

Assiut University Faculty of Science Geology Department		جامعة أسيوط كلية العلوم قسم الجيولوجيا
Final Exam in Fundamentals of Geology (G100) 1 st September-2025		
Duration: 2 Hours	Summer 2025	(Total Marks: 50)
one mark for each question.		
The exam is 5 pages long الامتحان في خمس صفحات		

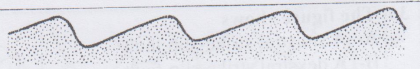
Choose the correct answer

1- plate boundary is most commonly associated with shallow-focus, low-magnitude earthquakes.			
a) Divergent	b) Convergent	c) Transform	d) All of them
2- The African Rift Valley today resembles			
a) An ancient passive margin	b) Early stages of an ocean basin	c) A subduction trench	d) A transform plate boundary
3- is primarily responsible for generating the planet's magnetic field.			
a) Lithosphere	b) Asthenosphere	c) Outer core	d) Inner core
4- Which tectonic feature is absent in continent-continent collision zones but present in ocean-continent convergence?			
a) Folded mountains	b) Deep earthquakes	c) Volcanic arcs	d) Thrust faults
5- The Benioff zone is associated with:			
a) subduction zones	b) mid-ocean ridges	c) transform	d) rifting
6- The dominant rock type in the uppermost mantle is			
a) diorite	b) peridotite	c) granite	d) basalt
7- Which statement about the asthenosphere is false?			
A) It is part of the upper mantle	B) It behaves rigidly under stress.	C) Its near-melting-point state enables plate movement.	D) It lies directly below the lithosphere.
8- system has three axes are different in length.			
a) Hexagonal	b) Orthorhombic	c) Tetragonal	d) Trigonal
9- If a mineral has a hardness just greater than glass (~5.5) but less than a steel file (~6.5), which of the following could it be?			
a) Apatite	b) Quartz	c) Orthoclase feldspar	d) Gypsum
10- A mineral shows cleavage in three directions, but the angles between them are NOT 90°. Which mineral is most likely?			
a) Halite	b) Galena	c) Calcite	d) Feldspar
11- Gypsum mineral has luster.			
a) vitreous	b) pearly	c) adamantine	d) silky
12- A rock with 58% SiO ₂ , plagioclase + amphibole + biotite, and 5mm crystals is:			
A) Diorite	B) Andesite	C) Granodiorite	D) Basalt
13- texture indicates two distinct stages of cooling			
a) Glassy	b) Porphyritic	c) Pegmatitic	d) Vesicular

14- Granite and rhyolite are similar in:			
a) Cooling environment	b) Texture	c) Silica-rich composition	d) Density and mafic minerals
15- is common in ultramafic rocks but rare in felsic rocks?			
a) Quartz	b) Feldspar	c) Olivine	d) Muscovite
16- A magma with high silica content will generally			
a) Have low viscosity and flow easily	b) Produce dark-colored rocks	c) Have high viscosity and erupt explosively	d) Crystallize mainly into olivine and pyroxene
17- originates primarily from biological accumulation.			
a) Shale	b) Dolomite	c) Sandstone	d) Chalk
18- Coal progresses through stages with increasing metamorphism. The correct order is:			
a) Anthracite → Lignite → Peat → Bituminous	b) Peat → Lignite → Bituminous → Anthracite	c) Lignite → Peat → Anthracite → Bituminous	d) Peat → Bituminous → Lignite → Anthracite
19- is composed mainly of silica and may occur as nodules within limestone.			
a) Dolomite	b) Gypsum	c) Chert	d) Coquina
20- Which sequence of evaporate minerals precipitates first to last as seawater evaporates?			
a) Halite → Gypsum → Magnesium salts	b) Gypsum → Halite → Magnesium salts	c) Calcite → Gypsum → Halite → Magnesium salts	d) Dolomite → Gypsum → Halite → Calcite
21- Which foliated metamorphic rock typically forms from phyllite?			
a) Slate	b) Schist	c) Gneiss	d) Migmatite
22- produces the most widespread regional metamorphism.			
a) Rift valleys	b) Subduction zones and continental collisions	c) Mid-ocean ridges	d) Hot spots
23- rock represents partial melting conditions, transitional between igneous and metamorphic.			
a) Hornfels	b) Migmatite	c) Amphibolite	d) Phyllite
24- rock is typically associated with fault zones due to intense shearing.			
a) Slate	b) Schist	c) Mylonite	d) Quartzite
25- Which factor most strongly controls whether a rock develops foliation during metamorphism?			
a) Rock composition only	b) Presence of fluids	c) Directed pressure (differential stress)	d) High temperature alone

26- The figure shows

- A- A current ripples
- B- Oscillation ripples
- C- Symmetrical ripples
- D- None of them



27- Plastic deformation can result in the formation of

- A- Reverse faults
- B- Normal faults
- C- Anticlinal fold
- D- All of them

28- Compressive Stress can form

- A- One set of Joints
- B- Two sets of Joints
- C- Normal faults
- D- Rifting

29- The Hinge line is a part of

- A- An anticlinal fold
- B- A sand dune
- C- A normal fault
- D- A Strike-slip fault

30- A geologic structure in which the beds dip away from the hinge lines is called

- A- Normal Fault
- B- Synclinal fold
- C- anticlinal fold
- D- Trough

31- When the axial plane of the fold is inclined we describe it as

- A- Symmetrical fold
- B- Asymmetrical Fold
- C- Recumbent fold
- D- Dome

32- Columnar jointing is a fracture pattern that forms in

- A- Limestones
- B- Sandstones
- C- Basalts
- D- Mudstones

33- Tension joints form

- A- one set of parallel joints
- B- two sets of joints forming 30-60 degrees
- C- two sets of parallel joints
- D- All of them

34- When the hanging wall block move down relative to the footwall block we describe the fault as.....

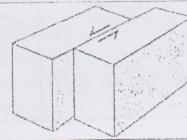
- A- Reverse
- B- Normal
- C- Strike-slip
- D- Thrust

35- The graben is a down-dropped block of the Earth's crust, typically associated with

- A- Reverse faults
- B- Normal Faults
- C- Sink-holes
- D- Joints

36- The figure shows

- A- A sinistral strike-slip fault
- B- A dextral strike-slip fault
- C- Normal fault
- D- Reverse Fault



37- The artesian wells can be found in

- A- Horizontal confined aquifer
- B- Synclinal Aquifer
- C- Unconfined Aquifer
- D- Unconfined reservoir

38- The Desert are characterized by

- A- Heavy rain falls
- B- Rock falls
- C- Soils of high moisture
- D- High dissolution of rocks

39- Any natural medium capable of picking up and moving earth material is referred to as

- A- Endogenic agent
- B- Geomorphic agent
- C- Geothermal agent
- D- Magmatic agent

40- The sand size particles vary between.....

- A- 2 to 64 mm in diameter
- B- 1/16 to 2 mm in diameter
- C- 1/256 to 1/16 mm in diameter
- D- < 1/256 mm in diameter

41- The abrasion, grinding and wearing down of rock by other rock particles carried by the water belong to.....

- A- Physical weathering
- B- Chemical weathering
- C- Both of them
- D- None of them

42- Hydrolysis is responsible for the conversion of feldspars to

- A- Clay minerals
- B- carbonate minerals
- C- Sulfide minerals
- D- Gypsum

43- Rain shadow deserts such as those in

- A- Egypt
- B- Sierra Nevada in the Western United States
- C- Namib desert in southern Africa
- D- Gobi, northern China

44- Ventifacts are byproducts of

- A- Wind Abrasion
- B- Wind deflation
- C- Wind deposition
- D- wind transport

45- The figure shows

- A- Trough cross-beddings
- B- Tabular cross-beddings
- C- Graded beddings
- D- None of them



46- Oxbow lakes form during

- A- Young stage of Rivers
- B- Old stage of Rivers
- C- Mature stage of Rivers
- D- Stream Piracy

47- Straight channels are found when

- A- There is an underlying weak rock layer controlled by a linear zone of weakness
- B- The velocity of stream water is low
- C- The erosional energy of the stream water is directed side to side
- D- The streams having highly variable discharge and easily eroded banks

48- The Mississippi Delta is

- A- Tide- dominated delta
- B- Wave- dominated delta
- C- Stream- dominated delta
- D- None of them

49- The gastroliths can be considered as

- A- A trace Fossil
- B- A hard body fossil
- C- Altered fossil
- D- All of them

50- Which of the followings might be an aquiclude?

- A- A sandstone layer
- B- Fractured limestone
- C- A shale bed
- D- All of them

انتهت الأسئلة/ مع أطيب الأمنيات بالتوفيق
أ.د ممدوح فراج د. حسن عباس