Prof. Dr. Gamal Zidan Abdelaal

Assiut University
Faculty of Science
Department of Geology

Date: June 2022
Time allowed: 2 hours

Final Exam

Electrical Prospection (G 358), Total 50 Marks

==========

A) Mark the following statements with True (√) or False (X): (30 marks, one mark each)

No	Statement	TRUE (√)	FALSE (X)
1	Chargeability is defined as the ability of the subsurface to flow charges		
2	DC resistivity method depends on the storage of current whereas the induced polarization method depends on the flow of current		
3	Dipole-dipole array is best suited for IP measurements to minimize the electromagnetic coupling effect		
4	Electrode polarization is smaller in magnitude than normal or background IP effect		
5	GPR method can be used in urban and forensic applications		
6	In EM method, a secondary EM field is produced if a subsurface resistive anomaly is present		
7	In GPR the attenuation of EM energy is primarily controlled by the electrical conductivity of the subsurface		
8	In GPR, the larger the Fresnel zone, the lower the horizontal resolution.		
9	In GPR, the lower the frequency, the higher depth of penetration and higher resolution		
10	In GPR, the vertical resolution is a measure of the ability to recognize individual, closely spaced reflectors		
11	Induced polarization method is extensively used for the exploration of disseminated metal-based minerals		
12	IP measurements can be made in time domain or frequency domain		
13	IP method can be used to map lithologic variations in the subsurface		
14	Membrane polarization is largest when a rock contains clay materials scattered through the matrix		
15	Membrane polarization results from variations in the mobility of ions contained within pore fluids		
16	Surface area is the most important factor controlling the IP effect		
17	The depth of penetration in GPR is very limited (less than 100 m)		
18	The depth to target in GPR can be determined if the propagation velocity of the electromagnetic energy (Vm) through the material is known		
19	The dielectric permittivity is defined as the ability of material to store EM energy in the form of induced charge polarization		

20	The electromagnetic (EM) techniques can be classified as time domain or frequency domain systems		
21	The EM systems are passive only		
22	The EM wave velocities in GPR can be estimated from the dielectric constant of the subsurface		
23	The frequency of the GPR pulse energy ranges typically from 10 MHz to several thousand MHz		
24	The GPR method is best suited for the archaeological investigation		
25	The main disadvantage of the EM methods is that they require direct contact with the ground		
26	The presence of metallic minerals in the subsurface will have no effect on the voltage decay during induced polarization measurements		
27	The reflection coefficient is the ratio of the amplitudes of reflected to incident waves		
28	The skin depth in EM method is the depth at which the amplitude of a plane wave has decreased to 1/e relative to its initial amplitude		
29	There is a trade-off between a penetration depth and resolution in GPR method		
30	VLF method is very effective in locating subsurface zones of high electrical conductivity		

B) Choose the correct answer of the following: - (20 marks, one mark each)

31) The induced polarization method is classified as:

a) surface method
b) active method
c) electrical method
d) all of the above

32) The largest IP effect associated with the source of:

a) membrane polarization
b) electrode polarization
c) ion selective membrane polarization
d) electrolytic polarization

33) The membrane polarization is most pronounced in rocks containing:

a) silicate minerals
b) iron minerals
c) carbonate minerals
d) clay minerals

34) The IP effect is controlled by:

a) ionic mobility
b) surface area
c) surface charge density
d) all of the above

35) The IP method is effective in mapping the subsurface lithology because it is very sensitive to changes in:

a) surface area
b) surface charge density
c) ionic mobility
d) none of the above

36) IP measurements can be performed in the:

a) time domain
b) space domain
c) frequency domain
d) a and c

37) The unit of chargeability for IP measurements is:

a) m/sec
b) ohm.m
c) siemens/m
d) mSec

38) The IP method can be used to map:

a) disseminated metallic minerals
b) lithology
c) salt-water intrusion
d) all of the above

39) In the IP method, the subsurface earth materials act as:

a) capacitor
b) conductor
c) insulator
d) none of the above

40) The membrane polarization builds up due to variations in:

a) ionic mobility of ions in pore fluid
b) metallic mineral content
c) surface area of mineral grains
d) all of the above

41) The range of GPR pulse energy ranges from:

a) 10 Hz to several thousand of Hz
b) 10 KHz to several thousand of KHz
c) 10 MHz to several thousand of MHz
d) 10 GHz to several thousand of GHz

42) Which of the following is controlling the propagation of EM waves in GPR survey:

a) dielectric permittivity of the subsurface
b) electrical conductivity of the subsurface
c) magnetic permeability of the subsurface
d) all of the above

43) Which of the following parameters has major effect in the attenuation of EM waves in GPR survey:

a) dielectric permittivity of the subsurface
b) electrical conductivity of the subsurface
c) magnetic permeability of the subsurface
d) all of the above

44) The propagation velocity of EM waves in GPR survey can be estimated from:

a) dielectric permittivity of the subsurface
b) electrical conductivity of the subsurface
c) density of the subsurface
d) magnetic permeability of the subsurface

45) The selection of antenna in GPR survey depends on:

a) depth of penetration
b) quality of penetration
c) resolution of penetration
d) all of the above

46) In GPR survey, high frequency antenna will result in:

a) greater penetration depth and lower resolution
b) lower penetration depth and higher resolution
c) lower penetration depth and lower resolution
d) greater penetration depth and higher resolution

47) Which of the following methods can be used to estimate depth from GPR records:

a) from relative dielectric permittivity
b) shoot to target of known depth
c) hyperbola fitting
d) all of the above

Prof. Dr. Gamal Zidan Abdelaal

48) The GPR method can be applied in:

a) forensic applications
b) urban applications
c) hdrogeophysical applications
d) all of the above

49) Electromagnetic methods usually use low frequency EM waves where:

a) conduction currents predominate
b) displacement currents predominate
c) a and b
d) none of the above

50) The EM systems can be classified as:

a) time vs frequency domains
b) active vs passive
c) a and b
d) none of the above

==========**Best wishes**==========

Assiut University
Faculty of Science
Zoology Department

Course name: Cell and Molecular Biology
Course code: (318Z)
Time: Two hours
2nd semester, July 2022

I-Choose the correct answer (50 marks, 1 mark for each):

1- The most characteristic feature of prokaryotes is
(A) A distinct nuclear membrane
(B) Absence of chromatin material
(C) Distinct chromosome
(D) Absence of nuclear membrane

2- Which of the followings are all non-membranous structures?
(A) Chromosomes, nuclei, and mitochondria
(B) Lysosomes, ER and mitochondria
(C) Cytoplasm, nuclei, and starch grains
(D) Chromosomes, ribosomes and starch grains

3- The protein that extends through both sides of lipid bilayer is called
(A) Acidic protein
(B) Glycoprotein
(C) Integral protein
(D) Glycolic acid

4- The 80S eukaryotic ribosome consists of two subunits of
(A) 50S and 30S
(B) 40S and 40S
(C) 60S and 40S
(D) 60S and 50S

5- The pattern of microtubule organization in centriole is:
(A) 9 + 0
(B) 9 + 1
(C) 9 + 2
(D) 9 + 3

6- Vimentin filament is:
(A) intermediate filament
(B) microfilament
(C) hydrophobic filament
(D) macrofilament

7- The stabilization of the growing microtubule is carried out by:
(A) ATP
(B) ADP
(C) GTP
(D) NADH

8- In which cell cycle phase DNA replication occurs.
(A) S phase
(B) M phase
(C) G2 phase
(D) G0 phase

9- During cell division, Chromosomes line up across the center of the cell at:
(A) Prophase
(B) Telophase
(C) Metaphase
(D) Anaphase

10- In Figure-1; letter "X "refers to which movement pattern of Phospholipids?

(A) Lateral diffusion (B) Flexion

(C) Rotation (D) Flip-flop

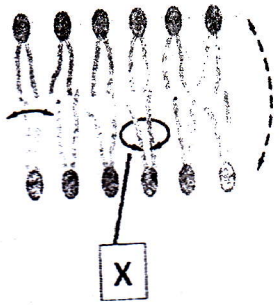


Figure-1

11- Cell wall is found in all the following **except**

(a) Prokaryotic cells (b) liver cells (c) Plant cells

(d) Algal cells

12- The most characteristic features of mitochondria are

(a) single unit membrane and DNA (b) Two unit membranes

(c) Two unit membranes and DNA (d) cell wall and DNA

13- The main function of ribosome is

(a) Lipogenesis (b) Cellular digestion (c) Protein synthesis

(d) Photosynthesis

14- Lysosomes are formed in:

(a) mitochondria (b) nucleolus (c) ribosomes (d) Golgi complex

15- The most abundant components of cell membrane are

(a) integral Proteins (b) Surface Proteins

(c) Phospholipids (d) Carbohydrates

16- The cell membrane is _____ permeable.

(a) Somewhat (b) physically (c) ionically

(d) selectively

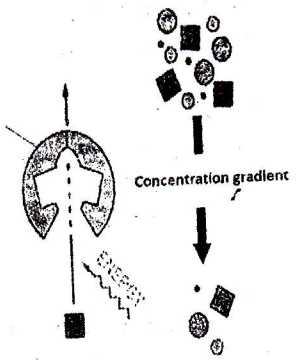


Figure (2)

17- Figure (2) is an example of.....

(a) active transport (b) passive transport (c) diffusion

(d) osmosis

18- Glycoproteins are synthesized in the RER and .....

a) Nucleus b) Golgi complex c) Mitochondrion

d) Plasma membrane

19- In eukaryotic cell, microtubules are absent in

a) flagella b) mitotic spindle c) nucleus d) cilia

20- How many heterodimers are present in a single microtubule spiral circle?

a) 5 b) 13 c) 20 d) 26

21- Nucleoplasm is continuous with cytoplasm through

(a) Centriole (b) Nuclear pores (c) E.R. (d) Golgi Body

22- The main role of nucleolus is

(a) Ribosomal synthesis (b) Chromatid separation (c) Organization of chromosomes (d) DNA replication

23- An octamer consists of four histones complexed with DNA is called:

a) Nucleosome b) Centrosome c) Chromosome d) Endosome

24- The main cause of Kartagener's syndrome is:
a) lack of vimentin b) lack of motile cilia c) lack of cilia d) lack of mitotic spindle

25- Caspases are mainly
a) nucleases b) Phosphatases c) lipases d) not mentioned

26- Peroxisome's function is involved in:
a) Cell division b) Breakdown of toxic molecules c) Energy processing
d) Structural support

27- Stage at which the cytoplasm of a cell is divided to form two daughter cells:
a) Metaphase b) Anaphase c) Telophase d) Cytokinesis

28- Oxidative phosphorylation takes place in:
a) Nucleus b) Golgi apparatus c) Mitochondrion d) Cytosol

29- Sarcoplasmic Reticulum is found in .....
a) Liver cells b) Muscle cells c) Kidney cells d) Neurons

30- During apoptosis cascade Cytochrome c is leaked out from:
a) Golgi body b) Mitochondria c) Nucleus d) Lysosomes

31- primary lysosomes are distinguished from secondary ones by
a) obvious membrane b) large size c) single membrane d) double membrane

32- Peroxisomes are rich in a) DNAse b) catalase c) lipase d) phosphatase

33- Smooth endoplasmic reticulum..... Ribophorin I and II.
a) contains b) lacks c) segregates d) all the mentioned

34- ..... is the intermediate filaments found in epithelial cells?
a) Vinmentin b) Desmin c) Cytokeratin d) Actin

35- ..... is the organelle where degradation of proteins marked with ubiquitin occurs
a) Lysosome b) Peroxisome c) Proteasome d) Ribosome

36- The most abundant RNA in the cell is.....
a) mRNA b) tRNA c) rRNA d) siRNA

37- The name of the DNA nucleoside containing Cytosine base is .....
a) Cytosine b) Cytidine c) Cytidine -5' monophosphate d) deoxycytidine

38- In transcription..... moves along the DNA template in the 3'-5'direction to synthesize the corresponding mRNA
a) DNA Helicase b) DNA polymerase c) RNA polymerase d) Topoisomerase

39- DNA of eukaryotes contains ..... that codes for proteins
a) histones b) exons c) introns d) none of the mentioned

40- Between A and T nucleotides in the same DNA strand there is.....bond
a) Diester b) hydrogen c) Sulphur d) nitrogen

41- The process of DNA replication involves many enzymes except.....
a) DNA polymerase b) DNA helicase c) DNA terminase d) RNA primase

42- The 1' carbon atom of deoxyribose sugar in DNA is linked with.....
a) Free OH group b) phosphate group c) nitrogenous base d) H atom

43- The newly synthetized DNA strand always extended in ..... direction
a) 5'-to-3' b) 3'-to-5' c) any d) both 5'-to-3' and 3'-to-5'

44- The acceptor stem in tRNA for amino acid attachment is found in .....
a) 5' end b) 3' end c) both ends d) the middle of the sequence

45- The enzyme which unwinds the DNA double helix during transcription is
a) DNA helicase b) DNA polymerase c) RNA polymerase d) transcription factors

46- Okazaki fragments are joined together by .....
a) DNA ligase b) DNA polymerase c) DNA helicase d) none of the mentioned

47- RNA nucleoside consists of a nitrogen base linked to .....
a) Ribose sugar b) deoxyribose sugar c) phosphate group d) uracil

48- ATP, the major energy source of biological activity is.....
a) an RNA nucleotide b) a DNA nucleotide c) an RNA nucleoside d) a DNA nucleoside

49- The 3' carbon of the last nucleotide of DNA strand is linked with.....
a) deoxyribose sugar b) phosphate group c) nitrogenous base d) OH group

50- mRNA consists only.....of total cellular RNA.
a) 5-10% b) 0.5-1% c) 50-80% d) 15-35%

II- Choose True (T) or False (F) (10 marks, 1 mark for each):

51- The prokaryotic mitochondria contain DNA ( )

52- Lipofuscin granules formed as residual bodies accumulation. ( )

53- Nuclear envelope is composed of double membrane ( )

54- Reactive oxygen species (ROS) cannot activate apoptosis cascade ( )

55- Sister chromatids are pulled apart during cytokinesis ( )

56- A defect in the p53 gene is considered as a mark for many cancers ( )

57- Lysosomes digestion of invading bacteria is called autophagy ( )

58- A nucleotide does not contain phosphate group. ( )

59- In deoxyribose sugar, 2' carbon is linked with OH group. ( )

60- The inactive genes found mainly in heterochromatin. ( )

End of questions, best wishes, Prof Abo baker Eltayeb

Assiut University
Faculty of science
Geology Department

Date: June, 2022
Time allowed: 2 hours

Second semester final exam in metamorphic rocks (G336)
Students: 3rd year geology

Answer the following questions (one mark for each): *(50 Marks)*

I. Which of the following is true and which is false: *(5 Marks)*

1. *Metamorphic rocks change in appearance, mineralogy, and sometimes even chemical composition from their parent rock source.*
2. *High-grade metamorphism results in a total transformation of the parent rock into a new rock whereby its original parent-rock source is difficult to identify.*
3. *The thickness of metamorphic layers tends to be variable, whereas that of sedimentary layers is commonly constant.*
4. *Metamorphic rocks occur in areas only were rock of Paleozoic age are exposed.*
5. *Schistosity occur when the silicate minerals separate and recrystallize into alternating bands of felsic mineral and dark mafic minerals.*

II. Choose the correct answer A, B, C or D: *(45 Marks)*

6. *Slate sometimes to be a green due to*

   A-iron oxide *B-chlorite* *C-clay minerals* *D-feldspars*

7. *At distance ½D of basic intrusion, the temperature attends to*

   A- 410+Tc *B- 420+Tc* *C- 430+Tc* *D- 440+Tc*

8. *The mineral assemblage characterized the very low grade*

   A-lawsonite – hornblende *B- pumpellyite - prehnite*

   C- zoisite – actinolite *D- staurolite – biotite – almandine*

9. *Which one of these minerals is a stress mineral?*

   A-garnet *B- cordierite* *C- muscovite* *D- andalusite*

10. *In which grade the Zoisite is present?*

    A-low grade *B- medium grade* *C-high grade* *D- very low grade*

11. *Possible temperature attained at contact of intermediate intrusion {1000m thickness}*

A- 560+Tc *B- 550+Tc* *C- 510+Tc* *D- 460+Tc*

12. *High grade metamorphic rocks present in the area around:*

A-gabroic *B-syentic* *C-dioritic* *D- granitic intrusions*

13. *Match this mineral assemblage with rock name pyroxene – garnet*

A-marble *B- amphibolites* *C- granulite* *D- eclogite*

14. *The original lithology that can cause the formation of mesh texture*

A-sandstone *B- dunite* *C- shale* *D- diorite*

15. *A combination of shallow earthquakes, tension, and contact metamorphism characterizes:-*

A-transform fault margins *B-spreading centers*

C- continent/continent margins *D- subduction type margins*

16. *Within a 50 mile traverse you walk from shale into slate into phyllite. You are walking in the direction of*

A-increasing metamorphic grade *B- decreasing metamorphic grade*

C- increasing degree of contact metamorphism

D- increasing degree of cataclastic metamorphism

17. *Which of the following metamorphic rocks is not paired with its true parent rock?*

A-greenstone-basalt *B-quartzite - quartz arenite*

C- schist – shale *D- hornfels – dolomite*

18. *Is the process where rocks previously metamorphosed under high-grade conditions are later metamorphosed under low-grade conditions?*

A-metasomatism *B- cataclasis* *C-foliation* *D- retrograde metamorphism*

19. *Hydrothermal metamorphism is very common in which of the following settings?*

A-at continental collision zones *B- along shallow faults*

C- at mid-ocean ridges *D - in mid-continental regions*

20. Formation of staurolite at:

A-(505°C-500 bars) B-(515°C-1000 bars)

C- (520°C-2000 bars) D- (555°C-4000 bars)

21. During thermal metamorphism a quartz arenite will change into what type of rock?

A-slate B- schist C- quartzite D- gneiss

22. Which of the following metamorphic rocks forms in the forearc of a subduction zone?

A-amphibolite B- blueschist C- quartzite D- gneiss

23. Which of the following rocks can be considered gradational between igneous rocks and metamorphic rocks?

A-gneisses B- quartzite C- migmatite D- schist

24. A rock rich in garnet and pyroxene that forms at extremely high pressures and moderate to high temperatures is called an

A-amphibolite B- hornfels C- granulite D- eclogite

25. What is sedimentary rock changed into slate during metamorphism?

A-shale B- limestone C- sandstone D- breccia

26. Which of the following metamorphic rocks cannot form from shale?

A-schist B- marble C- hornfels D- slate

27. Which of these rocks characterized by mosaic texture?

A-schist B- slate C- marble D- serpentine

28. The expected metamorphic grade at the contact of deep sea basic intrusion

A-low B- medium C- high D- very low grade

29. Which of the following index minerals forms at the highest metamorphic grade?

A-chlorite B- silimanite C- biotite D- garnet

30. Which of these rocks are characterized by decussate texture?

A- phyllite B-mylonite C-marble D-amphibolite

31. The more commom metamorphic mineral in low grade schist are

A-albite B-chlorite C-biotite D- All of these

32. Granulite facies is well developed in:

A-Precambrian terrains B-subduction zone

C-transform fault D-divergence zone

33. The metamorphic rocks usually present in nature associated with

A-Ancient igneous rocks B-Cretaceous sedimentary rocks

C- Tertiary sedimentary rocks D-Recent sedimentary rocks

34. Andradite present in:

A- thermally metamorphosed calcareous sediment

B- dynamic metamorphic sediments

C- regionally metamorphic sediments

D- metasomatic calcareous sediment

35. Quartizite can be formed by:

A-regional B- dynamic C- thermal D-metasomatic metamorphism

36. The more common metamorphic rocks in nature are:

A-schists B-serpentinites C-marbles D-quartizites

37. In hydrothermal metamorphism the most important factors of metamorphism is the:

A-hot ion rich fluids B-temperature C-directive pressure D-indirective pressure

38. The index metamorphic mineral need:

A-specific lithology B- specific type of metamorphism

C- specific degree of metamorphism D- All of these

39. Phyllite is developed in higher degree of metamorphism than:

A-geniss B-schist C-slate D-migmatite

40. Pressure plays a role in the formation of:

A-schist B-marble C-quartizite D-mylonite

41. Metamorphic rocks could be containing:

A-fossils B-specific mineral C-specific texture D-all of these

42. Amphibolites facies is named after index mineral:

A-hornblenbe B-hypersthene C-andalusite D-forsterite

43. In which grade k-feldspar and muscovite are present?

A-very low B-medium C-high D-low grade

44. Talc-carbonate rocks are product of:

A-regional B-thermal C-dynamic D-metasomatic metamorphism

45. Possible temperature at distance 1/10 D of basic intrusion is

A-600+Tc B-610+Tc C-620+Tc D-625+Tc

46. Which type of pressure will result in the alignment of metamorphic minerals?

A- contact pressure B- directed pressure

C- confining pressure D- indirect pressure

47. The most common foliated texture is

A- porphyroplastic texture B- mosaic texture

C- decussate texture D- gneissose texture

48. The original rocks that can cause the formation of amphibolite

A-mudstone B- granite C- limestone D- basalt

49. Type of metamorphism that can cause the formation of porphroclastic texture:

A-dynamic B-regional C-thermal D-metasomatic metamorphism

50. With increasing the degree of metamorphism in regionally metamorphosed pelitic sediments are

A-chlorite-biotite-garnet-kyanite-staurolite

B- chlorite-actinolite-garnet-oligoclase

C- chlorite-garnet-biotite

D- chlorite-biotite-garnet-hornblende-oligoclase

امتحان الشفوي عقب امتحان النظري مباشرة (مكتب أ.د/ حسين عزيز محمد حجازي)

تمنياتى بالتوفيق والنجاح

جامعة أسيوط

كلية العلـــوم-قسم الجيولوجيا

الامتحان النهائى لمقرر (340 ج) ميكانيكا الصخور والجيولوجيا التركيبية

Rock Mechanics and Structural Geology (G340)

الزمن : ثلاث ساعات — يونيه 2022

PART I : Rock Mechanics (17 marks)

A) Label the correct sentence with true (T) and the incorrect one with false (F)	
1- The strength of a rock decreases at depth because of the increase in confining pressure.	( )
2- The stress ellipsoid is a construction showing the complete variation in stress with direction.	( )
3- Shear stress can be either compressional or tensional.	( )
4- Homogeneous stress means stress at any point in the body is of equal magnitude and direction.	( )
5- The principal planes of stress have no components of normal stress acting on them.	( )
6- Glacial loading is an example of body forces.	( )
7- Plastic strain is responsible for the behavior of seismic waves in rock.	( )
8- Rocks are plastic and ductile near the earth's surface.	( )
9- The finite strain is the sum of all of the incremental strains.	( )
10- The process of finding the resultant of two or more forces is called the composition of forces.	( )

B) Choose the correct answer

1- A sample of marble has deformed as a brittle substance during a laboratory experiment. If we wish our next sample of marble to deform plastically rather than as a brittle substance, we should conduct our next experiment at.....

A- lower temperatures and lower confining pressures	B- lower temperatures and higher confining pressures	C- higher temperatures and lower confining pressures	D- higher temperatures and higher confining pressures

2- What type of forces dominates at divergent plate margins?

A. tensional forces	B. shearing forces	C. compressive forces	D. all of them

3- ..... is the property of materials that exhibit both viscous and elastic characteristics when undergoing deformation.

A- Viscoplasticity	B- Viscoelasticity	C- Plasticity	D- all of them

4- The development of folds and boudins in straight layering are expressions of.....

A- inhomogeneous deformation.	B- homogeneous deformation	C- tension forces	D- all of them

5- A .....deformation path is one in which the principal strain axes before and after strain coincide.

A- coaxial	B- Non coaxial	C- Simple shear	D- Rotational

6- An example of body Force .....

A- weight of overlying material	B- displacement loading	C- mechanical disturbance of rock	D-electromagnetic

7- Most rocks ..... at room temperture and pressure.

A- elastic	B- plastic	C- viscous	D- none of them
8- When the two ends of a rod are turned in opposite directions, the rod is subjected to …			
A- tension	B- compression	C- torsion	D- none of them
9- …….describes a series of incremental strain events .			
A- Finite strain	B- Strain Path	C- Incremental Strain	D- none of them
10- …….refers to the slow continuous deformation with the passage of time.			
A- Plasticity	B- Stress	C- Shearing	D- Creep

Dr. Hassan Abbas

Good Luck…….

PART II : Structural Geology (33 marks)

Q1- Choose the correct words to complete the following phrases: (one mark each)

1) A non- cylindrical fold is characterized by ……..
   a- no hinge line b- a curved hinge line c -straight hinge line d- refolded hinge line

2) ……..is a term used to indicate the direction of movement and rotation that occurred during deformation.
   a- Inter limb angle b - Vergence c - Roll over d- hade

3) An imaginary plane that is tangential to the hinge zones of a series of small folds is called: ……..
   a- Axial surface b - Enveloping surface c - Bedding surface d - Symmetric plane

4) A …….. is a series of folds within a particular unit or series of units.
   a- Folded belt b - Fold train c - Folded mountain chain d – Drag fold series

5) The angle between fold limbs in the profile plane is called the ……..
   interlimb angle b - true dip angle c - vergence angle d- apparent fold angle

6) In faulting, the horizontal component of dip separation is called……..
   a-Throw b- Heave c- Dip slip d-stratigraphic separation

7) High point of the hinge line in a noncylindrical fold is called ……..
   a- Depression b - Culmination c –Crest d- Amplitude

8) In similar folds the layer thickness parallel to the axial surface ……..
   a-Increases b - remains constant c - decreases d- changes irregularly

9) Direct Folding is the result of deformation by……..
   a- shearing due to the action of a couple force lying in a horizontal plane.
   b- maximum compressive stress (σ_1) acting horizontally
   c- the intermediate(σ_2)and the minimum stresses(σ_3) acting horizontally.
   d- high confining pressure.

10) Angle of linear element with earth's surface in an imaginary vertical plane :……..
   a- Orientation b-Plunge c- Rake d –Attitude

11) *The topographically highest line on a folded surface, which need not coincide with the fold hinge.*
   a-Culmination b - Crest c - Klippe d- outlier

باقي الأسئلة في الصفحة التالية

12) *Kink folds are small folds that are characterized by .....*

a- irregular and isolated fold structures *b - straight limbs and sharp hinges*
c-with only one tilted limb *d- wide crestal areas*

13) *Ind*irect Folding is the result of deformation by.....

a- extension of the earth's crust
b- shearing due to the action of a couple force lying in a horizontal plane.
c- the intermediate(σ_2)and the minimum stresses(σ_3) acting horizontally.
d- maximum compressive stress (σ_1) acting horizontally.

14) *Large-scale recumbent folds often associated with thrust faulting; they are called*
a- Thrust sheets *b - nappes* *c - Duplex* *d- allochtones*

15) *Geologic structure formed before full lithification but after initial deposition is called:*
a- syn-formational *b- post-formational* *c- penetrative* *d- pene-contemporaneous*

16) On a listric fault the hanging-wall block rotates around an axis that is .....
a- parallel to the fault surface b- perpendicular to the fault surface
c- oblique to the fault surface d – of no orientation

17) In parallel folds .....
a- the layer thickness maintain constant across the folded surface.
b- the layer thickness increases parallel to the axial surface.
c- the layer thickness decreases parallel to the axial surface.
d- the inner layers are more folded than the outer ones

18) Monoclines are fold structures with .....; the beds on either side of the tilted limb are horizontal.

a-Symmetric axial surface b- Inclined axial plane c - only one tilted limb d - symmetric limbs

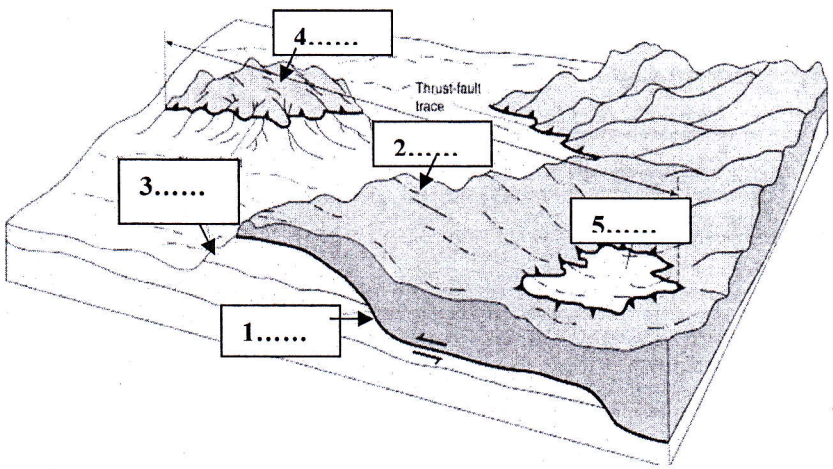
19) ..... *is a fault rock consisting of loose or loosely bound angular rock fragments often in a gouge matrix.*

a - Mylonite *b- Fault gauge* *c- Fault breccias* *d –Pseudotachylite*

20) *Pull-apart basins are associated with strike-slip faults at.....*
a- releasing bends *b- restraining bends* *c- rotated fault blocks - plate boundaries*

Q2- From the Figures Answer the Following: *(13 marks)*

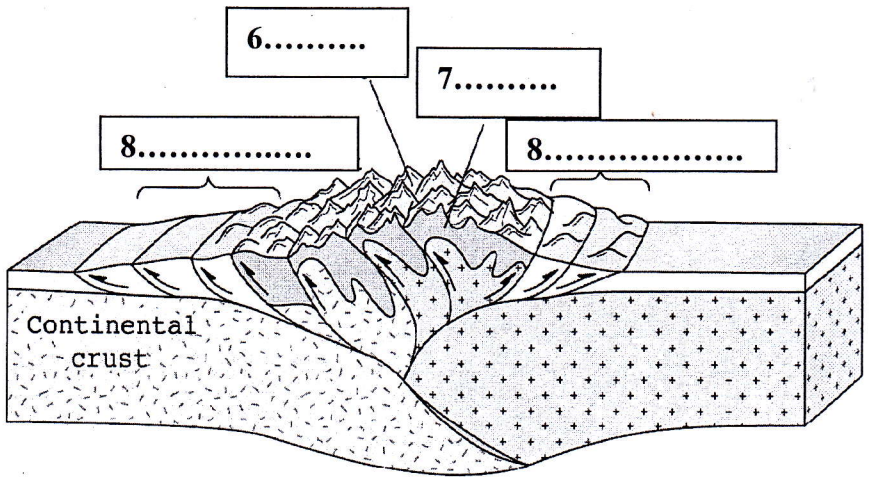
(A)



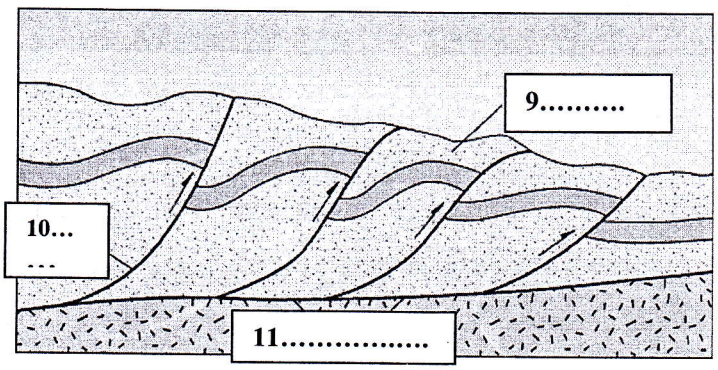
باقي الأسئلة في الصفحة التالية

1) a- Normal fault b- Thrust fault c- Bedding surface d- Strike-slip fault
2) a- Duplex b- Allochtone c- Foot wall d- Older rocks
3) a- Hanging wall b- Autochtone c- Imbricate fan d- basal unit
4) a- Fault block b- Cap rock c-Klippe d- Hanging wall
5) a- Structural basin b- Window c- Rift d- Topographic depression

(B)



6) a- Subduction zone b- Mountain range c–Midoceanic ridge d -Volcanic field
7) a- New ocenic crust b -Metamorphic rock c-nappe sructure d- klippe
8) a- Crustal extension zone b- Fold-thrust belt c- overturned folding d- Back arc



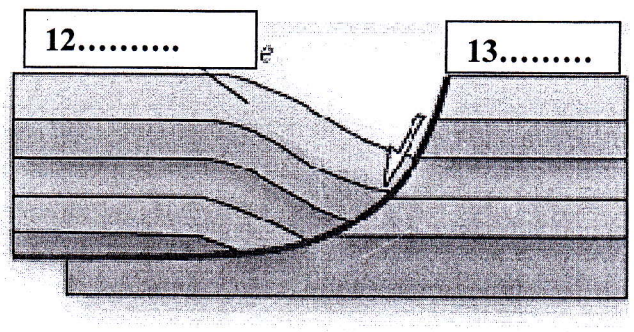
(C)

9) a-Foot wall b-duplex c-thrust slice
d- tilted block
10) a-Normal fault b- strike-slip fault
c-Thrust fault d- Joint plane
11) a-Unconformity surface
b- Detachment fault c-allochtone
d- growth fault

(D)

12) a- anticlinal bend- b-Roll-over anticline
c- Homoclinal structure d- duplex

13 a-sinistral strike slip fault
b- Listric fault
c-graben structure
d- High angle reverse fault



Good Luck!!

Prof.Dr. Moustafa M.Youssef

بسم الله الرحمن الرحيم

جامعة أسيوط
كلية العلوم - قسم الجيولوجيا

امتحان المستوى الثالث بكلية العلوم شعبة الجيولوجيا

(315G) (Micropaleontology & Historical Geology)

الزمن: ثلاث ساعات — الدرجة: 50 درجة — دور يونيو 2022م

Part One: Micropaleontology (30 Marks)

Q1- Answer Only Two questions from the following: (10 Marks, 5 marks for each)

1- Discuss the effect of salinity and alkalinity in the distribution of foraminifera.
2- Compare between the Radiolaria and benthonic foraminifera in: Systematic position - environmental habitat - shell walls – shell shape - mode of life
3- Discriminate by drawing between the different types of conodonts.

Q2- Answer on ONE of the following questions: (5 Marks)

4- Write on the following:
A- Illustrate by drawing the alternation of generation of foraminifera (dimorphism).
B- Write short notes on the environments of planktonic foraminifera.

Q3- Mark the correct and the wrong statements, and correct the wrong: (5 marks; 1 mark each)

A- For classifying fossil dinoflagellates, tabulation of the cyst is a very important criterion.
B- Fossil spore and pollen grains share more or less the same morphological features except that of wall structure, type & position of aperture.
C- Chitinozoa have a particular value to Mesozoic biostratigraphy.
D- Artificial "non-biological" classifications of spores and pollen grains are based on morphological criteria.
E- Fossil prasinophytes are exclusively marine.

Q4- Choose the correct answer: (5 marks; 1 mark each)

A- Fossil dinoflagellates is now accepted to be classified according to:
1- International Code of Botanical Nomenclature (ICBN) as algae
2- International Code of Zoological Nomenclature (ICZN) as protozoans
3- both (ICBN) and (ICZN)
4- none of them

B- Criteria used in classification of spore/pollen grains are:
1- type of aperture 2- grain shape 3- grain sculpture 4- grain size 5- all of them

C- Extraction of palynomorphs using HCl/HF acid treatment is based on the concept that:
1- palynomorphs are sensitive to oxidation and diagenesis processes
2- palynomorphs are made of organic walls that are resistant to non-fumic acids
3- palynomorphs are made of organic walls that are resistant to bases.
4- none of them

D- Chitinozoa are useful in biostratigraphic and thermal maturity studies because they are:
1- resistant to oxidation 2- resistant to thermal alteration 3- resistant to tectonism 4- all of them

E- Classification of dinoflagellate cysts is based on:
1- number of plates 2- arrangement of plates 3- all of them 4- none of them

Q5- Write briefly on Only TWO of the following: (5 marks; 2.5 marks each)

A- Definition, Taxonomy, morphology, and ecology of prasinophytes
C- Amb, aperture, and symmetry in fossil spores (with drawings).
B- Standard palynological processing technique.

Part Two: Historical Geology (20 Marks)

Answer the following question:

Q6- Choose the correct answer: (20 Marks)

1- The largest supercontinent during the Permian period was known as

a) Pangaea b) Laurentia c) Gondwanaland d) Rodinia

2- Which of the following terms of things found in rocks is NOT part of the Precambrian rock record?

a) Stromatolites b) shelled organisms c) algae d) bacteria

3- The smallest formal unit of the Chronostratigraphy.

a) Peroid b) Stage c) Series d) Era

4- The first form of life on the Earth

a) Cyanobacteria b) Angiosperms c) Gymnosperms d) Spones

5- The principle of uniformitarianism is often summarizing

a) supernatural forces at work
b) conditions exiting today cannot from rocks as in the past
c) the present is the key to the past
d) rocks cannot be made in the laboratory

6- The center of the earth is known as the

a) Crust b) Core c) Atmosphere d) Hydrosphere

7- Greenhouse effect will lead to

a) an increase in Oxygen Production
b) decrease in atmospheric pressure
b) greater rainfall
c) an increase in the temperature

8- How many epochs fall in the Quaternary time?

a) three b) two (c) four (d) five

9- Upper Cretaceous rock layers correspond to

a) Late Cretaceous b) Middle Cretaceous
c) Early Cretaceous d) Earliest Cretaceous

10- If you were to correlate between outcrops using rock type only, you would be doing..... correlation.

a) isotope stratigraphic b) chronostratigraphic
c) biostratigraphic d) lithostratigraphic

11- The idea that older rocks are on the bottom of an undisturbed sequence is called.....

a) Superposition b) lateral continuity
c) cross-cutting relationships d) faunal succession

12- What is the correct order of the epochs of the Paleogene Period from earliest to latest?

a) Cretaceous, Jurassic, Triassic
b)Paleocene, Eocene, Oligocene
c) Oligocene, Miocene, Pliocene
d) Eocene, Cretaceous, Paleocene

13- Which geologic period is named for its famous chalk deposits?
a) Cretaceous b) Jurassic c) Paleogene d)Triassic

14- If rock **(A)** cross-cuts rock **(B)**, then rock A is:
a) older than rock B b) younger than rock B
c) the same age as rock B d) on top of rock B

15- Which of the following is a method of correlation?
a) physical continuity b) similarity of rock types
c) similar fossil assemblages d) all of these can be used for correlation

16- Eras of the Standard Geologic Time Scale are subdivided into:
a) Eons b) Epochs c) Ages d) None of these

17- Which subdivision of geologic time is the longest?
a) Paleozoic b) Mesozoic
c) Teritiary d) Quaternary

18- Which of the following is not a type of unconformity?
a) Nonconformity b) disconformity
c) uniformity d) angular unconformity

19- Undisturbed sedimentary rock layers occur in horizontal layers. This is a statement of:
a) The Principle of Superposition
b) The Principle of Cross-Cutting Relationships
c) The Principle of Original Horizontality
d) The Principle of Faunal Succession

20- The first form of vertebrate life on the Earth
a) Jawless Fish b) Armored Fish c) cartilage fish d) bony fish

تمت الأسئلة مع التمنيات بالتوفيق

د. عمرو سعيد ضيف

ا.د. ناجح عبدالرحمن عبيدالله

جامعة أسيوط
كلية العلوم - قسم الجيولوجيا

بسم الله الرحمن الرحيم

امتحان التحريرى للمستوى الرابع بكلية العلوم شعب الجيولوجيا والجيوفيزياء والجيولوجيا كيمياء

المادة: جيولوجيا الحقل (306 ج)

Field Geology (306 G)

دور يونيو 2022/2021م الدرجة: 50 درجة الزمن: ساعتان

ملحوظة: الأمتحان يتكون من 6 صفحات (درجة واحدة لكل سؤال)

I- Choice the true or the false statement of the following

1- Contacts between or within plutonic igneous rocks may be sharp or gradational A- True B- False

2- Laccoliths are resulted when magmas are rising upwards. A- True B- False

3- Laccoliths form downward convex shaped masses of igneous rocks. A- True B- False

4- Lopoliths are concordant lenticular plutons with depressed upper surfaces. A- True B- False

5- Cone sheets are steeply outward dipping dikes. A- True B- False

6- Ring dikes and cone sheets display contrast geometric relation. A- True B- False

7- Diapers are bodies of rocks piercing rocks above them. A- True B- False

8- Plugs is intermediate to silicic subvolcanic intrussions. A- True B- False

9- Batholiths are large deep seated intrusive masses with steeply outward dipping walls. A- True B- False

10- Shield volcanoes are characterized by gentle upper slopes and somewhat steeper lower slopes. A- True B- False

11- Crater is steep-walled depression at the volcanic summit.
A- True B- False

12- Caldera results from the collapse of the volcanic summit.
A- True B- False

13- Caldera forms at the earth surface contrary to the crater.
A- True B- False

14- Stratovolcanics (composite volacanics) are larger symmetrical cones composed of an alternation of lava and pyroclastics.
A- True B- False

15- Composite cones have gentle slopes than shield volcanics.
A- True B- False

16- Felsic and intermediate magmas are generally associated aith ejected ash, pumice and other fragmental debris.
A- True B- False

17- Cinder cones are built from ejected tuffs and frequently occur in groups. A- True B- False

18- Shield volcanoes are composed primarily of basaltic lavas.
A- True B- False

19- Gneissic structure is defined by subparallel arrangement of plate minerals such as feldspars, amphibole and mica.
A- True B- False

20- Schistose structure is well developed under high-grade metamorphism. A- True B- False

21- Compositional layering is defined by alternating layers composed of defferent composition and/or different grain sizes.
A- True B- False

22- Slaty cleavage is the property found by development of very fine-grained mica and/or chlorite. A- True B- False

23- Crenulation cleavage is a primary foliation structure.
A- True B- False

24- Slip cleavage is essentially closely spaced jointing.
A- True B- False

25- Shear cleavage is a term used for closely spaced fractures along which no slip has taken place. A- True B- False

II- Choice the correct answer

26- The process whereby organisms burrow through and thoroughly mix sediment is:
A- lithification B- sedimentation
C- bioturbation D- lamination

27- The origin of the basal conglomerate is from.....rocks.
A- old B- young C- none of these D- all of these

28- Most modern geologic study is based on the concept of the Principle of Uniformitarianism, which states:
A- The present is the key to the past
B- The past is the key to the future
C- The past repeats itself
D- The past's future is the same as the future's past

29- The movement of material by moving wind, water, or ice is a process called
A- Weathering B- Erosion C- precipitation D- All of These

30- Which of the following statements about sedimentary rocks is true?
A- Sedimentary rocks only make up about 5% of the crust
B- Sedimentary rocks are the type of rock we see most often at the Earth surface
C- The process of turning loose sediment into rock is also called Lithification
D- All of these

31- Which of the following features associated with sedimentary rocks does not belong with the others?

A- Bedding plane
B- Nonconformity
C- Angular unconformity
D- Disconformity

32- Which type of sediment consists of broken down particles of rocks produced by weathering and erosion?

A- Biogenic B- Detrital C- Chemical D- Biochemical

33- Which of the following is NOT a type of trace fossil?

A- Shells B- Burrows C- Animal footprints D- All of these

34- Which of the following statements about metamorphism is false?

A- Metamorphic rocks form from existing sedimentary, igneous, or metamorphic rocks.
B- Metamorphism involves melting of existing rocks to form new minerals
C- Metamorphism is controlled by pressure, temperature, fluids, and time
D- During metamorphism, existing minerals are transformed into new minerals

35- Cross-bedding is useful to geologists because:

A- It always indicates whether the bed formed by water or by wind currents
B- It allows regular bedding to be more easily distinguished
C- It makes rocks much more interesting to look at
D- None of these

36- If there is a break in time during the deposition of rock units, this will result in the development of a/an:

A- Cross-cutting B- Conformity C- Unconformity D- None of these

37- The type of unconformity across which the beds have different inclinations is called a/an:

A- Disconformity
B- Angular unconformity
C- Nonconformity
D- Intrusive contact

38- Some rocks contain fossils of species that only lived for a relatively short time in Earth history. These are called:

A- Index fossils B- Fossil assemblages

C- Fossil successions D- Trace fossils

39- A change in sediment type in a depositional environment results in the creation of ..... between individual beds.

A- An unconformity B- A graded bed

C- A bedding plane D- An intrusive contact

40- Which of the following descriptions is NOT correct when talking about graded bedding?

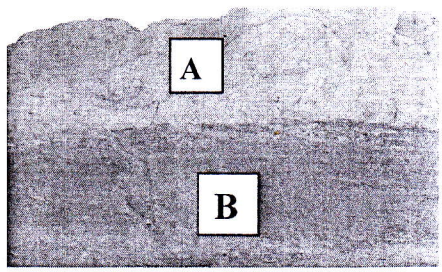
A. It is a gravitational effect produced when sediment drops out of flowing water

B. Small sediment grains are at the bottom and large grains are at the top

C. graded beds are often associated with turbidity currents on ocean slopes

D. graded beds can be formed on a river bed during floods

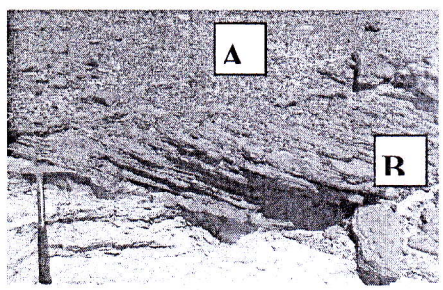
41- The showing field photograph represents ..... contact between beds A and B.



A- sharp B- graditional

C- intercalation D- intrusive

42- The showing field photograph represents ..... sedimentary structure for bed B.



A- primary B- secondary

C- tectonic D- biologic

43- We can measure the direction, the angle, the distance and the elevation by .....

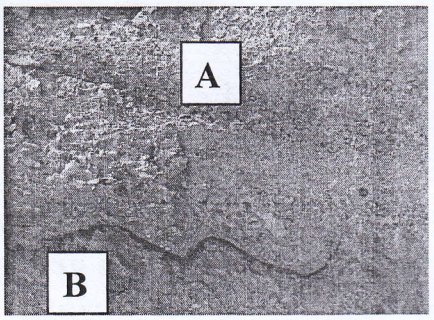
A- the Total Station B- the Brunton Compass

C- both of them D- none of them

44- The faults can be detected in the field by the occurrence .....

A- slickensides B- drag folds C- rock breccia D- all of these

45- The showing field photograph represents ..... between beds A and B



A- a break in the sedimentary record

B- a complete sedimentary record

C- a fault contact

D- all of these

46- The showing field photograph represents ..... structure.

A- physical B- chemical

C- biological D- none of these

47- Datum section can be named by ..... datum.

A- reference B- rock C- mineral D- none of them

48-Which of the following statements about the stratigraphic sections is true?

A- The stratigraphic sections include the general geologic succession for the rock units in stratigraphic order.

B- The stratigraphic sections include thickness of the rock units.

C- The stratigraphic sections include the type of the rock units.

D- All of these

49- Stratigraphic cross-sections are important in .....studies.

A- petroleum B- under-ground water C- mineral D- all of these

50-The showing field photograph represents ..... structure.

A- cross-cutting B- tectonic

C- both of them D- none of them

With our best wishes

Prof. Dr. Ali A. Khudier *Prof. Dr. Nageh A. Obaidalla*

Geology Department Faculty of Science Assiut University		June, 2022 Time: 3H

324G (Principles of Petrology)

Final Exam (50 Marks)

(Part I; 30 Marks)
Choose the correct answer from A, B, C and D:

1- ..... is a phaneritic, intrusive igneous rock characterized by its composition: mostly plagioclase.
A- Pyroxenite B- Anorthosite C- Dunite D- all of them

2- In a rock with a porphyritic texture, the large crystals are referred to as.....
A- groundmass B- phenocryst C- lath D- none of them

3- Gabbroids are distinguished from dioritoids by an anorthite. Anorthite content of plagioclase is less than ..... percent.
A- 50 B- 60 C- 70 D- all of them

4- Rock that contains greater than 75% ash is considered .....
A- tuff breccia B- lapilli C- tuff D- all of them

5- The main heat-transfer mechanism that takes internal energy from deep in the Earth's mantle to the near-surface region is .....
A- convection B- radiation C- Conduction D- none of them

6- Magma mixing is more common at the sites of .....
A- mid-oceanic ridges B- rifting C- subduction D- island arc

7- If most of the grains are anhedral - that is they are generally not bounded by crystal faces, the fabric is said to be..... granular.
A- hypidiomorphic B- allotriomorphic C- idomorphic D- all of them

8- Peridotite is a coarse-grained igneous rock consisting mostly of .....
A- olivine and plagioclase B- olivine and hornblende
C- olivine and quartz D- olivine and pyroxene

9- ..... is simultaneous growth of quartz and alkali feldspar.
A- Granophyric B- Perthitic C- Corona D- all of them

10- ..... is an igneous rock showing a very coarse texture, with large interlocking crystals usually greater in size than 1 cm.
A- Granite B- Dacite C- Basalt D- Pegmatitic

11- Decompression melting of mantle is usually occur in ……. zone.
A- rifting B- subduction C- plume D- all of them

12- ……. is a fine grained, volcanic rock, in composition equal to the plutonic equivalent granite.
A- Latite B- Trachyte C- Rhyolite D- Dacite

13- …… is a type of volcano characterized by gentle slopes or low profile.
A- Stratovolcano B- Volcanic dome C- Shield volcano D- Composite volcano

14- …… is believed to be homogeneous and to consist of a mixture of Fe-Mg silicates and oxides.
A- lower mantle B- upper mantle C- Transition zone D- all of them

15- The main factor that determines the texture of an igneous rock is the ……..
A- cooling rate B- diffusion rate C- nucleation rate D- growth rate

16- Syenite is a coarse-grained intrusive igneous rock essentially composed of ……
A- alkali feldspar B- plagioclase C- quartz D- hornblende

17- …… is the reaction of the magma with the country rocks, whereby these country rocks are incorporated in the magma and eventually melt.
A- Magma mixing B- Liquid immiscibility C- Assimilation D- Crystal fractionation

18- …… is the process by which magmas evolve to give rise to a variety of magmas and rock types.
A- Differentiation B- Partial melting C- Assimilation D- all of them

19- …… are rocks with between 93-85% accumulated minerals in a groundmass.
A- Orthocumulates B- Mesocumulates C- Adcumulates D- all of them

20- In …… texture, the pyroxene grains partially or completely surround plagioclase laths; common texture of gabbros and basalts.
A- ophitic & subophitic B- intergranular C- intersertal D- none of them

21-…… metamorphism affects a large body of rock, and covers a great lateral extent.
A- Shock B- Regional C- Dynamic D- Thermal

22- If the rock is very fine grained, not luster (dull) and freshly cleaved ……name is used.
A- granite B- gneiss C- slate D- schist

23- …….. facies occurs in areas of low T/P gradients, characteristically developed in subduction zones.
A- Blueschist B- Zeolite C- Sanidinite D- none of them

24- …….. a fine-grained, cohesive fault rock that generally forms at shallow depths in the crust, dominantly by brittle deformation processes.
A- Cataclasite B- Pseudotachylite C- Fault breccia D- Mylonite

25- …… a low-grade metamorphic rock that typically contains chlorite, actinolite,

epidote, and albite.
A- Greenschist B- Amphibolite C- Blueschist D- all of them

26- ..... is a dark, mafic mineral band formed in migmatite
A- Melanosome B- Skarn C- Leucosome D- Tactite

27- Which list of metamorphic facies is in order from lowest to highest grade?
A- Amphibolite, zeolite, greenschist, granulite
B- Granulite, amphibolite, greenschist, zeolite
C- Greenschist, granulite, amphibolite, zeolite
D- Zeolite, greenschist, amphibolite, granulite

28- ..... is a green and red metamorphic rock that contains clinopyroxene and garnet.
A- Serpentinite B- Blueschist C- Eclogite D- Granulite

29- Metamorphism characterized by very high temperatures at very low pressures, generated by a volcanic or subvolcanic body.
A- Pyrometamorphism B- Burial metamorphism C- Fault-Zone D- none of them

30- What is a rock called when it has both a metamorphic and an igneous component?
A- Hornfels B- Migmatite C- Mylonite D- Quartzite

(Part II; 20 Marks)

Shades (T) for the true statements or (F) for the false statements

31- Polymictic conglomerates are composed of clasts include several different rock types. ( )

32- Roundness is a description of how angular the edges of a particle are. ( )

33- Porosity refers to the volume of void space (available to contain fluid or air) in a sediment or sedimentary rock. ( )

34- Sedimentary rocks are produced by a cycle of weathering, transport, deposition, and diagenesis of sediment. ( )

35- Porosity that develops at the time of deposition is termed secondary porosity. ( )

36- Water transported sands commonly have a higher sphericity than eolian sands. ( )

37- Glacial till that is transported within glacial ice is typically angular in shape. ( )

38- The principal purely chemical sedimentary rock type is sandstone. ( )

39- Fabric is the overall appearance of a particle. ( )

40- Shales are major reservoirs of groundwater and petroleum. ( )

41- Feldspathic arenites are rich in feldspar than quartz. ( )

42- Layers of Mg-O/OH in a clay mineral are referred to as brucite layers. ( )

43- Calcite is the main mineral constituent of the carbonate minerals. ( )

44- Calcite cements precipitate from acid solutions at pH < 7. ( )

45- Conglomerates are the indurated equivalent of unconsolidated gravels. ( )

46- Quartz provides the most specific information about sandstone provenance. ( )

47- Heavy minerals are coarser than the more dense rock-forming minerals with which they are deposited. ( )

48- Harder lithologies (e.g., basalt) change shape much more readily. ( )

49- Paraconglomerate is a conglomerate, in which all clasts are in contact with other clasts, i.e., the grain supports the clasts. ( )

50- Thicker clay rim around the quartz grain inhibits a precipitation of a syntaxial quartz overgrowth. ( )

GOOD LUCK.....

Prof. Dr. Mahmoud Essa
Dr. Hassan Abbas

Assiut University *Faculty of Science* *Geology Department*		*Second Semester Exam.* *2021 - 2022* *Time: 2 hours*

Subject: Sedimentary Environments and Sedimentary Basins (G335)

تنبيه هام : يتم طمس (تسويد) الإجابة المختارة من قبل الطالب باستخدام القلم الجاف فقط في ورقة الإجابة المرفقة مع الأسئلة

Answer the following questions: (50 Marks)

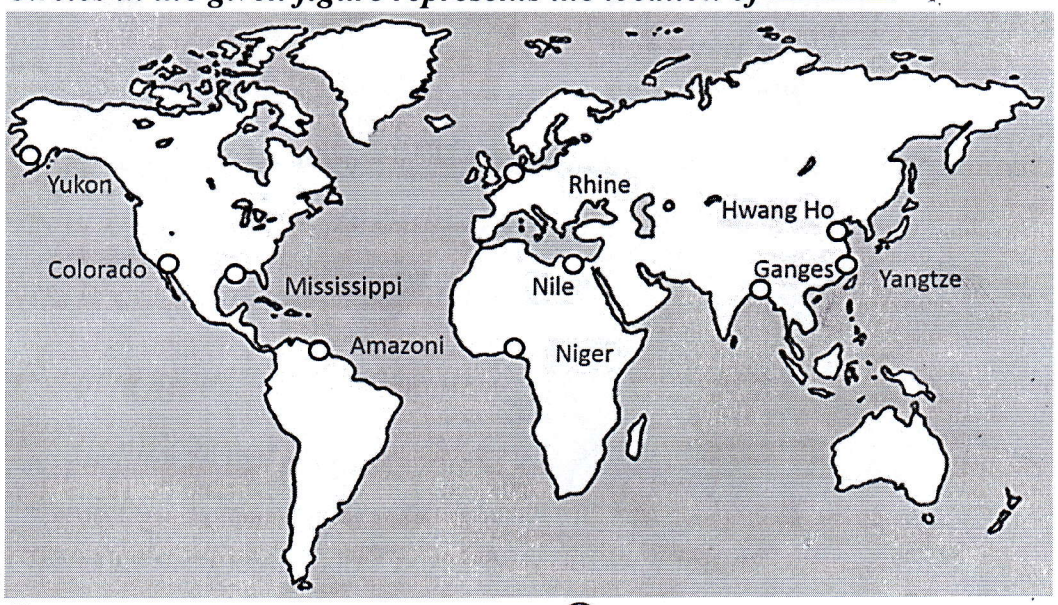
Q1: Shade the correct answer A, B, C or D (one mark each): (40 Marks)

1. *Which of the following environment supports the growth of mangrove swamp?*
   Ⓐ *Tidal flat* Ⓑ *Marine* Ⓒ *Delta* Ⓓ *Fluvial*

2. *Continental sedimentary environments are represented by_____*
   Ⓐ *Coastal sediments* Ⓑ *Pelagic sediments*
   Ⓒ *Aeolian sediments* Ⓓ *Deltaic sediments*

3. *Most of the productive sedimentary basins of Egypt are_____*
   Ⓐ *Offshore basins* Ⓑ *Onshore basins*
   Ⓒ *Back-arc basins* Ⓓ *Offshore-onshore basins*

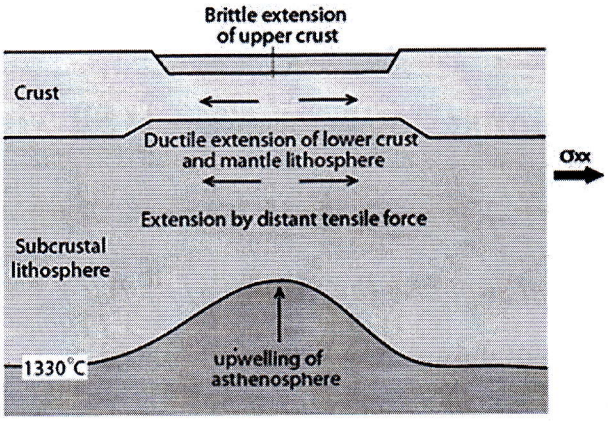
4. *Circles in the given figure represents the location of _____*



Ⓐ *Modern sand dunes* Ⓑ *Onshore sedimentary basins*
Ⓒ *Modern deltas* Ⓓ *Tidal flat sediments*

5. *Which of the following is not an important source of dust?*
   - Ⓐ *Volcanic dust from eruptions*
   - Ⓑ *Clay minerals from soils*
   - Ⓒ *Organic sources, including charcoal, pollen and bacteria*
   - Ⓓ *Earthquakes activity*

6. *The given figure represents_____*

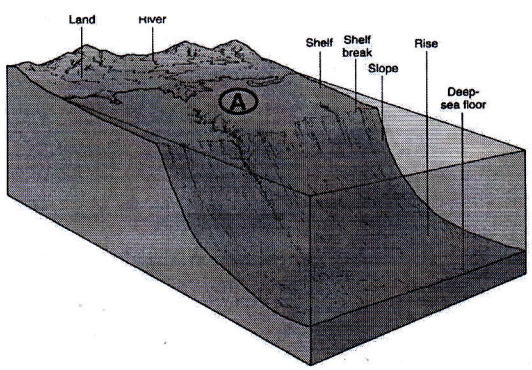


   - Ⓐ *Active rifting*
   - Ⓑ *Passive rifting*
   - Ⓒ *Both A and B*
   - Ⓓ *Neither A nor B*

7. *Pelagic sediments _____*
   - Ⓐ *Are fine-grained*
   - Ⓑ *Are deposited far from continental margins*
   - Ⓒ *Settle very slowly to the seafloor*
   - Ⓓ *All of these*

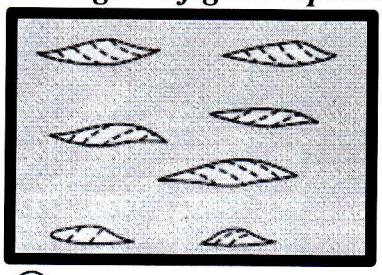
8. *When did plate tectonics begin?*
   - Ⓐ *At 1 to 2.5 billion years ago*
   - Ⓑ *At 3 to 4.4 billion years ago*
   - Ⓒ *At 5 to 6.2 billion years ago*
   - Ⓓ *At 7 to 8.1 billion years ago*

9. *Letter Ⓐ in the given diagram denotes the location of _____*



   - Ⓐ *Neritic sediments*
   - Ⓑ *Pelagic sediments*
   - Ⓒ *Tidal flat sediments*
   - Ⓓ *Lagoon sediments*

10. The given figure represents_____



Ⓐ *Wavy-bedding* Ⓑ *Lenticular-bedding*
Ⓒ *Flaser-bedding* Ⓓ *Trough cross-bedding*

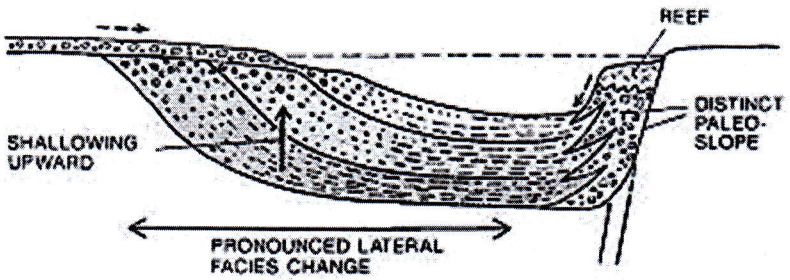
11. River-dominated deltas occur in_____setting
Ⓐ *Mesotidal* Ⓑ *Macrotidal* Ⓒ *Microtidal* Ⓓ *Both A and B*

12. The most ancient sedimentary environment in Egypt is well documented in

_____

Ⓐ *Western Desert* Ⓑ *Eastern Desert*
Ⓒ *Nile Valley region* Ⓓ *Sinai*

13. The given figure represents _____



Ⓐ *Post-depositional sedimentary basin* Ⓑ *Syn-depositional sedimentary basin*
Ⓒ *Pre-depositional sedimentary basin* Ⓓ *Both A and B*

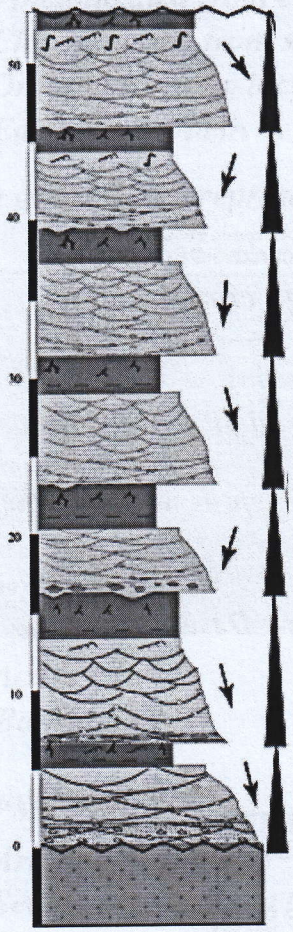
14. Ooze sediments are accumulated at_____

Ⓐ *100m depth* Ⓑ *200m depth* Ⓒ *1000m depth* Ⓓ *4000m depth*

15. According to the available published data up to 2021, the total number of sedimentary basins allover the world was estimated as_____

Ⓐ *554* Ⓑ *698* Ⓒ *764* Ⓓ *894*

16. *The given figure represents* _____



Ⓐ *Asymmetrical coarsening upward cycles*

Ⓑ *Symmetrical coarsening upward cycles*

Ⓒ *Asymmetrical fining upward cycles*

Ⓓ *Symmetrical fining upward cycles*

17. *Gypsum deposits of Egypt were mainly accumulated during* _____ *time*

Ⓐ *Cambrian*

Ⓑ *Cretaceous*

Ⓒ *Jurassic*

Ⓓ *Miocene*

18. *When was the Kenorland continent formed?*

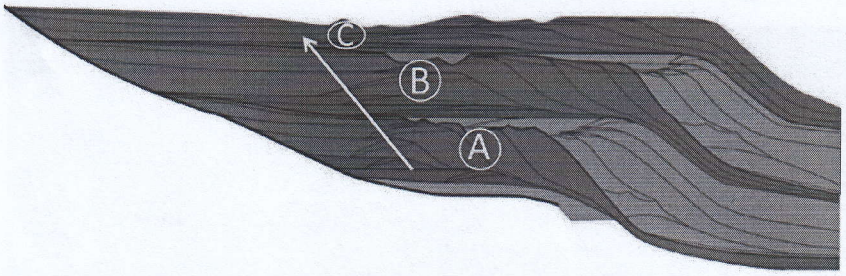
Ⓐ *4.5 billion years ago*

Ⓑ *3.6 billion years ago*

Ⓒ *2.7 billion years ago*

Ⓓ *1.8 billion years ago*

19. *The given figure represents*_____



Ⓐ *Delta retrogradation* Ⓑ *Delta progradation*

Ⓒ *Delta retrogradation-progradation* Ⓓ *Delta progradation-retrogradation*

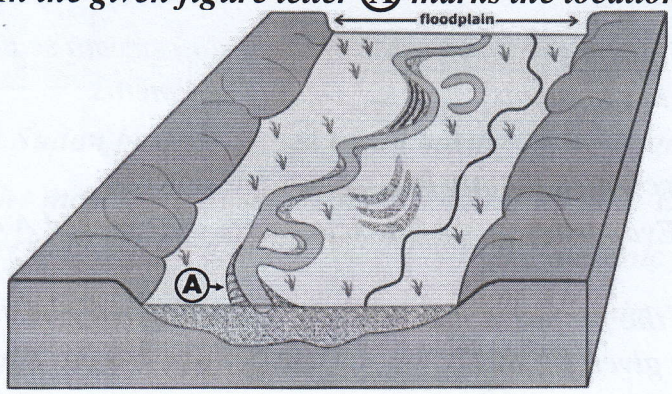
20. *The most major sedimentary basin of Africa is*_____

Ⓐ *Congo basin* Ⓑ *Junggar Basin* Ⓒ *Nias Basin* Ⓓ *Canning Basin*

21. *What is the term for a curved sandbar that forms on the inside curve of a stream?*

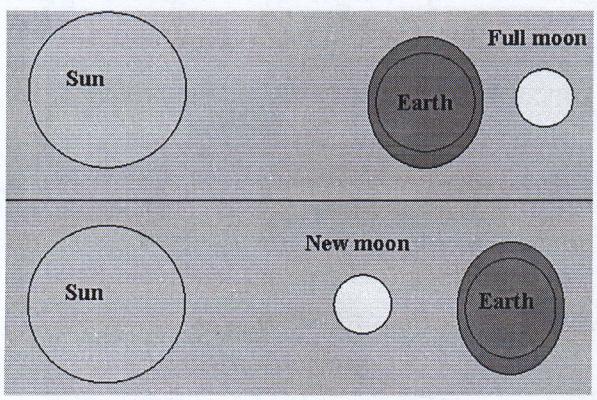
Ⓐ *Meander* Ⓑ *Point bar* Ⓒ *Dune* Ⓓ *Oxbow*

22. *In the given figure letter* Ⓐ *marks the location of* _____



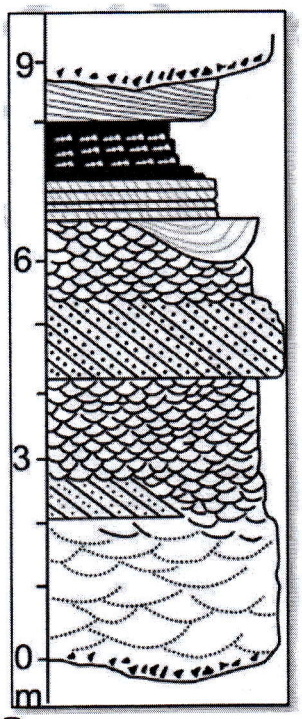
Ⓐ *Point bar* Ⓑ *Levee* Ⓒ *Channel deposits* Ⓓ *Flood plain deposits*

23. *The given figure represents*_____



Ⓐ *Diurnal Tide* Ⓑ *Spring Tide* Ⓒ *Neap Tide* Ⓓ *Mixed Tide*

24. The given figure represents _____

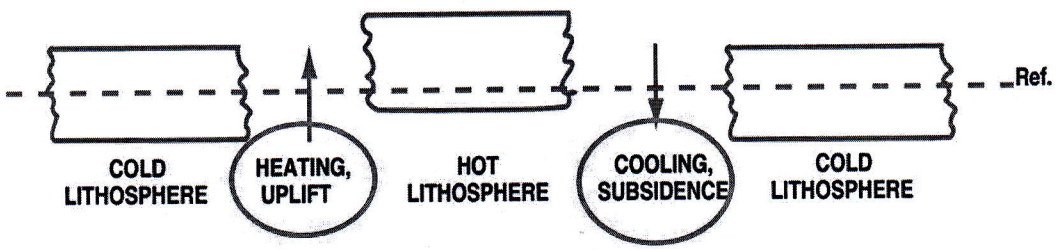


Ⓐ *Braided stream sediments*
Ⓑ *Meandering stream sediments*
Ⓒ *Anastomosing stream sediments*
Ⓓ *Deltaic sediments*

25. Komombo basin is represented mainly by_____

Ⓐ *Carbonates* Ⓑ *Evaporites* Ⓒ *Siliciclastics* Ⓓ *Mixed A and B*

26. Thermal way is one of the proposed mechanisms of sedimentary basin formation, which event marks the given figure?

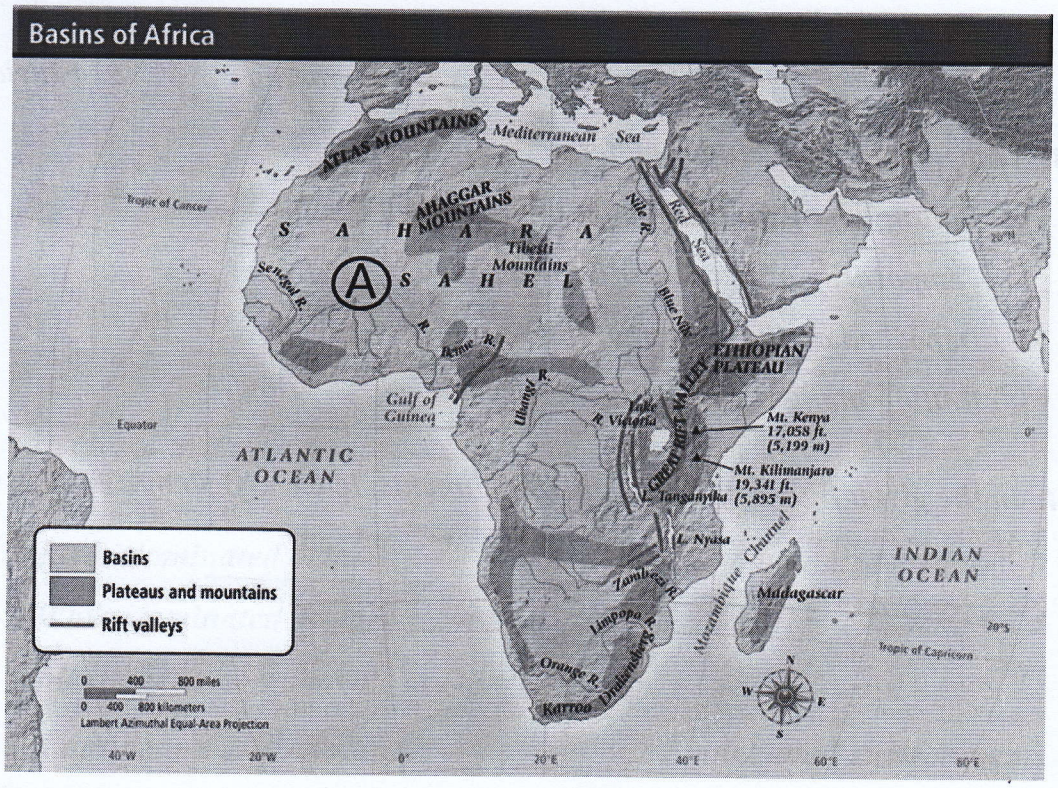


Ⓐ *Thermal way without erosion*
Ⓑ *Thermal way with erosion*
Ⓒ *Thermal way with extensional thinning of the lithosphere*
Ⓓ *Both A and B*

27. East African rift represents an excellent example of _____.

Ⓐ *Active Rifting*
Ⓑ *Passive Rifting*
Ⓒ *Active-Passive Rifting*
Ⓓ *Passive-Active Rifting*

28. *Which African sedimentary basin is missed on the given map marked by letter (A)?*



(A) *Sudan basin* (B) *Chad basin* (C) *Niger basin* (D) *Kalahari basin*

29. *The most ancient sedimentary environment in Egypt is related to _____ time*

(A) *Cretaceous* (B) *Paleozoic*

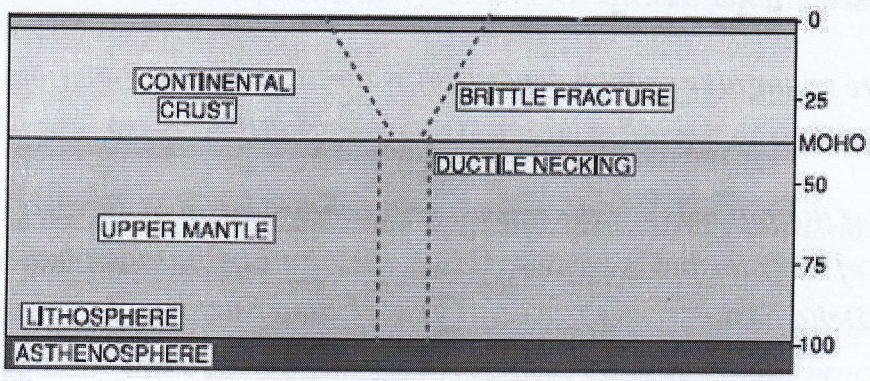
(C) *Pre-Cambrian* (D) *Triassic*

30. *Chile trench represents _____*

(A) *Foreland basin* (B) *Trench-slope basin*

(C) *Backarc basin* (D) *Trench basin*

31. *The given figure represents_____stage of the rift valley formation*



(A) *Pre-rift basin* (B) *Graben formation* (C) *Rift basin* (D) *Both A and B*

32. *Carbonate rocks exposed all around Assiut region were mainly accumulated as_____ sediments*

Ⓐ *Neritic* Ⓑ *Pelagic* Ⓒ *Lagoonal* Ⓓ *Fluviatile*

33. *Suspended load includes material _____*

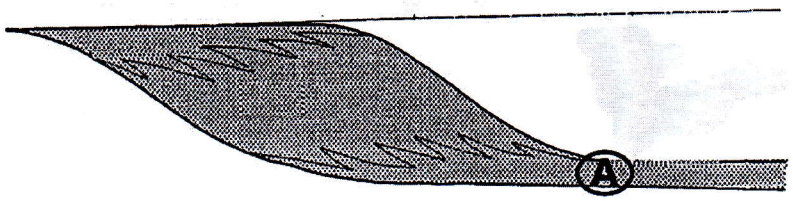
Ⓐ *Rolling along on the bottom of the stream*

Ⓑ *Temporarily or permanently suspended in the flow*

Ⓒ *Deposited on the bottom of the stream*

Ⓓ *Rolling along the bottom and suspended in the flow*

34. *In the given figure of delta subenvironments, letter Ⓐ denotes the accumulation of_____*



Ⓐ *Conglomerates* Ⓑ *Evaporites* Ⓒ *Sandstones* Ⓓ *Marine clays*

35. *The most ancient sedimentary environment occurs in the sedimentary package of Egypt is represented by_____ sediments*

Ⓐ *Tidal flat* Ⓑ *Lacustrine* Ⓒ *Fluvial* Ⓓ *Deltaic*

36. *Dead Sea represents _____*

Ⓐ *Transpressional basin* Ⓑ *Transtensional basin*

Ⓒ *Transrotational basin* Ⓓ *Impactogen basin*

37. *What are triangular shaped deposits of water transported material called?*

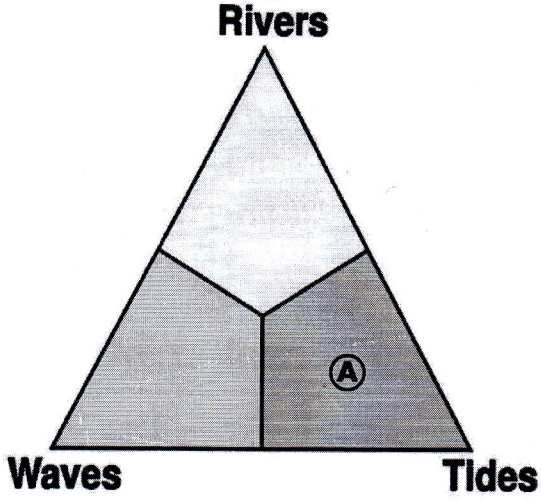
Ⓐ *Tors* Ⓑ *Alluvial fan* Ⓒ *Moraine* Ⓓ *Drumlin*

38. *Which of the following is the largest sedimentary basin of Egypt?*

Ⓐ *Gulf of Suez basin* Ⓑ *Abu El Gharadoq basin*

Ⓒ *Nile Delta basin* Ⓓ *Beni Suef basin*

39. Letter (A) marks the location of_____



(A) River-dominated delta
(B) Tide-dominated estuary
(C) Wave-dominated estuary
(D) Tide-dominated Delta

40. Volcanogenous sediments are more frequent in_____

(A) Continental environments
(B) Transitional environments
(C) Deep marine environments
(D) Both A and B

Q2: Shade (T) for True or (F) for False sentences (one mark each): (10 Marks)

41. Fluviatile sediments were not recorded before the Paleozoic in Egypt.
(T) (F)

42. Nile Delta Basin is dominated by siliciclastic - carbonate sediments.
(T) (F)

43. Marine clays are important for ceramic industry.
(T) (F)

44. About 80% of the sedimentary basins in the world have been formed due to extensional processes.
(T) (F)

45. Eustatic sea-level changes affect the size and shape of sedimentary basins.
(T) (F)

46. The occurrence of black shale may indicate their accumulation above fair weather wave base.
(T) (F)

47. Foreland and trench basins are related to compressional processes.
(T) (F)

48. *No marked variation in sediments thickness can be observed in the post-depositional sedimentary basins.*

(T) (F)

49. *The subsidence rate of sedimentary basins are nearly similar.*

(T) (F)

50. *The existence of laminated sediments witnessed their accumulation under quiet water conditions.*

(T) (F)

Good luck *Ezzat A. Ahmed*