

Andhra Pradesh State Council of Higher Education

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 18th July 2022 Shift 1
Duration :	120
Total Marks :	120
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Geo Engineering and Geo Informatics

Section Id :	9003008
Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	120
Section Marks :	120
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Question Number : 1 Question Id : 900300841 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is the closest layer to the earth's surface in which all weather occurs?

Options :

- Mesosphere
- Troposphere
- Ionosphere
- Stratosphere

Question Number : 2 Question Id : 900300842 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following scholar coined the term of geography?

Options :

- Eratosthenes

2. ✘ Herodotus
3. ✘ Galileo
4. ✘ Aristofle

Question Number : 3 Question Id : 900300843 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A tectonic plate is a slab of

Options :

1. ✘ liquid rock
2. ✘ molten rock
3. ✘ gases
4. ✔ solid rock

Question Number : 4 Question Id : 900300844 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How much percentage of earth's total volume of water (approximately) is found in ocean?

Options :

1. ✘ 91

2. ✓ 97

3. ✗ 99

4. ✗ 95

Question Number : 5 Question Id : 900300845 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

_____ ocean occupies an elongated, S-shaped basin extending longitudinally between

Europe and Africa to the east, and the Americas to the west.

Options :

1. ✗ Pacific

2. ✓ Atlantic

3. ✗ Arctic

4. ✗ Indian

Question Number : 6 Question Id : 900300846 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The descent of oceanic lithosphere into the mantle is the process of

Options :

1. ✗ accretion

2. ✓ subduction
3. ✗ divergence zone
4. ✗ contraction fault

Question Number : 7 Question Id : 900300847 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The earth's lithosphere is divided in to _____ number of major plates

Options :

1. ✓ 7
2. ✗ 8
3. ✗ 4
4. ✗ 10

Question Number : 8 Question Id : 900300848 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Who is the father of modern oceanography?

Options :

1. ✗ Aristotle
2. ✗ Dave Dwyer

3. ✘ Psalm Eight

4. ✔ Matthew Fontaine Maury

Question Number : 9 Question Id : 900300849 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The difference in the duration of day and night increases as one moves from

Options :

1. ✔ Equator to poles

2. ✘ East to west

3. ✘ West to east

4. ✘ Poles to equator

Question Number : 10 Question Id : 900300850 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which among the following continents having no desert

Options :

1. ✘ North America

2. ✘ south America

3. Europe
4. Antarctica

Question Number : 11 Question Id : 900300851 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Tides in the sea is a combination of

Options :

1. hydraulic energy & potential energy only
2. kinetic energy & hydraulic energy only
3. gravitational potential energy only
4. hydraulic energy, kinetic energy and gravitational potential energy

Question Number : 12 Question Id : 900300852 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which among the following regions of earth having greater volume?

Options :

1. The mantle
2. The inner core

3. ✘ The outer core
4. ✘ The crust

Question Number : 13 Question Id : 900300853 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Ocean depth can be measured with the help of the following instrument?

Options :

1. ✘ Aneroid barometer
2. ✔ Fathometer
3. ✘ Fluxmeter
4. ✘ Gastroscopy

Question Number : 14 Question Id : 900300854 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The latitude of a plane expresses its angular position relative to the plane of

Options :

1. ✘ South pole
2. ✘ North pole
3. ✔ Equator

4. ✘ Any axis of the earth

Question Number : 15 Question Id : 900300855 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Why are the ports of Baltic sea opened for trade in winter?

Options :

1. ✘ It is tropical belt
2. ✔ North Atlantic warm currents flow in this region
3. ✘ Local factors keep it warm
4. ✘ Western disturbances increase the temperature

Question Number : 16 Question Id : 900300856 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following volcanic rocks contain the highest percentage of silica?

Options :

1. ✘ Basalts
2. ✘ Andesite's
3. ✘ Trachyte's

4. ✓ Rhyolites

Question Number : 17 Question Id : 900300857 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In blocky lavas, the cavities are

Options :

1. ✗ small and regular in shape
2. ✓ large and irregular in shape
3. ✗ small and irregular in shape
4. ✗ large and regular in shape

Question Number : 18 Question Id : 900300858 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Rock forming minerals which require a high concentration of volatiles for their formation are described as

Options :

1. ✗ Pyro-genetic minerals
2. ✗ Hydro-thermal minerals
3. ✓ Hydato-genetic minerals

4. ✘ Released minerals

Question Number : 19 Question Id : 900300859 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When magmas of different composition intrude through the same channel it gives rise to

Options :

1. ✘ Multiple intrusion
2. ✔ Composite intrusion
3. ✘ Forced intrusion
4. ✘ Assimilation

Question Number : 20 Question Id : 900300860 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Volcanic necks are

Options :

1. ✘ sedimentary masses which lie towards the top of volcanic vents
2. ✘ igneous masses which lie towards the top of volcanic vents
3. ✔ igneous masses which seal up the vents of ancient volcanoes

4. ✘ thin masses of igneous rocks having numerous fissures

Question Number : 21 Question Id : 900300861 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A rock which consists of quartz, albite and aegirine in approximately equal amounts is described as

Options :

1. ✘ Tonalite
2. ✘ Aplite
3. ✔ Rockallite
4. ✘ Monzonite

Question Number : 22 Question Id : 900300862 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Hardness of a mineral is defined as

Options :

1. ✘ the strength of mineral to withstand compression
2. ✘ the ability of a mineral to scratch other substances
3. ✔ the resistance of a mineral to abrasion on its surface
4. ✘ All of the above

Question Number : 23 Question Id : 900300863 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following group of rocks are most abundant on the moon?

Options :

1. ✘ Granites and granodiorites
2. ✘ Basalts and andesitic
3. ✘ Periodotites and picrites
4. ✔ Anorthosites and gabbros

Question Number : 24 Question Id : 900300864 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The most common mode of origin for cross-bedding is

Options :

1. ✔ migration of small and mega-ripples
2. ✘ deposition on the point bars of small meanders
3. ✘ deposition on the inclined surfaces of beaches
4. ✘ lee-side deposition of sand dunes

Question Number : 25 Question Id : 900300865 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Horizontal or lateral gradation of material occurs if the deposition takes place in

Options :

1. stagnant water
2. running water
3. underground water
4. shore zone

Question Number : 26 Question Id : 900300866 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

As compared with sandstones, shales have

Options :

1. higher porosity and permeability
2. lower porosity and permeability
3. higher porosity and lower permeability
4. lower porosity and higher permeability

Question Number : 27 Question Id : 900300867 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response

Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a stress mineral?

Options :

1. ✘ Andalusite
2. ✘ Sillimanite
3. ✔ Kyanite
4. ✘ Cordierite

Question Number : 28 Question Id : 900300868 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A coarse sand stone with angular grains may be described as

Options :

1. ✘ Gammister
2. ✘ Arkose
3. ✘ Quartzite
4. ✔ Grit

Question Number : 29 Question Id : 900300869 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A 'Migmatite' is a mixed rock in which

Options :

1. an older metamorphic rock is mixed with younger granitic material
2. an older granitic rock is mixed with newly metamorphosed sediments
3. a primary gneiss mixes with metamorphosed gneissic sediments
4. fragments of igneous, sedimentary and metamorphic rocks are complexly mixed together

Question Number : 30 Question Id : 900300870 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following feature is the most important for analysis of sedimentary environments?

Options :

1. Primary structures
2. Sedimentary textures
3. Bioturbate structures
4. Colour of the sediments

Question Number : 31 Question Id : 900300871 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Minerals which dissolve in water are formed during

Options :

1. ✘ the differentiation of a magma
2. ✘ the later stages of magmatic crystallization
3. ✔ the early stages of magmatic crystallization
4. ✘ regeneration of a magma

Question Number : 32 Question Id : 900300872 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following minerals has largest stability field?

Options :

1. ✘ Cordeirite
2. ✘ Kyanite
3. ✔ Sillimanite
4. ✘ Andalusite

Question Number : 33 Question Id : 900300873 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is the most feebly magnetic among the following?

Options :

1. ✘ Quartz

2. ✘ Rutile
3. ✘ Magnesite
4. ✔ Galena

Question Number : 34 Question Id : 900300874 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Gneissic rocks that are metamorphosed sediments are described as

Options :

1. ✔ paragneisses
2. ✘ orthogneisses
3. ✘ phyllonites
4. ✘ augen gneisses

Question Number : 35 Question Id : 900300875 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Luster is defined as the appearance of a mineral in

Options :

1. ✘ incident light

- 2. ✘ white light
- 3. ✘ monochromatic light
- 4. ✔ reflected light

Question Number : 36 Question Id : 900300876 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A scale of 1 cm = 3 km is represented as a representative fraction as

Options :

- 1. ✘ 1: 3,000
- 2. ✘ 1: 30,000
- 3. ✔ 1: 3,00,000
- 4. ✘ 1: 30,00,000

Question Number : 37 Question Id : 900300877 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Closed contours with higher value inside represents a

Options :

- 1. ✘ Water body
- 2. ✔ Hill

3. ✘ Valley

4. ✘ Road

Question Number : 38 Question Id : 900300878 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In topographic map, the representation of the difference in elevation is called as---

Options :

1. ✘ benchmark

2. ✘ contour

3. ✘ hachures

4. ✔ relief

Question Number : 39 Question Id : 900300879 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A 15 cm Theodolite means

Options :

1. ✘ length of telescope is 15 cm

2. ✘ height of standards is 15 cm

3. ✔ diameter of lower plate is 15 cm

4. ✘ radius of upper plate is 15 cm

Question Number : 40 Question Id : 900300880 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The inner axis of a theodolite is

Options :

1. ✘ The plate bubble axis on the horizontal circle
2. ✘ The axis passing through the Centre of the vertical circle
3. ✘ The trunnion axis
4. ✔ The Centre of the spindle carrying the Vernier circle

Question Number : 41 Question Id : 900300881 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In electronic theodolites, the horizontal and vertical circles are made of

Options :

1. ✔ glass having specially coded graduations read by photo diodes
2. ✘ special metal read electronically
3. ✘ steel plates with specially coded graduations

4. ✘ plastic with coded graduations

Question Number : 42 Question Id : 900300882 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Terrestrial photogrammetry is taking photographs of

Options :

1. ✘ the terrain of the earth from an aircraft
2. ✔ the terrain of the earth from cameras on ground
3. ✘ celestial bodies from the earth
4. ✘ celestial bodies from an aircraft

Question Number : 43 Question Id : 900300883 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The scale of photograph taken from an aircraft essentially depends upon

Options :

1. ✘ the aperture of the camera lens
2. ✘ the speed of the film used
3. ✔ the distance of the object from the camera
4. ✘ the focal length of the lens in the camera used

Question Number : 44 Question Id : 900300884 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Vertical photograph is an aerial photograph made with the camera axis coinciding with the

Options :

1. ✘ direction of lens
2. ✘ direction of aperture
3. ✔ direction of gravity
4. ✘ direction of line of sight

Question Number : 45 Question Id : 900300885 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Contour interval on a map sheet denotes

Options :

1. ✘ vertical distance of contour lines above the datum plane
2. ✔ vertical distance between two successive contour lines
3. ✘ slope distance between two successive contour lines
4. ✘ horizontal distance between two successive contour lines

Question Number : 46 Question Id : 900300886 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the method of reiteration of measuring horizontal angles

Options :

1. ✘ the same angle is measured three times
2. ✔ the same angle is measured by face left and face right observation
3. ✘ the angle is measured and the instrument turned to close the horizon
4. ✘ the angle is measured three times each using face left and face right observations

Question Number : 47 Question Id : 900300887 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The smallest scale adopted for topographical survey is

Options :

1. ✘ 1: 25,000
2. ✘ 1: 50,000
3. ✘ 1: 2,50,000
4. ✔ 1: 5,00,000

Question Number : 48 Question Id : 900300888 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The point in which the bisector of angle of tilt meets the photographs is

Options :

1. ✘ Plumb point
2. ✔ Isocentre point
3. ✘ Principal point
4. ✘ Nadir point

Question Number : 49 Question Id : 900300889 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The point in the atmosphere occupied by center of the camera lenses at instance of photography is

Options :

1. ✔ Flying height
2. ✘ Exposure station
3. ✘ Photo station
4. ✘ Flying line

Question Number : 50 Question Id : 900300890 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A vertical photograph was taken from an aircraft flying at an altitude of 2000 m above mean sea level.

The focal length of the camera is 175 mm. The scale of the photograph for a hill of elevation of 250 m is

Options :

1. 1/10000
2. 1/15000
3. 1/20000
4. 1/25000

Question Number : 51 Question Id : 900300891 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Theodolite is an instrument used for

Options :

1. tightening the capstan-headed nuts of level tube
2. measurement of horizontal angles only
3. measurement of vertical angles only
4. measurement of both horizontal and vertical angles

Question Number : 52 Question Id : 900300892 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Overlap in aerial photograph refers to

Options :

1. the overlap of ground features due to inclination of camera

2. ✘ the overlap of ground features due to difference in elevation of objects
3. ✔ the same ground features taken from two camera positions
4. ✘ the blurring due to lack of focus in photograph

Question Number : 53 Question Id : 900300893 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which one of the following is used as reference for placing focal plane?

Options :

1. ✘ focal length
2. ✔ collimation marks
3. ✘ camera cone
4. ✘ azimuth

Question Number : 54 Question Id : 900300894 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Parallax bar is used to measure

Options :

1. ✘ parallax
2. ✔ parallax difference

3. ✘ difference in elevation
4. ✘ relief displacement

Question Number : 55 Question Id : 900300895 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Distortions in aerial photographs is caused by

Options :

1. ✘ Faulty camera lens
2. ✔ Tilt and ground relief
3. ✘ Lack of focus during photography
4. ✘ Large distance between camera and the object

Question Number : 56 Question Id : 900300896 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is belongs to stereoscopic vision?

Options :

1. ✔ The three – dimensional view from stereoscopic pairs
2. ✘ The view seen by the camera lens

3. ✘ The view obtained by special lens
4. ✘ Two – dimensional view from stereoscopic pairs

Question Number : 57 Question Id : 900300897 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Remote sensing uses which of the following waves in its procedure?

Options :

1. ✘ Electric field
2. ✘ Sonar waves
3. ✘ Gamma rays
4. ✔ Electromagnetic waves

Question Number : 58 Question Id : 900300898 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In visible region, the blue light is having a wave length range of

Options :

1. ✔ 0.42-0.52 micrometer
2. ✘ 0.24-0.52 micrometre
3. ✘ 0.42-1.92 micrometre

4. ✘ 0.22-0.32 micrometre

Question Number : 59 Question Id : 900300899 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Remote sensing and GIS can be used to

Options :

1. ✘ measure biodiversity
2. ✘ characterize biodiversity
3. ✘ count species
4. ✔ all of the above

Question Number : 60 Question Id : 900300900 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a principle of remote sensing?

Options :

1. ✔ Interaction of energy with satellite
2. ✘ Electromagnetic energy
3. ✘ Electromagnetic spectrum

4. ✖ Interaction of energy with atmosphere

Question Number : 61 Question Id : 900300901 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The variation of refractive index with wavelength is called

Options :

1. ✖ absorption
2. ✔ dispersion
3. ✖ diffraction
4. ✖ reflection

Question Number : 62 Question Id : 900300902 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The phenomenon of apparent change in frequency, with the relative motion of the source and the observer, is known as the

Options :

1. ✖ Shift
2. ✔ Doppler effect
3. ✖ Scattering

4. ✘ Emissivity

Question Number : 63 Question Id : 900300903 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In an Electromagnetic field, which field is placed horizontal manner.

Options :

1. ✘ Gamma rays
2. ✘ Sonar field
3. ✘ Electric field
4. ✔ Magnetic field

Question Number : 64 Question Id : 900300904 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The rate at which radiant energy is emitted, transferred in the form of electromagnetic radiation from a surface to another surface is called as

Options :

1. ✔ Radiant flux
2. ✘ Irradiance
3. ✘ Radiant intensity

4. ✘ Radiant energy

Question Number : 65 Question Id : 900300905 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The point where a perpendicular dropped from the front nodal point strikes the photograph. This point is considered to coincide with the intersection of x – axis and the y- axis is called

Options :

1. ✔ principle point
2. ✘ center point
3. ✘ coincidental point
4. ✘ reference point

Question Number : 66 Question Id : 900300906 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The unit of irradiance is

Options :

1. ✘ joule
2. ✘ watt
3. ✔ watt/m²

4. ✘ watt-m²

Question Number : 67 Question Id : 900300907 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The solid angle which has its vertex at the centre of the sphere, and cuts off a spherical surface area on the sphere equal to the square of the radius of sphere is called as

Options :

1. ✔ steradian
2. ✘ radiant
3. ✘ irradiance
4. ✘ radiance

Question Number : 68 Question Id : 900300908 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The sensors, which produce their own electromagnetic radiation are

Options :

1. ✘ passive sensors
2. ✔ active sensors
3. ✘ remote sensors
4. ✘ light sensor

Question Number : 69 Question Id : 900300909 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

USGS stands for

Options :

1. ✘ United States Geological Standards
2. ✘ United States Geometrical Standards
3. ✔ United States Geological survey
4. ✘ United States Geometrical Survey

Question Number : 70 Question Id : 900300910 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The aspects to spectral band selection is/are

Options :

1. ✘ the central wavelength only
2. ✘ the bandwidth only
3. ✘ the total number bands only
4. ✔ all of the above

Question Number : 71 Question Id : 900300911 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the wrong match from the following.

Options :

1. ✘ LISS – Linear Imaging Self-scanning Sensor
2. ✘ ISRO – Indian Space Research Organisation
3. ✔ MTF – Modulation Transfer Formation
4. ✘ LANDSAT- LAND observation Satellite

Question Number : 72 Question Id : 900300912 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The altitudinal distance of a geostationary satellite from the earth is about

Options :

1. ✔ 36,000 km
2. ✘ 26,000 km
3. ✘ 16,000 km
4. ✘ 10,000 km

Question Number : 73 Question Id : 900300913 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the rational method, the runoff coefficient is

Options :

1. less than one
2. one
3. more than one
4. infinite

Question Number : 74 Question Id : 900300914 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The repetivity of satellite remote sensing is depends on

Options :

1. orbit characteristics only
2. swath only
3. orbit characteristics & swath only
4. type of satellite

Question Number : 75 Question Id : 900300915 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which colour of Electromagnetic spectrum is used for bathymetry studies?

Options :

1. ✓ Green
2. ✗ Red
3. ✗ White
4. ✗ Black

Question Number : 76 Question Id : 900300916 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If L_{max} and L_{min} are the maximum and minimum radiance between the adjacent areas, the contrast modulation C_M is given by

Options :

1. ✓ $C_M = \frac{L_{max} - L_{min}}{L_{max} + L_{min}}$
2. ✗ $C_M = \frac{L_{max}}{L_{min}}$
3. ✗ $C_M = \frac{L_{max} + L_{min}}{L_{max} - L_{min}}$
4. ✗ $C_M = \frac{L_{min}}{L_{max}}$

Question Number : 77 Question Id : 900300917 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

1 cm wavelength corresponding to the electromagnetic spectrum of

Options :

1. ✘ Infrared rays
2. ✘ Ultraviolet rays
3. ✔ Microwaves
4. ✘ X rays

Question Number : 78 Question Id : 900300918 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Among the following _____ can be expressed as an example of hardware component in GIS

Options :

1. ✘ Auto CAD
2. ✔ Keyboard
3. ✘ Arc GIS
4. ✘ Digitalization

Question Number : 79 Question Id : 900300919 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Who is the father of Geographic Information System (GIS) ?

Options :

1. ✘ Richard
2. ✘ Roger James
3. ✔ Roger Tomlinson
4. ✘ James

Question Number : 80 Question Id : 900300920 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Generic term denoting the use of computers to create and depict digital representations of the

Earth's surface is known as _____.

Options :

1. ✔ GIS
2. ✘ GPS
3. ✘ GNSS
4. ✘ DBMS

Question Number : 81 Question Id : 900300921 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response

Time : N.A Think Time : N.A Minimum Instruction Time : 0

The runoff coefficient is more when the land is

Options :

1. very slope
2. flatter
3. mildly slopy
4. dry

Question Number : 82 Question Id : 900300922 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

GIS deals with which kind of data

Options :

1. Binary data
2. Numeric data
3. Complex data
4. Spatial data

Question Number : 83 Question Id : 900300923 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A projected map at a time can never show which of the following

Options :

1. True shape, true area, true directions
2. True direction and true area only
3. True shape and true direction only
4. True area and True shape only

Question Number : 84 Question Id : 900300924 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A receiver at GPS calculates the self-time and position based on the data received from different

Options :

1. Satellites
2. Radio waves
3. Atomic clocks
4. Microwaves

Question Number : 85 Question Id : 900300925 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Orbital radius of GPS satellites is approximately

Options :

1. 10,000 km

2. 26,000 km
3. 9,000 km
4. 6,000 km

Question Number : 86 Question Id : 900300926 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A set of regularly spaced and contiguous cells with associated field values. The associated values represent cell values, not point values. This format is known as _____

Options :

1. Crystal
2. Raster
3. Vector
4. Segment

Question Number : 87 Question Id : 900300927 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Vector data model is based on which of the following?

Options :

1. Cartesian coordinate system

2. ✘ Pixel or grid cells
3. ✘ Collection of points joined by straight lines
4. ✘ Variable data

Question Number : 88 Question Id : 900300928 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following might be considered as the fourth dimension in GIS?

Options :

1. ✘ Location
2. ✔ Time
3. ✘ Space
4. ✘ Scale

Question Number : 89 Question Id : 900300929 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Hardware which is used for converting document from analogue to digital (raster) format is known as _____

Options :

1. ✘ Digitizing

2. ✘ Data Editing
3. ✔ Scanner
4. ✘ Sensing data

Question Number : 90 Question Id : 900300930 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How many satellites are required to measure 2-D position using Global Positioning System.

Options :

1. ✘ One
2. ✘ Two
3. ✔ Three
4. ✘ Four

Question Number : 91 Question Id : 900300931 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Runoff is the drainage of precipitation from a

Options :

1. ✘ river

- 2. ✘ drainage channel
- 3. ✔ catchment
- 4. ✘ reservoir

Question Number : 92 Question Id : 900300932 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not in the form of vector data?

Options :

- 1. ✘ Line
- 2. ✘ Point
- 3. ✔ Grid cells
- 4. ✘ Polygon

Question Number : 93 Question Id : 900300933 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is 'Metadata'?

Options :

- 1. ✔ It is data about data

2. ✘ It is meteorological data
3. ✘ It is contour data
4. ✘ It is oceanic data

Question Number : 94 Question Id : 900300934 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not in the list of 4 M's termed as key activities which can be enhanced by using information system through GIS?

Options :

1. ✘ Monitoring
2. ✔ Managing
3. ✘ Mapping
4. ✘ Modelling

Question Number : 95 Question Id : 900300935 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a component of Geographic Information System?

Options :

1. ✘ Hardware

2. ✘ Software
3. ✘ People
4. ✔ Projection

Question Number : 96 Question Id : 900300936 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Shape of the pixel in raster format can be in the form of

Options :

1. ✘ Irregular
2. ✘ Circular
3. ✔ Square
4. ✘ Triangular

Question Number : 97 Question Id : 900300937 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In GIS, to describe the geometric characteristic of objects which do not change under transformations and are independent of any co-ordinate system is called as

Options :

1. ✔ topology

2. ✖ topography
3. ✖ geography
4. ✖ cartography

Question Number : 98 Question Id : 900300938 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a non–recording rain gauge?

Options :

1. ✔ Symon's rain gauge
2. ✖ Float type rain gauge
3. ✖ Tipping bucket rain gauge
4. ✖ Weighing type rain gauge

Question Number : 99 Question Id : 900300939 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The double mass curve technique is adopted to _____

Options :

1. ✖ estimate the missing data

2. ✘ obtain intensity of rainfall at various durations
3. ✔ to check consistency of rainfall data
4. ✘ to obtain amount of storage needed to maintain a demand pattern

Question Number : 100 Question Id : 900300940 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Hyetograph is a graphical representation of

Options :

1. ✘ cumulative rainfall over time
2. ✔ rainfall intensity over time
3. ✘ rainfall depth over duration
4. ✘ discharge over time

Question Number : 101 Question Id : 900300941 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Lysimeter is an instrument to measure

Options :

1. ✘ reference evapotranspiration
2. ✘ evaporation

3. actual evapotranspiration
4. transpiration

Question Number : 102 Question Id : 900300942 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

According to Dalton's law evaporation is directly proportional to

Options :

1. the vapor pressure gradient
2. the difference between saturation vapour pressure at 100° C and the actual vapour pressure
3. the difference between the actual vapour pressure and the saturation vapour pressure at 0° C
4. the difference between the saturation vapour pressure at 0° C

Question Number : 103 Question Id : 900300943 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Data that describe the characteristics of spatial features is called as _____

Options :

1. Coverage
2. Attribute data
3. Geospatial Data

4. ✖ Data Exploration

Question Number : 104 Question Id : 900300944 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following type of the soil, which contains finest particles is

Options :

1. ✖ Silt
2. ✖ Gravel
3. ✓ Clay
4. ✖ Sand

Question Number : 105 Question Id : 900300945 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

It is given that the runoff volume in terms of depth is 50 mm and the catchment area is 2000 km^2 .

Determine the volume in terms of m^3 .

Options :

1. ✓ 1000×10^5
2. ✖ 1000
3. ✖ 10,000

4. ✖ 1000×10^3

Question Number : 106 Question Id : 900300946 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Evapotranspiration from a water surface is the process by which liquid on a free surface is transformed into

Options :

1. ✖ Solid state
2. ✖ Clouds
3. ✔ Gaseous state
4. ✖ rainfall

Question Number : 107 Question Id : 900300947 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Isohyets are drawn by

Options :

1. ✖ drawing perpendiculars on lines joining rain gauge stations
2. ✖ joining rain gauge station
3. ✖ drawing lines of equal elevations

4. drawing lines of equal precipitation depth for a given duration

Question Number : 108 Question Id : 900300948 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Centering error of a theodolite produces the error

Options :

1. in all angles equally
2. which does not vary with the direction or pointing
3. which varies with the direction of pointing and inversely with the length of sight
4. which varies with the direction of pointing and the length of sight

Question Number : 109 Question Id : 900300949 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Removal of parallax, may be achieved by focusing

Options :

1. the objective only
2. the eye-piece only
3. the objective and eye-piece

4. ✘ Neither the objective nor the eye-piece

Question Number : 110 Question Id : 900300950 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Permeability of soil varies

Options :

1. ✘ inversely as square of grain size
2. ✔ as square of grain size
3. ✘ as grain size
4. ✘ inversely as grain size

Question Number : 111 Question Id : 900300951 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $f(x, y) = \begin{cases} \frac{xy(x^2 - y^2)}{x^2 + y^2} & (x, y) \neq (0, 0) \\ 0 & (x, y) = (0, 0) \end{cases}$, then $\frac{\partial}{\partial x} \left(\frac{\partial f}{\partial y} \right) (0, 0)$ is

Options :

1. ✔ 1
2. ✘ 0
3. ✘ -1
4. ✘ Do not exists

Question Number : 112 Question Id : 900300952 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Sum of series $\sum_{n=0}^{\infty} \left(\frac{5}{2^n} - \frac{1}{3^n} \right)$ is

Options :

1. ✘ $\frac{15}{3}$

2. ✘ $\frac{15}{2}$

3. ✘ $\frac{17}{3}$

4. ✔ $\frac{17}{2}$

Question Number : 113 Question Id : 900300953 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The outward flux of $F = 4xz i - y^2 j + yz k$ across the cube bounded by the planes

$x = 0, x = 1, y = 0, y = 1, z = 0$ and $z = 1$ is

Options :

1. ✘ $\frac{1}{2}$

2. ✘ $\frac{-1}{2}$

3. ✓ $\frac{3}{2}$

4. ✗ $\frac{-3}{2}$

Question Number : 114 Question Id : 900300954 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let X be a continuous random variable with probability density function $f(x)$ is given by

$$f(x) = \begin{cases} a + bx & \text{if } x \in [0,1] \\ 0 & \text{otherwise} \end{cases}, \text{ where } a \text{ and } b \text{ are constants. If the expectation } E(X) = \frac{5}{12}, \text{ then}$$

$E(X^2)$ is

Options :

1. ✓ $\frac{1}{4}$

2. ✗ $\frac{1}{2}$

3. ✗ $\frac{5}{2}$

4. ✗ $\frac{1}{8}$

Question Number : 115 Question Id : 900300955 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If X is the number of trials needed to obtain the first success, then X follows

Options :

1. ✘ Binomial distribution
2. ✘ Exponential distribution
3. ✘ Normal distribution
4. ✔ Geometric distribution

Question Number : 116 Question Id : 900300956 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $A = \begin{bmatrix} 3 & -1 & 0 \\ -1 & 3 & -1 \\ 0 & -1 & 3 \end{bmatrix}$. The upper triangular matrix U in LU decomposition of

$$A = \begin{bmatrix} 1 & 0 & 0 \\ l_{21} & 1 & 0 \\ l_{31} & l_{32} & 1 \end{bmatrix} \begin{bmatrix} u_{11} & u_{12} & u_{13} \\ 0 & u_{22} & u_{23} \\ 0 & 0 & u_{33} \end{bmatrix} \text{ is}$$

Options :

1. ✘ $\begin{bmatrix} 3 & -1 & 0 \\ 0 & -1 & \frac{8}{3} \\ 0 & 0 & \frac{21}{8} \end{bmatrix}$

2. ✓
$$\begin{bmatrix} 3 & -1 & 0 \\ 0 & \frac{8}{3} & -1 \\ 0 & 0 & \frac{21}{8} \end{bmatrix}$$

3. ✗
$$\begin{bmatrix} 3 & -1 & 0 \\ 0 & \frac{8}{3} & -1 \\ 0 & 0 & -\frac{21}{8} \end{bmatrix}$$

4. ✗
$$\begin{bmatrix} 3 & -1 & 0 \\ 0 & -1 & \frac{8}{3} \\ 0 & 0 & -\frac{21}{8} \end{bmatrix}$$

Question Number : 117 Question Id : 900300957 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the probability of producing a defective screw is 0.01, what is the approximate value of the probability that a lot of 100 screws will contain more than two defective screws?

Options :

1. ✓ 0.0805

2. ✗ 0.099

3. ✗ 0.0764

4. ✘ 0.0354

Question Number : 118 Question Id : 900300958 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let X be normal with mean 50 and variance 9. What is the value of c such that

$$P(50 - c < X < 50 + c) = 0.5?$$

(Use $\Phi(0.67) = 0.7486$ and $\Phi(0.68) = 0.7517$ from the standard normal table)

Options :

1. ✘ 1.58

2. ✔ 2.02

3. ✘ 1.92

4. ✘ 2.25

Question Number : 119 Question Id : 900300959 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

All the eigenvalues of matrix $\begin{pmatrix} 1 & 2 & 0 \\ 2 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$ lie in the disc:

Options :

1. ✘ $\{x : |x + 1| \leq 1\}$ 2. ✘ $\{x : |x - 1| \leq 1\}$

3. ✘ $\{x : |x + 1| \leq 0\}$

4. ✔ $\{x : |x - 1| \leq 2\}$

Question Number : 120 Question Id : 900300960 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $A = \begin{pmatrix} a & -1 & 4 \\ 0 & b & 7 \\ 0 & 0 & 3 \end{pmatrix}$ be a matrix with real entries. If sum and the product of all the eigenvalues

of A are 10 and 30 respectively, then $a^2 + b^2$ equals:

Options :

1. ✔ 29

2. ✘ 40

3. ✘ 58

4. ✘ 653