

Question Paper Preview

Notations :

1. Options shown in green color and with ✓ icon are correct.
2. Options shown in red color and with ✘ icon are incorrect.

Question Paper Name:	Geo Engineering and Geo Informatics 29th May 2018 Shift1
Subject Name:	Geo Engineering and Geo Informatics
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Total Marks:	120
Display Marks:	No
Calculator:	None
Magnifying Glass Required?:	No
Ruler Required?:	No
Eraser Required?:	No
Scratch Pad Required?:	No
Rough Sketch/Notepad Required?:	No
Protractor Required?:	No

Display Number Panel:	Yes
Group All Questions:	No

**Question Number : 1 Question Id : 5113466121 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

If $A = \begin{bmatrix} 0 & x & -y \\ -x & 0 & z \\ y & -z & 0 \end{bmatrix}$, then $\det A =$

Options :

1. ✓ 0
2. ✘ 1
3. ✘ 2
4. ✘ 3

Question Number : 2 Question Id : 5113466122 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The eigen values of $A = \begin{bmatrix} 2 & 2 \\ 2 & -1 \end{bmatrix}$ are

Options :

1. ✖ $2, -3$
2. ✖ $2, 4$
3. ✔ $-2, 3$
4. ✖ $2, 3$

Question Number : 3 Question Id : 5113466123 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A function $f(x)$ is defined by $f(x) = a+bx$, if $x < 1$, $f(1) = 4$, $f(x) = b-ax > 1$.

If $\lim_{x \rightarrow 1} f(x) = f(1)$ then values of a and b are

Options :

1. ✖ $a = 1, b = 3$
2. ✖ $a = 3, b = 1$
3. ✔ $a = 0, b = 4$
4. ✖ $a = 2, b = 2$

Question Number : 4 Question Id : 5113466124 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $u = f\left(\frac{x^2}{y}\right)$ then $\frac{\partial u}{\partial y}$ is

Options :

1. ✔ $-\frac{x^2}{y^2} f'\left(\frac{x^2}{y}\right)$
2. ✖ $-x^2 y f'\left(\frac{x^2}{y}\right)$

3. ✖ $\frac{x^2}{y^2} f'(\frac{x^2}{y})$

4. ✖ $\frac{x^2}{y} f'(\frac{x^2}{y})$

Question Number : 5 Question Id : 5113466125 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $f(x) = x^2 - 5x + 4$, satisfies all the conditions of Rolle's mean value theorem in $[1, 4]$, the value of 'c' of the mean value theorem is

Options :

1. ✖ $\frac{1}{2}$

2. ✔ $\frac{5}{2}$

3. ✖ $\frac{7}{2}$

4. ✖ $\frac{1}{3}$

Question Number : 6 Question Id : 5113466126 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The greatest rate of increase of $u = xyz^2$ at $(1, 0, 3)$ is

Options :

1. ✖ 3

2. ✖ 6

3. ✔ 9

4. ✖ 10

Question Number : 7 Question Id : 5113466127 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $f = (x+3y)i + (y-2z)j + (x+cz)k$ is a solenoidal, then the value of λ is

Options :

1. ✖ 1
2. ✖ -1
3. ✖ 2
4. ✔ -2

Question Number : 8 Question Id : 5113466128 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The volume V of solid generated by revolving the cardioid $r = a(1 + \cos \theta)$ about the initial line is

Options :

1. ✔ $\frac{8}{3} \pi a^3$
2. ✖ $\frac{1}{3} \pi a^3$
3. ✖ $\frac{5}{3} \pi a^3$
4. ✖ $\frac{a^2}{\pi}$

Question Number : 9 Question Id : 5113466129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $u(x, y) = ax^2 - y^2 + xy$ is Harmonic, the value of a is

Options :

1. ✖ 0
2. ✔ 1
3. ✖ 2
4. ✖ 3

Question Number : 10 Question Id : 5113466130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Residue of $f(z) = \frac{1}{(z^2+a^2)^2}$ at $z = ai$ is

Options :

1. $-\frac{i}{4a^3}$

2. $\frac{i}{4a^3}$

3. $-\frac{1}{4a^3}$

4. $-\frac{i}{4a^2}$

Display Number Panel:

Yes

Group All Questions:

No

Question Number : 11 Question Id : 5113466131 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Critical angle of electromagnetic radiation takes place if

Options :

1. angle of refraction is equal to 90°

2. angle of incidence is greater than the angle of refraction

3. angle of incidence is equal to angle of refraction

4. angle of incidence is equal to 90°

Question Number : 12 Question Id : 5113466132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following is a biochemical sedimentary rock?

Options :

1. Shale

2. ✘ Conglomerate
3. ✔ Coal
4. ✘ Sand material

Question Number : 13 Question Id : 5113466133 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Koenigsberger ratio is defined as

Options :

1. ✔ remanent magnetization / induced magnetization
2. ✘ induced magnetization / remanent magnetization
3. ✘ induced magnetization / 1.5
4. ✘ remanent magnetization / 3.0

Question Number : 14 Question Id : 5113466134 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The most widely used antenna in GPS is

Options :

1. ✘ slotted antenna
2. ✘ paraboloid antenna
3. ✔ microstrip antenna
4. ✘ horn antenna

Question Number : 15 Question Id : 5113466135 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Mechanical weathering produces

Options :

1. ✘ clay minerals
2. ✘ quartz

3. ✘ calcium carbonate
4. ✔ smaller particles

Question Number : 16 Question Id : 5113466136 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following indicates the rate of cooling of magma of the rock

Options :

1. ✘ density
2. ✔ texture
3. ✘ mineralogy
4. ✘ color

Question Number : 17 Question Id : 5113466137 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Oxygen built up in the Earth's atmosphere because

Options :

1. ✔ algae and other organisms employed photosynthesis
2. ✘ the oceans separated from the crust
3. ✘ oxygen settled on Earth from planets further from the sun
4. ✘ rocks weathered and released their oxygen

Question Number : 18 Question Id : 5113466138 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Exfoliation is common in

Options :

1. ✘ Mountains
2. ✔ Deserts

3. ✖ Coastal areas
4. ✖ Plains

Question Number : 19 Question Id : 5113466139 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Metamorphic rocks are formed under

Options :

1. ✔ High pressure and high temperature
2. ✖ Low pressure and low temperature
3. ✖ High pressure and low temperature
4. ✖ High temperature and low pressure

Question Number : 20 Question Id : 5113466140 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

According to Dupuit's theory, the velocity of flow is proportional to

Options :

1. ✖ Sine of hydraulic gradient
2. ✔ Tangent of hydraulic gradient
3. ✖ Cosine of hydraulic gradient
4. ✖ Logarithm of hydraulic gradient

Question Number : 21 Question Id : 5113466141 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The co-efficient of transmissibility (T) of an aquifer is related to the field of coefficient of permeability (K) and aquifer thickness (b) given by

Options :

1. ✔ $T=bK$

2. ✖ $T=b/K$
3. ✖ $T=(b-K)/2$
4. ✖ $T=K/b$

Question Number : 22 Question Id : 5113466142 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Orogenic movements are responsible for

Options :

1. ✖ The formation of great continents
2. ✔ The formation of great fold mountain ranges
3. ✖ The formation of deltas
4. ✖ The formation of deserts

Question Number : 23 Question Id : 5113466143 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In cohesive soil, the pressure distribution beneath the footing is

Options :

1. ✔ Linear
2. ✖ Non linear
3. ✖ Zero
4. ✖ Stochastic

Question Number : 24 Question Id : 5113466144 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The temperature within the Earth increases with depth

Options :

1. ✖ 200°C/km

2. ✘ 100° C/km
3. ✔ 30° C/km
4. ✘ 5° C/km

Question Number : 25 Question Id : 5113466145 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In most of the confined aquifers, the value of storage coefficient ranges between

Options :

1. ✘ 0.05 to 0.0005
2. ✘ 0.5 to 0.005
3. ✔ 0.00005 to 0.005
4. ✘ 0 to 5

Question Number : 26 Question Id : 5113466146 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is preferable for dam site investigations

Options :

1. ✔ Seismic refraction method
2. ✘ Seismic reflection method
3. ✘ Magnetic method
4. ✘ Self potential method

Question Number : 27 Question Id : 5113466147 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which unconformity shows very less age difference between the overlying and underlying beds

Options :

1. Local unconformity
2. Disconformity
3. Non conformity
4. Angular unconformity

Question Number : 28 Question Id : 5113466148 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The acceleration due to gravity at the centre of the Earth is

Options :

1. maximum
2. zero
3. 9.8 meter/sec²
4. 4.9 meter/sec²

Question Number : 29 Question Id : 5113466149 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Perched water table lies

Options :

1. above water table
2. below water table
3. at the same level as water table
4. at an angle to water table

Question Number : 30 Question Id : 5113466150 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The two features that control the density of seawater are

Options :

1. ✖ Salinity and plankton concentration
2. ✖ Salinity and depth
3. ✔ Temperature and salinity
4. ✖ Temperature and sea depth

Question Number : 31 Question Id : 5113466151 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

New seafloor is created at

Options :

1. ✖ deep sea trench
2. ✔ mid-ocean ridge
3. ✖ subduction zone
4. ✖ transform fault

Question Number : 32 Question Id : 5113466152 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

This is responsible for the Earth's internal heat engine?

Options :

1. ✔ radioactivity
2. ✖ solar energy
3. ✖ volcanoes
4. ✖ ocean tides

Question Number : 33 Question Id : 5113466153 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Greenhouse effect is used to describe the

Options :

1. ✘ heating of the atmosphere by direct solar radiation
2. ✔ heating of the atmosphere by infrared radiation from the earth
3. ✘ conversion of carbon dioxide to oxygen by green plants
4. ✘ condensation of moisture to form dew

Question Number : 34 Question Id : 5113466154 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The coarse grained equivalent of a basalt is a

Options :

1. ✘ Rhyolite
2. ✔ Gabbro
3. ✘ Andesite
4. ✘ Basalt

Question Number : 35 Question Id : 5113466155 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The layer of the atmosphere in which weather occurs is

Options :

1. ✔ Troposphere
2. ✘ Stratosphere
3. ✘ Thermosphere
4. ✘ Mesosphere

Question Number : 36 Question Id : 5113466156 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following mineral is most stable at the Earth's surface?

Options :

1. ✓ hematite
2. ✗ mica
3. ✗ olivine
4. ✗ feldspar

Question Number : 37 Question Id : 5113466157 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Clouds occur when moist air is cooled by

Options :

1. ✗ expansion when it falls
2. ✓ expansion when it rises
3. ✗ compression when it falls
4. ✗ compression when it rises

Question Number : 38 Question Id : 5113466158 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is dimensionless quantity?

Options :

1. ✗ Stress
2. ✗ Young's modulus
3. ✓ Strain
4. ✗ Pressure

Question Number : 39 Question Id : 5113466159 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The S-wave shadow zone is evidence that,

Options :

1. the outer core is liquid
2. the outer core is composed of iron and nickel oxides
3. the inner core is solid
4. it is very hot near the core

Question Number : 40 Question Id : 5113466160 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The entire range of the electromagnetic spectrum spans over a large spectrum of wave lengths varying from

Options :

1. 10^{-10} to 10^6 m
2. 10^{-8} to 10^6 m
3. 10^{-10} to 10^{10} m
4. 10^{-8} to 10^8 m

Question Number : 41 Question Id : 5113466161 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which statement best describes motion on a normal fault?

Options :

1. The hanging wall block moved downward relative to the footwall block.
2. The hanging wall block moved upward relative to the footwall block.
3. The hanging wall block moved horizontally relative to the footwall block.
4. Faults are simple breaks in the crust along which no movement has occurred.

Question Number : 42 Question Id : 5113466162 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which igneous rock crystallizes near the Earth's surface?

Options :

1. ✘ Gabbro
2. ✘ Granite
3. ✘ Diorite
4. ✔ Basalt

Question Number : 43 Question Id : 5113466163 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

As the amount water in a pile of quartz increases, the angle of repose will

Options :

1. ✘ Decrease
2. ✘ Increase
3. ✘ Not change
4. ✔ First increase and then decrease

Question Number : 44 Question Id : 5113466164 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The boundary at which a sharp decrease in P-wave seismic velocity and increase in density occurs is

Options :

1. ✔ Outer core and lower mantle
2. ✘ Inner core-outer core
3. ✘ Upper and lower crust
4. ✘ Crust and mantle

Question Number : 45 Question Id : 5113466165 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Ozone is found in

Options :

1. ✘ Mesosphere
2. ✘ Troposphere
3. ✔ Stratosphere
4. ✘ Ozonosphere

Question Number : 46 Question Id : 5113466166 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Inselbergs are formed in

Options :

1. ✔ Pediplains
2. ✘ Deltas
3. ✘ Flood plains
4. ✘ Deserts

Question Number : 47 Question Id : 5113466167 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Graphite is an example of

Options :

1. ✔ Igneous rock
2. ✘ Metamorphic rocks
3. ✘ Sedimentary rock
4. ✘ Plutonic rock

Question Number : 48 Question Id : 5113466168 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following characteristics are shared by both good conductors of heat and electricity?

Options :

1. Free movement of electric charges between adjacent atoms
2. Close packing of electron shells surrounding the atomic nuclei
3. Net positive electric charge that promotes the flow of electrons
4. Covalent bonds that share electrons between adjacent atoms

Question Number : 49 Question Id : 5113466169 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The presence of "magnetic stripes" recorded in the oceanic crust reflects

Options :

1. variation in composition of the oceanic crust
2. the rate of sea floor spreading
3. reversals in polarity of the Earth's magnetic field
4. life forms in the ocean

Question Number : 50 Question Id : 5113466170 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Earth's lithosphere is broken into how many large rigid plates

Options :

1. 2
2. 25
3. 12
4. 40

Question Number : 51 Question Id : 5113466171 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A map projection that shows an area between latitude and longitude equal in size to area on globe is known as

Options :

1. ✘ Cylindrical projection
2. ✘ Conic projection
3. ✘ Azimuthal projection
4. ✔ Equal-Area projection

Question Number : 52 Question Id : 5113466172 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which stone is objectionable for use in moist conditions

Options :

1. ✘ Granite
2. ✘ Marble
3. ✘ Gabbro
4. ✔ Limestone

Question Number : 53 Question Id : 5113466173 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following measures are not used to describe a region?

Options :

1. ✘ Mean and median of grey values
2. ✘ Minimum and maximum of grey values
3. ✔ Number of pixels alone
4. ✘ Number of pixels above and below mean

Question Number : 54 Question Id : 5113466174 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Barchans are formed due to

Options :

1. ✘ River erosion
2. ✘ Wind erosion
3. ✔ Wind deposition
4. ✘ Glacial erosion

Question Number : 55 Question Id : 5113466175 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The ability of a mineral to break along preferred directions is called as

Options :

1. ✘ Fracture
2. ✘ Crystal form
3. ✔ Cleavage
4. ✘ Hardness

Question Number : 56 Question Id : 5113466176 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The acceleration due to gravity calculated by Clairaut's theorem is valid for

Options :

1. ✘ Geoid
2. ✔ Spheroid
3. ✘ Earth's topography
4. ✘ Circle

Question Number : 57 Question Id : 5113466177 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

When the wind is deflected due to the rotation of the Earth, it is called as

Options :

1. ✖ Polar wind
2. ✖ Westerlies
3. ✔ Geostrophic wind
4. ✖ Trade winds

Question Number : 58 Question Id : 5113466178 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The chemical composition of the feldspar group is

Options :

1. ✖ Oxide
2. ✖ Aluminates
3. ✖ Silicates
4. ✔ Aluminosilicates

Question Number : 59 Question Id : 5113466179 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

SDI stands for

Options :

1. ✖ Spatial Data Interface
2. ✔ Spatial Data Infrastructure
3. ✖ Spatial Data Intention
4. ✖ Spatial Data International

Question Number : 60 Question Id : 5113466180 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Crystal system having maximum number of classes is

Options :

1. Hexagonal system
2. Tetragonal system
3. Cubic system
4. Orthorhombic system

Question Number : 61 Question Id : 5113466181 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Magnetic declination at any place

Options :

1. remains constant
2. changes abruptly
3. does not remain constant
4. is zero

Question Number : 62 Question Id : 5113466182 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The isometric crystallographic system is characterized by

Options :

1. 3 axes of 4 fold symmetry
2. 6 axes of 5 fold symmetry
3. 4 axes of 3 fold symmetry
4. 2 axes of 4 fold symmetry

Question Number : 63 Question Id : 5113466183 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Generally preferred method for contouring an undulating area is

Options :

1. ✖ chain surveying
2. ✖ plane table surveying
3. ✖ compass surveying
4. ✔ tacheometrical surveying

Question Number : 64 Question Id : 5113466184 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What are the maximum number of planes of symmetry found in known crystal systems

Options :

1. ✖ 5
2. ✖ 6
3. ✔ 9
4. ✖ 11

Question Number : 65 Question Id : 5113466185 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Straight, parallel and widely spaced contours represent

Options :

1. ✖ a flat surface
2. ✔ an inclined plane surface
3. ✖ curved surface
4. ✖ a steep surface

Question Number : 66 Question Id : 5113466186 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Number of links per meter length of a chain are

Options :

1. ✖ 2

2. ✖ 10

3. ✔ 5

4. ✖ 6

Question Number : 67 Question Id : 5113466187 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Orbital radius of GPS satellites is approximately

Options :

1. ✔ 26,600 km

2. ✖ 36,000 km

3. ✖ 18,400 km

4. ✖ 36,400 km

Question Number : 68 Question Id : 5113466188 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following are used as receivers in GPS

Options :

1. ✖ Electronic clocks

2. ✖ Atomic clocks

3. ✔ Quartz clocks

4. ✖ Mechanical clocks

Question Number : 69 Question Id : 5113466189 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The infrared portion of electromagnetic radiation lies between

Options :

1. ✖ 0.7 - 1.3 μm

2. 0.7 to 14 μm
3. 0.5 mm to 1 m
4. 0.4 - 0.7 μm

Question Number : 70 Question Id : 5113466190 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The refractive index of the ocean water

Options :

1. Decreases with temperature
2. Increases with temperature
3. Increases with salinity
4. Decreases with salinity

Question Number : 71 Question Id : 5113466191 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Coherence of two electromagnetic waves takes place if their phase difference is

Options :

1. Constant in time and space
2. Constant in time
3. Constant in space
4. Coherence never takes place

Question Number : 72 Question Id : 5113466192 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The capillary rise will be high in

Options :

1. Gravel

2. Clay
3. Loam
4. Fine sand

Question Number : 73 Question Id : 5113466193 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Stoke's law states that the velocity at which a grain settles out of suspension, the other factors remaining constant, is dependent upon

Options :

1. Shape of grain
2. Weight of grain
3. Size of grain
4. Shape, size and weight of grain

Question Number : 74 Question Id : 5113466194 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is not derived data type in 'c'?

Options :

1. Function
2. Pointer
3. Enumeration
4. Array

Question Number : 75 Question Id : 5113466195 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The internal molecular attraction of a soil, the cohesion

Options :

1. ✓ is more in well compacted clays
2. ✗ increases as the moisture content decreases
3. ✗ depends upon the external applied load.
4. ✗ decreases as the moisture content increases

Question Number : 76 Question Id : 5113466196 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The specific yield of a material is always

Options :

1. ✗ Equal to the porosity
2. ✓ Less than the porosity
3. ✗ More than porosity
4. ✗ Remains constant

Question Number : 77 Question Id : 5113466197 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Smallest element of an array is called

Options :

1. ✗ Middle bound
2. ✓ Lower bound
3. ✗ Upper bound
4. ✗ Range

Question Number : 78 Question Id : 5113466198 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following waves is the slowest

Options :

1. ✗ P waves

2. ✖ S waves
3. ✖ Surface waves
4. ✔ Tsunami waves

Question Number : 79 Question Id : 5113466199 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Considering the earth as a solid sphere rotating with an angular velocity 'w' then the centrifugal force exerted on a unit mass located on its surface at a radial distance 'r' from the axis of rotation is

Options :

1. ✖ r^2w
2. ✖ zero
3. ✖ r/w
4. ✔ rw^2

Question Number : 80 Question Id : 5113466200 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is meaning of `int *ptr[20]`

Options :

1. ✖ Integer Array to Integer Pointers having size 20
2. ✔ Array of Integer Pointers of size 20
3. ✖ Integer Array of size 20 pointing to an Integer Pointer
4. ✖ Array of Integer Pointers of size 19

Question Number : 81 Question Id : 5113466201 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Abiotic environment does not include

Options :

1. ✘ Air
2. ✘ Soil
3. ✔ Plants
4. ✘ Water

Question Number : 82 Question Id : 5113466202 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is integral data type?

Options :

1. ✘ float
2. ✘ double
3. ✔ char
4. ✘ void

Question Number : 83 Question Id : 5113466203 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The capillary rise of water

Options :

1. ✘ increases as the size of the soil particles increases
2. ✘ is less in wet soil than in dry soil
3. ✔ depends upon the force responsible
4. ✘ decreases as the size of the soil particles decreases

Question Number : 84 Question Id : 5113466204 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

To store address of integer variable to integer pointer in a 32 bit compiler what will be the size of integer pointer?

Options :

1. ✖ 6 Bytes
2. ✖ 4 Bytes
3. ✔ 2 Bytes
4. ✖ 10 Bytes

Question Number : 85 Question Id : 5113466205 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The unit of resistivity is

Options :

1. ✖ Ohm
2. ✖ Mohs
3. ✔ Ohm.m
4. ✖ Ohm/m

Question Number : 86 Question Id : 5113466206 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The centrifugal force due to the rotation of Earth is maximum at

Options :

1. ✔ Equator
2. ✖ 45° latitude
3. ✖ poles
4. ✖ it remains the same at all latitudes

Question Number : 87 Question Id : 5113466207 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Dendritic drainage pattern generally developed in

Options :

1. Regions of flat laying sedimentary rocks
2. Regions of folded strata
3. Along the flanks of isolated volcanoes
4. Regions underlain by regularly spaced joints and faults

Question Number : 88 Question Id : 5113466208 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The altitude of a geostationary satellite from the earth is about

Options :

1. 36, 000 km
2. 20, 000 km
3. 44, 000 km
4. 14, 000 km

Question Number : 89 Question Id : 5113466209 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is NOT considered a physical property of minerals?

Options :

1. Hardness
2. Streak
3. Luster
4. Silicate structure

Question Number : 90 Question Id : 5113466210 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The desert which experiences very high temperature in the world is

Options :

1. ✖ Iranian
2. ✖ Turkmen
3. ✔ Pantagonian
4. ✖ Taklamakan

Question Number : 91 Question Id : 5113466211 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the length of a current carrying electric conductor is halved its resistivity

Options :

1. ✖ becomes half
2. ✖ becomes double
3. ✔ does not change
4. ✖ becomes zero

Question Number : 92 Question Id : 5113466212 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Blind valleys are found in

Options :

1. ✖ Aeolian topography
2. ✖ Glacier topography
3. ✔ Karst topography
4. ✖ Granitic terrain

Question Number : 93 Question Id : 5113466213 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the unit of compactness of a region?

Options :

1. ✖ Meter
2. ✖ Meter²
3. ✖ Meter⁻¹
4. ✔ No units

Question Number : 94 Question Id : 5113466214 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

River erosion is responsible for the formation of

Options :

1. ✖ Sink holes
2. ✖ Kames
3. ✔ Pot holes
4. ✖ Swallow holes

Question Number : 95 Question Id : 5113466215 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Diamagnetic minerals acquire feeble magnetism

Options :

1. ✖ in the same direction that of magnetizing field
2. ✔ opposite to the direction of magnetizing field
3. ✖ diagonal to the magnetizing field
4. ✖ with no specific direction

Question Number : 96 Question Id : 5113466216 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following is a property of quartz that is a major cause for its predominance in river sands and other non-coastal inland settings?

Options :

1. ✖ Low melting point
2. ✖ High tendency to fracture
3. ✖ High specific gravity
4. ✔ Low chemical reactivity

Question Number : 97 Question Id : 5113466217 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Specific yield of unconfined aquifer indicates

Options :

1. ✔ Water capacity
2. ✖ Volume of water
3. ✖ Water retained
4. ✖ Nature of cementing material

Question Number : 98 Question Id : 5113466218 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the failure occurs along a surface of sliding that intersect the slope at its toe, the slide is known as

Options :

1. ✖ Base failure
2. ✔ Slope failure
3. ✖ Face failure
4. ✖ Top failure

Question Number : 99 Question Id : 5113466219 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following pairs of intrusive and extrusive rocks have the same chemical composition?

Options :

1. ✘ granite and andesite
2. ✘ diorite and basalt
3. ✔ gabbro and basalt
4. ✘ gabbro and rhyolite

Question Number : 100 Question Id : 5113466220 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Apparent resistivity is defined as

Options :

1. ✘ the true resistivity of the bottommost formation
2. ✔ the true resistivity of a homogeneous fictitious layer
3. ✘ average of all the true resistivities of the formations
4. ✘ the true resistivity of the topmost formation

Question Number : 101 Question Id : 5113466221 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The hanging masses of limestone in a cavern from the roof are called

Options :

1. ✘ Stalagmites
2. ✔ Stalactites
3. ✘ Grip stones
4. ✘ Gem stones

Question Number : 102 Question Id : 5113466222 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Electric field is defined as

Options :

1. Force/unit charge
2. Force x unit charge
3. Force/unit volume
4. Force/unit area

Question Number : 103 Question Id : 5113466223 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The particle motion in an compressional wave is

Options :

1. in the direction of propagation
2. opposite to the direction of propagation
3. perpendicular to the direction of propagation
4. no motion at all

Question Number : 104 Question Id : 5113466224 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Lateral offset in drainage lines is commonly associated with

Options :

1. normal faults
2. reverse faults
3. thrust faults
4. strike-slip faults

Question Number : 105 Question Id : 5113466225 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One of the most effective ways to stabilize a slope is to

Options :

1. ✘ Increase the rate of compaction by adding water
2. ✔ Control and remove water
3. ✘ Remove all excess vegetation
4. ✘ Plant more trees

Question Number : 106 Question Id : 5113466226 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The maximum depth of ocean floor occurs in

Options :

1. ✘ Rift valleys
2. ✔ Oceanic trenches
3. ✘ Submarine canyons
4. ✘ Abyssal plains

Question Number : 107 Question Id : 5113466227 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following soil contains finest grain particles

Options :

1. ✔ Clay
2. ✘ Coarse sand
3. ✘ Fine sand
4. ✘ Silt

Question Number : 108 Question Id : 5113466228 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

On which of the following operations of an image, the topology of the region changes?

Options :

1. ✖ Stretching
2. ✖ Rotation
3. ✔ Folding
4. ✖ Change in distance measure

Question Number : 109 Question Id : 5113466229 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Clay minerals are common examples of which silicate structures

Options :

1. ✔ sheet silicates
2. ✖ isolated tetrahedral
3. ✖ single chains
4. ✖ framework

Question Number : 110 Question Id : 5113466230 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The more the closer a satellite is to Earth, its speed becomes

Options :

1. ✔ more faster
2. ✖ more slower
3. ✖ zero
4. ✖ constant value

Question Number : 111 Question Id : 5113466231 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following rock type possesses very high compressive strength?

Options :

1. Igneous
2. Sedimentary
3. Metamorphic
4. Both sedimentary and metamorphic

Question Number : 112 Question Id : 5113466232 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Minerals that contain a combination of silicon and oxygen are known as

Options :

1. Nonsilicate minerals
2. Organic minerals
3. Synthetic minerals
4. Silicate minerals

Question Number : 113 Question Id : 5113466233 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The most ideal conditions for the chemical weathering are found in

Options :

1. Hot and humid regions
2. Hot and dry regions
3. Cold and humid regions
4. Cold and dry regions

Question Number : 114 Question Id : 5113466234 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Majority of minerals crystallizes in

Options :

1. ✘ Cubic system
2. ✔ Monoclinic system
3. ✘ Tetragonal system
4. ✘ Orthorhombic system

Question Number : 115 Question Id : 5113466235 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The shear modulus measures

Options :

1. ✔ The resistance to change in shape
2. ✘ The resistance to flow of a liquid
3. ✘ The resistance to change in volume of a solid
4. ✘ The resistance to change in volume of a liquid

Question Number : 116 Question Id : 5113466236 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

At mid-ocean ridges, two plates are

Options :

1. ✘ moving towards each other
2. ✔ moving away from each other
3. ✘ sliding along each other
4. ✘ stationary

Question Number : 117 Question Id : 5113466237 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Surface tension is greatest when

Options :

1. ✖ Sand is saturated with water
2. ✖ Sand is dry
3. ✔ Sand is moist but not saturated with water
4. ✖ Sand is over saturated with water

Question Number : 118 Question Id : 5113466238 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Impermeable geologic formation is termed as

Options :

1. ✖ An aquifer
2. ✔ An aquiclude
3. ✖ An artesian
4. ✖ A phreatic aquifer

Question Number : 119 Question Id : 5113466239 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which plate margins thrust faults are normally associated with

Options :

1. ✖ Passive
2. ✖ Transform
3. ✖ Spreading center
4. ✔ Continental/ocean convergent

Question Number : 120 Question Id : 5113466240 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Acoustic impedance is defined as

Options :

1. ✓ Velocity X density
2. ✘ Velocity/density
3. ✘ Resistivity X density
4. ✘ Density X susceptibility