GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate of Education Examination

0755 GEOLOGY 1

JUNE 2022 **ADVANCED LEVEL**

Centre No. & Name	11477 G.B.H.S BAHAM.
Candidate No.	11477 2026
Candidate Name	WOBYEB ELLIS (IB)

Mobile phones are NOT allowed in the examination room.

MULTIPLE CHOICE QUESTION PAPER
1 HOUR 30 MINUTES.

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 - 0755 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 Number Name, Centre Number and Name.** 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 on which answer is correct. 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, where necessary, the blank spaces.
12. **At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet after. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.**

1. The totality of space and time, past, present and future, consisting of millions of stars clustered in galaxies is the:
   A Big Bang theory
   B Universe
   C Solar system
   D Planet

2. Which of the following is a terrestrial planet?
   A Saturn
   B Neptune
   C Mars
   D Uranus

Figure 1 below shows the upper part of the internal structure of the Earth. Use it to answer questions 3 and 4.

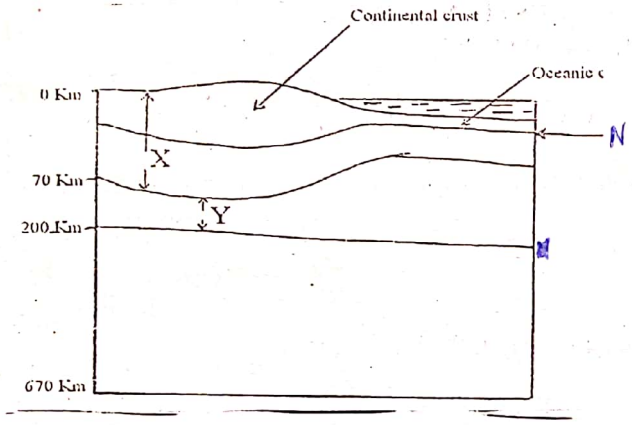

Figure 1

3. What do **X** and **Y** represent respectively?
   A Upper and Lower Mantle
   B Mantle and Outer core
   C Lithosphere and Asthenosphere
   D Asthenosphere and Upper Mantle

4. Which boundary occurs at **N**?
   A Gutenberg discontinuity
   B Mohorovicic discontinuity
   C Mantle-Core boundary
   D Conrad discontinuity

5. Earthquakes that are responsible for giant sea waves on the ocean floor are called:
   A Submarine Earthquakes
   B Tsunamis
   C Seismic waves
   D Body waves

6. Seismic waves that are propagated through the Earth as a series of compressions and expansions are called:
   A Body waves
   B Primary waves
   C Rayleigh waves
   D Secondary waves

7. Which of the following forms occurs in crystals of the cubic system?
   A Basal pinacoid
   B Tetrahedron
   C Prism
   D Pyramid

Study the crystallographic axes below (Figure 2) and answer questions 8 and 9.

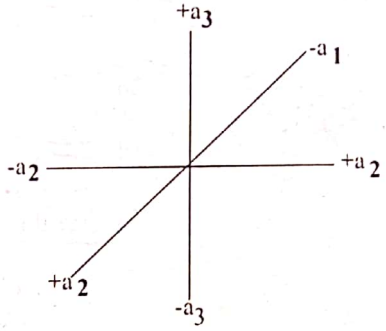

Figure 2

8. State the axial angles between the crystallographic axes:
   A $a = b = c$ that is $\propto = \beta = 90^{o}\ \delta$
   B $a = b \neq c$ that is $\propto = \beta = \delta = 90^{o}$
   C $a = b = c$ that is $\propto = \beta = \delta = 90^{o}$
   D $a \neq b \neq c$ that is $\propto \neq \beta = \delta \neq 90^{o}$

9. Which crystal system is represented by the crystallographic axes above?
   A Cubic system
   B Tetragonal system
   C Triclinic system
   D Monoclinic system

10. Give an example of a phyllosilicate:
    A Pyroxene
    B Amphibole
    C Muscovite
    D Orthoclase

11. From which of these minerals can a good quantity of copper be extracted?
    A Pyrite
    B Azurite
    C Malachite
    D Chalcopyrite

12. Which of the following factors influences the hardness of a mineral?
    A Ionic radius
    B Presence of heavy ions
    C Bonds placed in the same direction
    D Presence of parting planes

13. Cemented volcanic ash are called:
A Ignimbrites
B Agglomerates
C Tuff
D Scoria

Use the diagram below (Figure 3) to answer question 14.

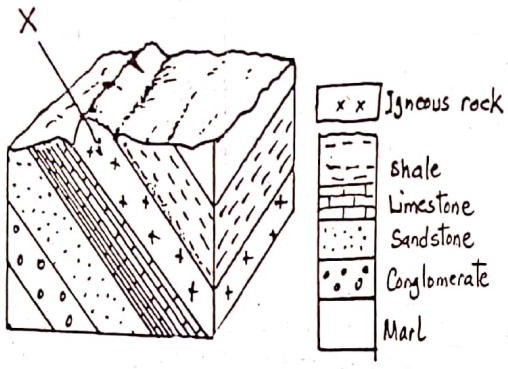

Figure 3

14. What is the igneous feature X called ?
A Dyke
B Sill
C Batholith
D Bed

15. Which of the following landforms can be produced by both quiet and violent eruptions?
A Volcanic domes
B Ash and cinder cones
C Composite volcanoes
D Lava domes

16. An acid igneous rock which contains quartz and calc-alkali feldspar as essential minerals is a/an:
A Granite
B Granodiorite
C Rhyolite
D Obsidian

17. A texture exhibited by igneous rocks having large augite crystals partially or wholly enclosing small plagioclase crystals is:
A Porphyritic
B Graphic
C Ophitic
D Poikilitic

18. An igneous rock formed when lava solidifies into a fine grained black rock is:
A Rhyolite
B Basalt
C Pumice
D Gabbro

19. The chemical weathering process which converts anhydrite into gypsum is called?
A Hydrolysis
B Hydration
C Reduction
D Oxidation

20. When water in a volcanic area is heated underground and flows out to the surface it forms what are known as:
A Geysers
B Springs
C Hot springs
D Grikes and clints

21. A feature formed in a karst area by river erosion and the collapse of a cave roof is called a:
A Gorge
B Doline
C Sinkhole
D Grike

A student analysed a detrital rock sample as follows: 25% pebble sized particles; 70% sand sized particles and 50% reddish brown fine binding material. Use this description to answer questions 22, 23 and 24.

22. The most likely name given to this rock is:
A Coarse sandstone
B Medium sandstone
C Sandy conglomerate
D Pebbly sandstone

23. What is the composition of the binding material?
A Silica
B Iron oxide
C Calcite
D Limonite

24. What is the environment of deposition of the rock?
A Deposition in a lagoon
B Deposition in an arid environment
C Deposition by turbidity currents
D Deposition in piedmont

25. All the features, textures and structures in a metamorphic rock could collectively be described as:
A Fabric
B Relic structures
C Preferred orientation
D Lineations

26. A sandy limestone recrystallizes during contact metamorphism into:
   A Pure marble
   B Wollastonite marble
   C Brucite marble
   D Forsterite marble

27. Which of the following is regarded as a high grade metamorphic rock?
   A Green schist
   B Slate
   C Gneiss
   D Phyllite

Study the diagram below (Figure 4) that shows different types of plate boundaries:
Use it to answer questions 25-27.

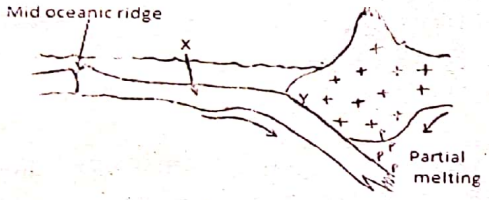

Figure 4

28. Identify the type(s) of plate boundary shown on the diagram.
   A Ocean-Ocean plate boundary
   B Continental-Ocean plate boundary
   C Continental-Continental plate boundary
   D Constructive and Destructive plate boundaries.

29. What type of metamorphism will likely occur at **Y**.?
   A Contact
   B Regional
   C Dynamic
   D Dynamothermal

A student on fieldwork in Mabanda, Kumba encountered a granite outcrop with a set of joints more or less parallel to the topographic surface. Use this information to answer question 30.

30. What is the mode of formation of the joints above?
   A Contraction towards a number of cooling centres.
   B Unloading caused by erosion.
   C Folding and thrusting caused by tectonic movements.
   D Tensional forces set up within the rock.

Study the diagram of a fault below (Figure 5) and answer questions 31, 32 and 33.

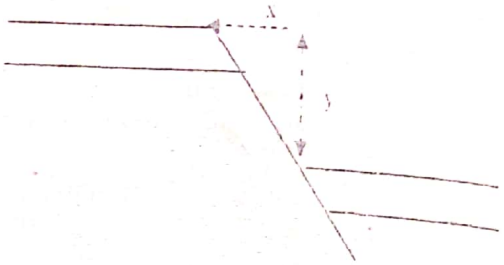

Figure 5

31. The letters X and Y respectively represent?
   A Heave and net-slip
   B Hade and throw
   C Heave and throw
   D Heave and hade

32. The above fault can be best described as:
   A Strike-slip fault.
   B Wrench fault.
   C Normal fault.
   D Reverse fault.

33. The classification of folds based on the mode of formation is known as:
   A Geometric classification
   B Genetic classification
   C Closing and facing direction classification
   D Interlimb angle classification

Study the diagram of the fossil below (Figure 6) and answer questions 34 and 35

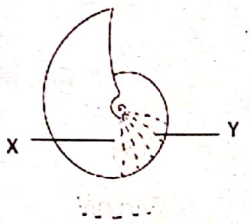

Figure 6

34. Name the group of fossils represented by the diagram above.
   A Nautiloids
   B Gonatites
   C Ceratites
   D Ammonites

35. Label the part marked X.
   A Saddles
   B Lobes
   C Umbilicus
   D Whorl

36. The contact representing missing rock strata separating beds that are parallel to one another is called a parallel unconformity or:
A Paraconformity
B Disconformity
C Nonconformity
D Heterolythic unconformity

37. Time equivalence of rock units in different areas is called:
A Absolute dating
B Correlation
C Relative dating
D Unconformity

Use the diagram below (Figure 7) to answer Question 38.

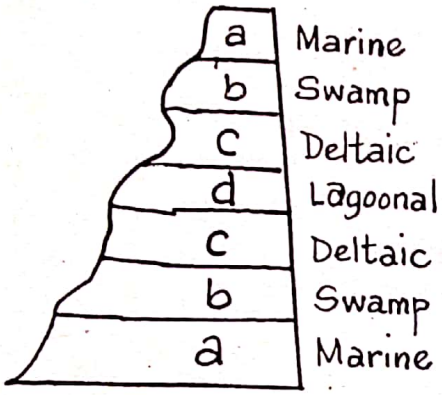

Figure 7

38. Identify the type of cyclotherm shown on the diagram.
A Cyclic cyclotherm
B Rythmic cyclotherm
C Transgression
D Regression

39. Any naturally occurring body of mineral or rock that is of economic value and can be worked at a profit is a/an:
A Ore deposit
B Mineral deposit
C Ore mineral
D Gangue mineral

40. An accumulation of mechanically weathered mineral particles transported and deposited by running water is called a/an:
A Ore deposit
B Residual deposit
C Placer deposit
D Secondary enrichment deposit

41. The impermeable rock layer overlying an oil bearing stratum is a/an:
A Oil trap
B Cap rock
C Oil field
D Source rock

42. A rock type which is commonly used for road construction in Cameroon is:
A Slate
B Gabbro
C Granite
D Basalt

43. A well in which the water encountered at depth is under a sufficient hydraulic pressure to force it up to the surface is a/an:
A Natural well
B Artesian well
C Perched water table
D Unconfined aquifer

44. The most poisonous gas emitted from lake Nyos in Cameroon, killing people, livestock and displacing people in 1986 was:
A Carbon dioxide
B Carbon monoxide
C Sulphur dioxide
D Hydrogen sulphide

45. Which of the following is a secondary volcanic hazard?
A Landslide
B Soil creep
C Earthquake
D Lahar

46. The Cameroon Volcanic Line (CVL) is characterised by the presence of :
A Precambrian rocks
B Palaeozoic rocks
C Tertiary- Quaternary rocks
D Cretaceous rocks

47. The oil and gas fields in Cameroon are located in the:
A Doba Basin
B Logon-Birni Basin
C Cameroon Volcanic Line gas fields
D Rio del Rey Basin

The Geologic section (Figure 8) below shows rocks and their contacts with each other. Use it to answer questions 48 to 50.

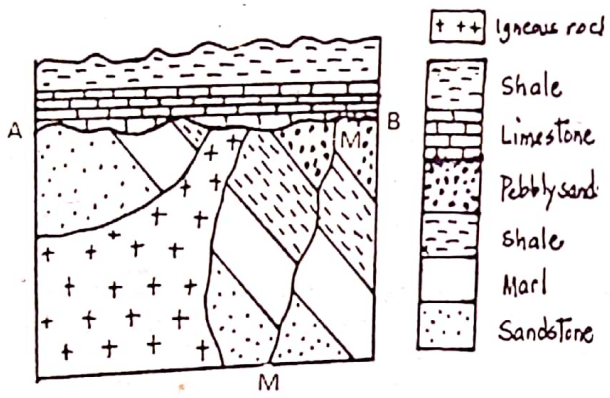

Figure 8

48. Identify the geologic structure labelled M – M.
A Joint
B Fault
C Unconformity
D River

49. What is the relationship between the igneous rocks and the overlying limestone?
A Disconformity
B Angular unconformity
C Heterolythic unconformity
D Non conformity

50. The oldest bed in the area is:
A Igneous rocks
B Limestone
C Sandstone
D Marl

GO BACK AND CHECK YOUR WORK