  
The diagram above (figure 9) is a thin section of a sedimentary rock. Answer questions 23 and 24 using the diagram.

23. Which description best suits the degree of sorting of the rock?
- A Coarse angular fragments in a clay matrix
  - B Poorly sorted and angular fragments
  - C Moderately sorted with resistant quartz minerals
  - D Angular fragments with rock fragments and clay matrix

24. Name this rock.

- A Lithic sandstone
- B Clastic sandstone
- C Greywacke
- D Arenite

25. What evidence would a shell of a bivalve have which shows that it was a borer?

- A Thick shell
- B Equal muscle scars and entire pallial line
- C Thick shell which is sharp
- D Thin shell with a pallial sinus

Study the diagram ( figure 10 ) which shows the internal view of the pedicle valve of a brachiopod and use it to answer questions 26 and 27.

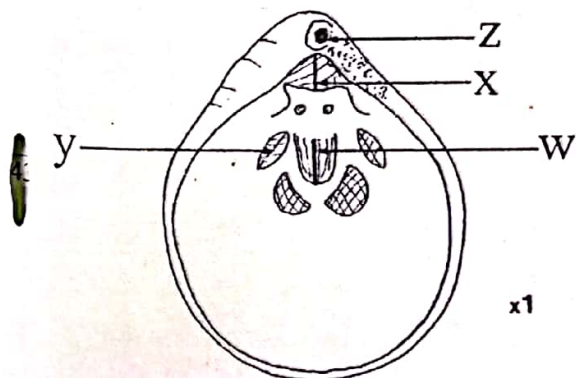


Figure 10

26. Which of the parts labelled W, X, Y and Z is the adductor muscle scar?

- A W
- B X
- C Y
- D Z

27. State the function of X.

- A An opening for the foot
- B Opening for the pedicle
- C Opening for the lophophore
- D A line where the two valves join

The diagram below (figure 11 ) illustrates the collision between the South American and Nazca plates. Use the diagram to answer questions 28 and 29.

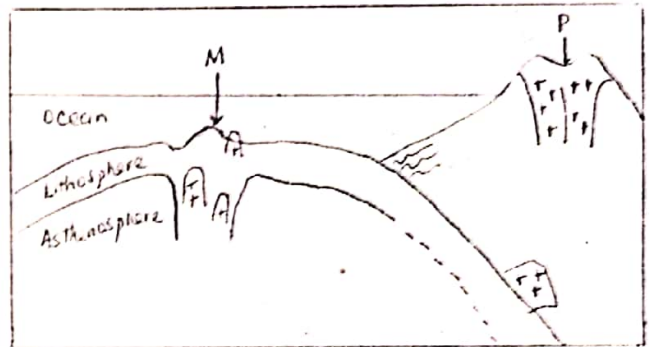


Figure 11

28. Give the name of the feature labelled M

- A East Pacific Ridge
- B Sea Mount
- C Barrier Reef
- D Hot spot Plume

29. What type of rock is common in P?

- A Granite
- B Andesite
- C Basalt
- D Granodiorite

30. What term is applied to non-economic minerals found in hydrothermal deposits?

- A Waste minerals
- B Tenors
- C Vein minerals
- D Gangue minerals

31. A bed dips to the North. What is the strike direction of this bed?

- A East to West
- B Northwest
- C Southeast
- D Southwest

Study the block diagrams below (figure 12) and answer questions 32 and 33.

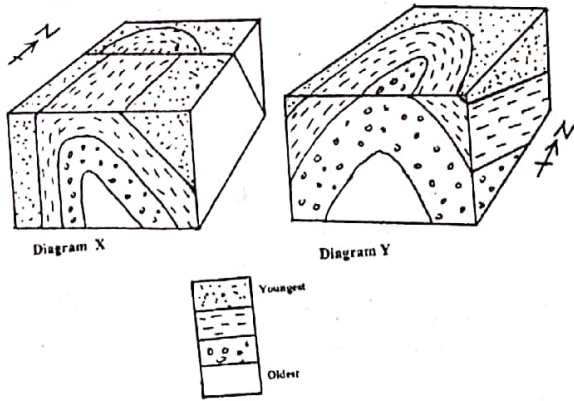


Figure 12

32. Name the type of folds represented by X and Y respectively.
- A Both folds are asymmetrical anticlines
  - B Both folds are symmetrical anticlines
  - C X is a syncline while Y is an asymmetrical anticline
  - D X is an asymmetrical anticline while Y is asymmetrical anticline
33. On which side of the fault plane in diagram X is the downthrown side found?
- A North
  - B South
  - C East
  - D West

The diagrams below (figure 13) show structures produced during rock deformation.

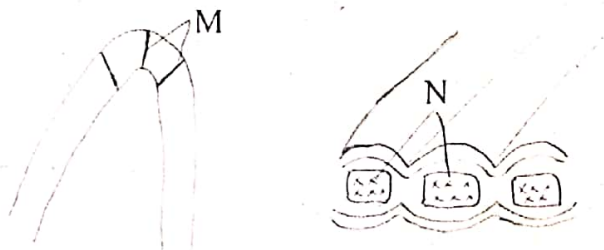


Figure 13

34. Use the diagrams to answer questions 34 and 35. Name the structures M and N respectively
- A Vein and boudinage
  - B Tension gashes and fractured block
  - C Tension gashes and boudinage
  - D Quartz veins and mullion
35. These two structures were produced by
- A Compressional forces
  - B Folding
  - C Fracturing
  - D Tensional forces

36. Sedimentary rocks such as halite and gypsum which form due to evaporation of water are identified as:
- A Chemical
  - B Organic
  - C Clastic
  - D Biochemical
37. Shallow focus earthquakes are common in:
- A Convergent plate boundary
  - B Divergent plate boundary
  - C Conservative plate boundary
  - D Triple junction

The triangular diagram below (figure 14) illustrates the primary types of mass movements: slide, flow and heave. Answer questions 38 and 39 using the diagram.

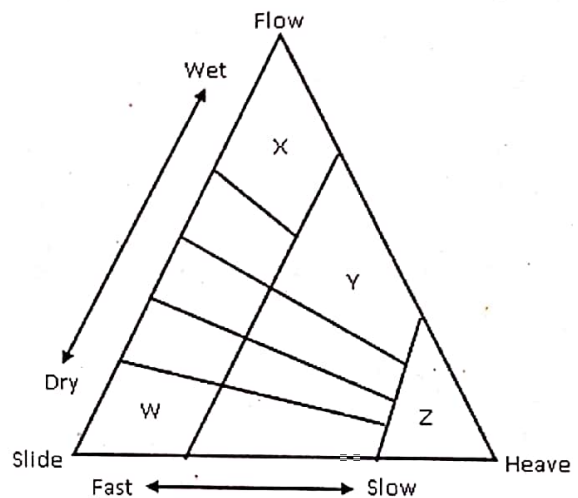


Figure 14

38. Which of these mass movements represents soil creep?
- A W
  - B X
  - C Y
  - D Z
39. Which of these letters represents Solifluction?
- A W
  - B X
  - C Y
  - D Z

Study the crystal model below ( figure15 ) and answer questions 40 and 41.

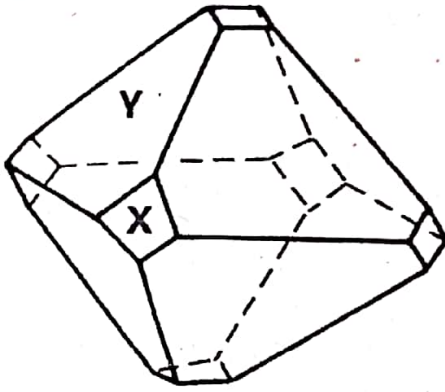


Figure 15

40. Name the forms X and Y respectively.
- A Pyramid and cube
  - B Cube and octahedron
  - C Cube and prism
  - D Cube and dome
- 
41. Give the Miller Index of face X
- A 100
  - B 101
  - C 111
  - D 011

The diagram below (figure 16 ) illustrates a section of the earth's crust and part of the mantle, Use this diagram to answer questions 42, 43 and 44.

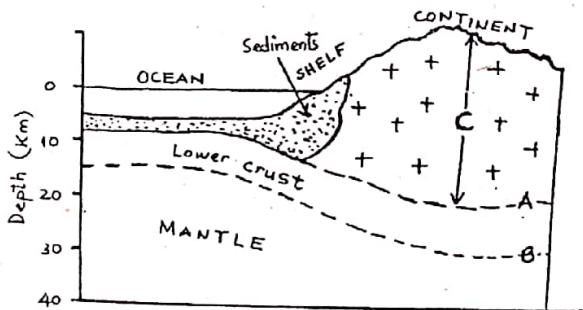


Figure 16

42. What is the approximate thickness of C?
- A 35km
  - B 15km
  - C 20km
  - D 10km
- 
43. What is the composition of the lower crust?
- A Andesitic
  - B Basaltic
  - C Granitic
  - D Peridotitic

44. Name the discontinuities that occur at A and B respectively.
- A Mohorovicic and Gutenberg
  - B Mohorovicic and Conrad
  - C Conrad and Mohorovicic
  - D Conrad and Lehmann
- 
45. The nebular hypothesis suggests that the Solar System:
- A Has more than one origin
  - B Evolved from an enormous rotating cloud
  - C Formed from materials made up mostly of oxygen
  - D Is the remnant of another solar system
- 
46. Which of the following is often not a point source of pollution?
- A Factory pipes
  - B Run off
  - C Land fill
  - D Oil spill
- 
47. What type of life forms characterized the Mesozoic?
- A Primitive plants, bacteria algae, soft – bodied organisms
  - B Shelled ocean dwelling organisms, armoured and bony fishes
  - C Small mammals, egg laying reptiles and seed bearing plants
  - D Large and small mammals, flowering plants
- 
48. Cassiterite is the principal ore of:
- A Iron
  - B Copper
  - C Aluminium
  - D Tin
- 
49. Which of the following can be classified as a derived fossil in Cretaceous rocks?
- A Micraster
  - B Ammonites
  - C Scleractinian corals
  - D Tabulate corals
- 
50. Which of the following is the largest unit of geologic time?
- A Epoch
  - B Eon
  - C Era
  - D Period

STOP

GO BACK AND CHECK YOUR WORK