

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 29th May 2024 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 :	33300843
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
Is Section Default? :	null

Question Number : 1 Question Id : 3330085041 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The electromagnetic spectrum is a vast range of _____ waves, categorized by their _____.

Options :

1. ✘ Sound, amplitude
2. ✔ Light, frequency
3. ✘ Pressure, wavelength

4. ✘ Energy, colour

Question Number : 2 Question Id : 3330085042 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The system that uses the Sun as a source of electromagnetic energy and records the naturally radiated and reflected energy from the object is called

Options :

1. ✘ Geographical Information System

2. ✘ Global Positioning System

3. ✔ Passive Remote Sensing

4. ✘ Active Remote Sensing

Question Number : 3 Question Id : 3330085043 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which vector data analysis tool combines geometries and attributes from different layers?

Options :

1. ✔ Overlay

2. ✘ Map manipulation

3. ✘ Buffer

Cartesian distance measurement

4. ✘

Question Number : 4 Question Id : 3330085044 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Minimum inclination provide in tilted photograph is

Options :

1. ✘ 33 degrees

2. ✘ 25 degrees

3. ✘ 13 degrees

4. ✔ 3 degrees

Question Number : 5 Question Id : 3330085045 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A satellite image with 6-bit radiometric resolution has _____ gray levels

Options :

1. ✘ 16

2. ✘ 32

3. ✔ 64

4. ✘ 128

Question Number : 6 Question Id : 3330085046 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Contrast enhancement is a type of which enhancement?

Options :

1. ✘ Spectral

2. ✘ Spatial

3. ✔ Radiometric

4. ✘ Temporal

Question Number : 7 Question Id : 3330085047 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Sandstone is an example of

Options :

1. ✘ Non-foliated rock

2. ✔ Sedimentary rock

3. ✘ Igneous rock

4. ✘ Metamorphic rock

Question Number : 8 Question Id : 3330085048 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For which of the following purposes can the Geographic Information System not be used?

Options :

1. ✔ Studying the relative motions of planets

2. ✘ Disaster and business continuity planning

3. ✘ Deforestation

4. ✘ Development of public infrastructure facilities

Question Number : 9 Question Id : 3330085049 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In active remote sensing of Earth objects from a satellite-borne sensor, the source of the energy used for sensing, lies at the _____

Options :

1. ✔ Satellite

2. ✘ Sun

3. ✘ Object being sensed on Earth

4. ✘ Ground station

Question Number : 10 Question Id : 3330085050 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In GIS, reclassification is performed to

Options :

1. ✓ Group ranges of values into a single value within a data layer
2. ✘ Segment a data layer into multiple data layers
3. ✘ Combine multiple data layers to a single data layer
4. ✘ Classify a data layer using many attributes

Question Number : 11 Question Id : 3330085051 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 statement is NOT true regarding relief displacement in vertical photographs in the context of aerial photogrammetry?

Options :

1. ✘ Relief displacement is the shift in the photographic position of an object caused by the elevation of the object (above or below the datum)
2. ✓ Relief displacement is always in non-radial direction from the principal point
3. ✘ Relief displacement can cause straight roads (not passing through the ground principal point) to appear crooked in undulating terrain

The magnitude of relief displacement is affected by the flying height of the camera (assuming everything else to be same)

4. ✘

Question Number : 12 Question Id : 3330085052 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A GIS analyst has two raster datasets with the same number of rows and columns. The analyst computes the average of the two input raster layers to generate a new raster layer with the same size as the input raster layers. What type of raster data analysis operation is performed?

Options :

1. ✔ Local

2. ✘ Neighborhood

3. ✘ Zonal

4. ✘ Global

Question Number : 13 Question Id : 3330085053 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The type of resolution of satellite images that signifies the degree of intensities of radiation the sensor is able to distinguish is

Options :

1. ✘ Spatial resolution

2. ✘ Spectral resolution

3. ✔ Radiometric resolution

4. ✘ Temporal resolution

Question Number : 14 Question Id : 3330085054 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the following statements:

Indian Remote Sensing (IRS-1A,1B,1C,1D) satellites are:

I. Low orbiting satellites

II. Geostationary satellites

III. Meteorological satellites

IV. Resource survey satellites

Which of the above statements is/are correct

Options :

1. ✔ I and IV

2. ✘ II and III

3. ✘ I, II and IV

4. ✘ II, III and IV

Question Number : 15 Question Id : 3330085055 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 represent the curved surfaces

Options :

1. ✘ Overview

2. ✘ Bar scale

3. ✔ Map projection

4. ✘ North Arrow

Question Number : 16 Question Id : 3330085056 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 statement is TRUE?

Options :

1. ✘ Topography is not an example of continuous spatial feature

2. ✓ Geo-relational data model stores spatial data and attribute data separately

3. ✗ Object based data model stores spatial data and attribute data separately

4. ✗ Land surface temperature is an example of discrete spatial feature

Question Number : 17 Question Id : 3330085057 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 statements is NOT CORRECT for remote sensing?

Options :

1. ✓ It requires absorption of energy by the Earth's surface

2. ✗ It requires propagation of energy through atmosphere

3. ✗ It requires energy interaction with the Earth's surface features

4. ✗ It requires emission of electromagnetic radiation

Question Number : 18 Question Id : 3330085058 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 gases has the maximum percentage in the atmosphere?

Options :

1. ✘ Oxygen
2. ✘ Carbon
3. ✔ Nitrogen
4. ✘ Methane

Question Number : 19 Question Id : 3330085059 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

De-stripping in radiometric correction is used to correct a type of

Options :

1. ✔ Sensor defect
2. ✘ Atmospheric effect
3. ✘ Path radiance

Geometric error

4. ✘

Question Number : 20 Question Id : 3330085060 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Gondwana rock system is famous for which mineral?

Options :

1. ✓ Coal

2. ✘ Limestone

3. ✘ Copper

4. ✘ Diamond

Question Number : 21 Question Id : 3330085061 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In surveying, a contour may be defined as an imaginary line passing through

Options :

Points on the longitudinal section

1. ✘

Points of equal elevation

2. ✔

Points of local ground slope

3. ✘

Points of transverse section surveys

4. ✘

Question Number : 22 Question Id : 3330085062 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In GIS, which type of feature maybe used to represent area?

Options :

Point

1. ✘

Line

2. ✘

Polygon

3. ✔

Non-spatial data

4. ✘

Question Number : 23 Question Id : 3330085063 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Scale of a vertical aerial photograph of an undulating terrain is

Options :

1. ✓ Directly proportional to the height of terrain
2. ✗ Inversely proportional to the focal length of camera lens
3. ✗ Directly proportional to the flying height of aircraft
4. ✗ Uniform throughout the photograph

Question Number : 24 Question Id : 3330085064 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 derivative of Digital Elevation Model (DEM)?

Options :

1. ✗ Slope
2. ✗ Aspect
- 3.

✘ Contour

4. ✔ Emissivity

Question Number : 25 Question Id : 3330085065 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What element makes up most of the Earth's core?

Options :

1. ✘ Silicon

2. ✘ Oxygen

3. ✔ Iron

4. ✘ Nickle

Question Number : 26 Question Id : 3330085066 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For minor adjustment of horizontal angles measured using a theodolite, the tangential screw is adjusted after

Options :

1. ✘ Both the planes are unclamped
2. ✘ The lower plate is clamped and the upper plate is unclamped
3. ✘ The upper plate is clamped and the lower plate is unclamped
4. ✔ Both the plates are clamped

Question Number : 27 Question Id : 3330085067 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 core vector GIS operation?

Options :

1. ✔ Overlaying
2. ✘ Ionosphere correction
3. ✘ Levelling
4. ✘ Multipath correction

Question Number : 28 Question Id : 3330085068 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Electromagnetic Spectrum can be broadly divided as (in order of increasing wavelength)

Options :

1. ✘ X-rays, Gamma rays, Infrared, Ultraviolet, Visible, Radiowave, Microwave
2. ✘ Gamma rays, X-rays, Radiowave, Microwave, Ultraviolet, Infrared, Visible
3. ✘ X-rays, Gamma rays, Microwave, Radiowave, Ultraviolet, Infrared, Visible
4. ✔ Gamma rays, X-rays, Ultraviolet, Visible, Infrared, Microwave, Radiowave

Question Number : 29 Question Id : 3330085069 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 statement is INCORRECT?

Options :

1. ✘ Network analysis can be done with vector data
2. ✘ Linear features are clearly identified as discrete features in vector database

Satellite images are in vector format

3. ✓

Digital elevation model is in raster format

4. ✗

Question Number : 30 Question Id : 3330085070 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For a constant flying height, the average scale of an aerial photograph depends on which of the following parameter?

Options :

Focal length of the camera

1. ✓

Size of the photograph

2. ✗

Size of the objects in the area

3. ✗

Shape of the objects in the area

4. ✗

Question Number : 31 Question Id : 3330085071 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is a circular basin covering an area of 5.427 million square miles surrounded by North America and Eurasia?

Options :

1. ✘ Indian Ocean

2. ✘ Atlantic Ocean

3. ✘ Pacific Ocean

4. ✔ Arctic Ocean

Question Number : 32 Question Id : 3330085072 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In GIS, buffer is a zone with a specified width surrounding a spatial feature. Which of the following statements regarding buffer is CORRECT?

Options :

1. ✘ For a point feature, buffer is an ellipse with minor and major axes as buffer distances

2. ✘ For a polygon feature, buffer is a band with a specified distance created around the line conforming to the line's curve

3.

Buffer zones are polylines

✘

For a polygon feature, buffer is a belt of a specified distance from the edge of the polygon and conforming to its shape

4. ✔

Question Number : 33 Question Id : 3330085073 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 state is the largest producer of 'Brown Diamond' in India?

Options :

1. ✘ Punjab

2. ✘ Gujrat

3. ✔ Tamil Nadu

4. ✘ Maharashtra

Question Number : 34 Question Id : 3330085074 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which scattering occurs when particles are very small compared to the wavelength of the radiation?

Options :

1. ✘ Mie
2. ✘ Nonselective
3. ✔ Rayleigh
4. ✘ Emitting

Question Number : 35 Question Id : 3330085075 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 statement about the TIN model is INCORRECT?

Options :

1. ✘ TIN contains irregularly spaced sampled points.
2. ✘ Triangulation is performed to form network of triangles
3. ✔ In the TIN model, the edges represent features such as peaks and depression
4. ✘

In the TIN model, the edges form contiguous, nonoverlapping triangular facets and can be used to capture the position of linear features

Question Number : 36 Question Id : 3330085076 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

To visually distinguish between a river channel and a canal on an image, having similar widths and located in the same area, the most important parameter used is _____.

Options :

1. ✘ Size
2. ✔ Shape
3. ✘ Tone
4. ✘ Texture

Question Number : 37 Question Id : 3330085077 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

‘Transit the telescope’ of a theodolite involves

Options :

1. ✘ Rotating the theodolite about its vertical axis

2. ✓ Rotating the telescope about its trunnion axis
3. ✘ Rotating the telescope about its line of collimation
4. ✘ Rotating the theodolite by 90 degrees in horizontal plane

Question Number : 38 Question Id : 3330085078 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The survey carried out to delineate natural features, such as hills, rivers, forests and man-made feature such as towns, villages, buildings, roads, transmission lines and canals is classified as

Options :

1. ✘ Engineering survey
2. ✘ Geological survey
3. ✘ Land survey
4. ✓ Topographic survey

Question Number : 39 Question Id : 3330085079 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 metamorphic rock?

Options :

1. ✘ Marble
2. ✔ Sandstone
3. ✘ Quartzite
4. ✘ Slate

Question Number : 40 Question Id : 3330085080 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A closed contour line with one or more higher contour lines inside represents

Options :

1. ✘ Cliff
2. ✔ Hill
3. ✘ Valley

4. ✘ Cave

Question Number : 41 Question Id : 3330085081 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The _____ is the extended margin of each continent occupied by relatively shallow seas and gulfs

Options :

1. ✘ Deep sea plan

2. ✘ Continental slope

3. ✘ Oceanic deeps

4. ✔ Continental shelf

Question Number : 42 Question Id : 3330085082 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 statement is INCORRECT in the context of GIS?

Options :

1. ✘ CLIP erases a part of one of the input layers

2. ✔

✓ SPLIT overlays polygons and keeps all areas in both layers

3. ✘ INTERSECT overlays polygons and keeps only the common portions of both layers

4. ✘ UNION overlays polygons and keeps all areas in both layers

Question Number : 43 Question Id : 3330085083 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What provides orientation among the following

Options :

1. ✘ Key

2. ✘ Neatline

3. ✘ Title

4. ✓ Compass

Question Number : 44 Question Id : 3330085084 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 method is NOT used for compact storage of raster GIS data?

Options :

1. ✘ Chain code

2. ✘ Run-length code

3. ✘ Quadtree

4. ✔ Decision-tree

Question Number : 45 Question Id : 3330085085 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

_____ is a raster image resampling technique that DOES NOT alter any of the output cell values from the input raster dataset

Options :

1. ✔ Nearest neighbor

2. ✘ Cubic convolution

3. ✘ Bilinear

4.

✘ Kriging

Question Number : 46 Question Id : 3330085086 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The maximum depth of Lithosphere is found in the

Options :

1. ✓ Pacific Ocean
2. ✘ Siberian Plain
3. ✘ Patagonian Desert
4. ✘ Himalayan Mountains

Question Number : 47 Question Id : 3330085087 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In India, the largest reserve of Bauxite is found in

Options :

1. ✘ Andhra Pradesh

2. ✓ Odisha

3. ✗ Jharkhand

4. ✗ Gujrat

Question Number : 48 Question Id : 3330085088 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 rocks may also contain fossils of plants, animals, and other microorganisms that once lived on them?

Options :

1. ✓ Sedimentary rocks

2. ✗ Extrusive igneous rocks

3. ✗ Metamorphic rocks

4. ✗ Plutonic rocks

Question Number : 49 Question Id : 3330085089 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is meant by the term 'spatial filtering' in remote sensing?

Options :

1. ✘ Changing the position of pixels in an image because of inconsistencies in the relationship between sensor and surface during data collection
2. ✘ Making parts of the image at a different scale to another part of the image
3. ✘ Separating a scene into separate constituent parts and focusing on a smaller section to increase the resolution
4. ✔ Selectively preserving certain pixel frequencies in an image to enhance particular features or edges of objects

Question Number : 50 Question Id : 3330085090 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 statistical measures CANNOT be computed from the multispectral image histograms?

Options :

1. ✘ Mean, skewness, kurtosis
2. ✘ Covariance matrix
3. ✔

Co-occurrence matrix

Correlation matrix

4. ✘

Question Number : 51 Question Id : 3330085091 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Radiocarbon dating technique is used to estimate the age of

Options :

1. ✘ Rocks

2. ✘ Monuments

3. ✘ Soil

4. ✔ Fossils

Question Number : 52 Question Id : 3330085092 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Optimal flight planning for a photogrammetric survey should be carried out considering

Options :

1. ✘ Only side-lap
2. ✘ Only end-lap
3. ✘ Either side-lap or end-lap
4. ✔ Both side-lap as well as end-lap

Question Number : 53 Question Id : 3330085093 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is used to translate map measurement?

Options :

1. ✘ Overview
2. ✔ Bar scale
3. ✘ Map projection
4. ✘ North Arrow

Question Number : 54 Question Id : 3330085094 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of these is NOT a division of the Ocean Floors?

Options :

1. ✘ The Deep-Sea Plain
2. ✔ The Continental Deeps
3. ✘ The Continental Shelf
4. ✘ The Continental Slope

Question Number : 55 Question Id : 3330085095 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The plan of a map was photo copied to a reduced size such that a line originally 100 mm, measures 90 mm. The original scale of the plan was 1:1000. The approximate revised scale is

Options :

1. ✘ 1:900
2. ✔ 1:1111

3. ✘ 1:1121

4. ✘ 1:1221

Question Number : 56 Question Id : 3330085096 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Select the example of active sensor in remote sensing, from the following sensors

Options :

1. ✔ Laser scanner

2. ✘ Return beam vidicon

3. ✘ Television camera

4. ✘ Electro-optical scanner

Question Number : 57 Question Id : 3330085097 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What causes the changes in seasons?

Options :

1. ✘ Earth's rotation and revolution
2. ✘ Earth's revolution
3. ✔ Earth's revolution and inclination of its axis
4. ✘ Earth's rotation and inclination of its axis

Question Number : 58 Question Id : 3330085098 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The interaction of the electromagnetic radiation produced by an instrument with a specific wavelength to illuminate a target on the terrain for studying its scattered radiance is called:

Options :

1. ✘ Passive remote sensing
2. ✔ Active remote sensing
3. ✘ Global positioning system
4. ✘ Neutral remote sensing

Question Number : 59 Question Id : 3330085099 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The phenomenon 'crab and drift' is associated with which method of survey

Options :

1. ✘ Triangulation
2. ✘ Astronomical survey
3. ✔ Aerial photogrammetry
4. ✘ Tacheometric survey

Question Number : 60 Question Id : 3330085100 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 statements about Principal Component Analysis (PCA) is CORRECT?

Options :

1. ✘ A two-dimensional data set can have up to four principal components
2. ✔ The first principal component accounts for the majority of conceivable data variation

3. ✘ The second principal component attempts to encapsulate the mode of the data

4. ✘ The transformed principal components are non-linear combinations of the original variables

Question Number : 61 Question Id : 3330085101 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a transit theodolite, any incidental error due to eccentricity of verniers is primarily counteracted by

Options :

1. ✔ Reading both the verniers

2. ✘ Reading different parts of main scale

3. ✘ Reading right and left faces

4. ✘ Taking both right swing readings

Question Number : 62 Question Id : 3330085102 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which rocks are formed from solidification and cooling of magma?

Options :

1. ✓ Igneous rocks
2. ✘ Metamorphic rocks
3. ✘ Sedimentary rocks
4. ✘ Chemical sedimentary rocks

Question Number : 63 Question Id : 3330085103 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the context of satellite image classification, which of the following statement is CORRECT

Options :

1. ✘ Both ANN and Fuzzy C-means clustering are parametric classifiers
2. ✓ Both ANN and Fuzzy C-means clustering are non-parametric classifiers
3. ✘ ANN cannot be both supervised and unsupervised classification method
4. ✘ Fuzzy C-means clustering is a supervised classification method

Question Number : 64 Question Id : 3330085104 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For an overhanging cliff contour lines are

Options :

1. ✘ Different elevations unite to form one line
2. ✔ Different elevations cross one another
3. ✘ Closely spaced
4. ✘ Closed lines with higher values inside them

Question Number : 65 Question Id : 3330085105 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The ratio between the reflected to the incident energy on a surface at a particular wavelength gives the _____ of the surface.

Options :

1. ✔ Spectral reflectance
2. ✘ Spectral transmittance

3. ✘ Spectral radiance

4. ✘ Spectral irradiance

Question Number : 66 Question Id : 3330085106 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The histogram equalization applied to a digital image generally DOES NOT yield a truly uniform histogram of the transformed image due to

Options :

1. ✔ Discrete nature of pixel values

2. ✘ Poor contrast of the original image

3. ✘ Low frequency image information

4. ✘ Presence of edges

Question Number : 67 Question Id : 3330085107 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

It is easy to integrate GIS, Remote Sensing, and GPS technologies because these are:

Options :

1. ✘ Digital, analogue, and generic
2. ✘ Digital, analogue, and manual
3. ✔ Digital, spatial, and generic
4. ✘ Negative, positive, and neutral

Question Number : 68 Question Id : 3330085108 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 rivers does not belong to North America?

Options :

1. ✘ Missouri
2. ✔ Amazon
3. ✘ St. Lawrence

4. ✘ Ohio

Question Number : 69 Question Id : 3330085109 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the three type groups of vector data?

Options :

1. ✘ Points, lines, and imagery

2. ✔ Points, lines, and polygons

3. ✘ Points, polygons, and imagery

4. ✘ Points, lines, polygons, and imagery

Question Number : 70 Question Id : 3330085110 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Small scale representation of map is known as

Options :

1. ✘ Attribute map

2. ✓ Plan

3. ✗ Grid

4. ✗ Non-spatial map

Question Number : 71 Question Id : 3330085111 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Part of the solar radiation incident on the water surface gets refracted as per

Options :

1. ✗ Rayleigh's law

2. ✓ Snell's law

3. ✗ Moore's law

4. ✗ Newton's law

Question Number : 72 Question Id : 3330085112 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the three types of models we can create when generating a schema?

Options :

1. ✘ Physical, logical, or rational
2. ✘ Logical, rational, or metadata
3. ✔ Physical, logical, or metadata
4. ✘ Physical, rational, or metadata

Question Number : 73 Question Id : 3330085113 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Remote Sensing is unique because it provides:

Options :

1. ✔ Synoptic view
2. ✘ Special information
3. ✘ Superior information
4. ✘

Encrypted information

Question Number : 74 Question Id : 3330085114 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

‘Iso-centre’ is the point

Options :

1. ✘ In which the titled axis of the camera meets the vertical photograph
2. ✔ In which the bisector of the angle of tilt meets the vertical photograph
3. ✘ In air space, the location of the optical centre of the lens of the camera at the time of exposure
4. ✘ Where the perpendicular from the nodal point meets the photograph

Question Number : 75 Question Id : 3330085115 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are mathematical models that translate between coordinate systems?

Options :

1. ✘ Evolutions

2. ✘ Translations

3. ✘ Declinations

4. ✔ Transformations

Question Number : 76 Question Id : 3330085116 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the purpose of topology in GIS?

Options :

1. ✔ To represent the spatial relationships between geographic features

2. ✘ To store tabular data

3. ✘ To display imagery

4. ✘ To conduct statistical analysis

Question Number : 77 Question Id : 3330085117 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a Landsat-8 scene, digital number (DN) values of a pixel in band-4, band-5 and band-10 are 80, 100 and 30, respectively. What would be the NDVI value for the same pixel (round off to 3 decimal places)?

Options :

1. ✓ 0.111
2. ✗ 0.222
3. ✗ 0.556
4. ✗ 0.889

Question Number : 78 Question Id : 3330085118 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which item does the “Export Data” window not ask us to provide in GIS software?

Options :

1. ✗ Format
2. ✗ Output location
3. ✗ Features to export

4. ✓ Coordinate system

Question Number : 79 Question Id : 3330085119 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 an area of Remote Sensing application?

Options :

1. ✘ Dispatch of emergency medical services

2. ✘ Egg Production

3. ✓ Mapping and water resources

4. ✘ Census calculation

Question Number : 80 Question Id : 3330085120 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Hyperspectral sensor consists of

Options :

1. ✘ Large number of wide and discrete bands

2. ✘ Small number of wide and contiguous bands

3. ✔ Large number of narrow and contiguous bands

4. ✘ Small number of narrow and discrete bands

Question Number : 81 Question Id : 3330085121 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 head digitizing provides good quality and is commonly used?

Options :

1. ✔ Heads up

2. ✘ Heads down

3. ✘ Head lateral

4. ✘ Head horizontal

Question Number : 82 Question Id : 3330085122 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In aerial vertical photography, the longitudinal overlap is normally kept as

Options :

1. ✘ 50 %

2. ✔ 60 %

3. ✘ 70 %

4. ✘ 80 %

Question Number : 83 Question Id : 3330085123 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. ✘ Numeric data

2. ✘ Binary data

3. ✔ Spatial data

4. ✘

Complex data

Question Number : 84 Question Id : 3330085124 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Choose the CORRECT statement regarding microwave remote sensing

Options :

1. ✓ Spatial resolution of passive microwave remote sensor is coarser than that of active microwave remote sensor from the same platform
2. ✘ The intensity of signal returned by an object does not depends on its geometric as well as dielectric properties
3. ✘ It is possible to “see through” the dense forest canopy using X-band active microwave remote sensing (i.e., signals can penetrate the dense forest canopy)
4. ✘ Microwave remote sensing cannot be used in soil moisture studies

Question Number : 85 Question Id : 3330085125 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 coarse grained igneous rock that contains quartz and feldspar?

Options :

1. ✓ Granite

2. ✗ Marble

3. ✗ Andesite

4. ✗ Basalt

Question Number : 86 Question Id : 3330085126 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the hardest mineral?

Options :

1. ✓ Diamond

2. ✗ Feldspar

3. ✗ Talc

4. ✗ Quartz

Question Number : 87 Question Id : 3330085127 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the following statements:

In aerial photogrammetry the 'filter' is placed in front of the lens to:

- I. Reduce the effect of atmospheric haze.
- II. Protect the lens from dust.
- III. Provide uniform light distribution over the format.

Which of the above statements is/are correct

Options :

- 1. ✘ I and II only
- 2. ✘ II only
- 3. ✘ I and III only
- 4. ✔ I, II and III

Question Number : 88 Question Id : 3330085128 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A zone of a specified width around a point, line or polygon is known in GIS as

Options :

- 1. ✘ Polygon overlay

2. ✓ Buffering

3. ✘ Dissolving

4. ✘ Clipping

Question Number : 89 Question Id : 3330085129 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Choose the CORRECT statement in case of visual image interpretation.

Options :

1. ✓ Tone/Color is a primary element while Size, Shape and Texture are secondary elements

2. ✘ Size, Shape and Texture are primary elements while Tone/Color is a secondary element

3. ✘ Tone/Color is a primary element while Pattern and Association are secondary elements

4. ✘ Association refers to the frequency of tonal changes in an area of image

Question Number : 90 Question Id : 3330085130 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Resampling of a raster image in remote sensing:

Options :

1. ✘ Increases the accuracy
2. ✘ Increases the precision
3. ✔ Decreases data details
4. ✘ Increases data details

Question Number : 91 Question Id : 3330085131 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A line lying throughout the surface of the ground and preserving a constant inclination to the horizontal is

Options :

1. ✔ Contour gradient
2. ✘ Horizontal equivalent
3. ✘ Contour interval

Vertical control

4. ✘

Question Number : 92 Question Id : 3330085132 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

By 'spatial data' we mean data that has

Options :

1. ✘ Complex values

2. ✔ Geographic location values

3. ✘ Graphic values

4. ✘ Decimal values

Question Number : 93 Question Id : 3330085133 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Spectral signature of an object in a satellite image does NOT depend on the

Options :

1. ✘ Season of the year

2. ✘ Wavelength of electromagnetic spectrum

3. ✔ Swath width of the satellite

4. ✘ Reflectance value from the object

Question Number : 94 Question Id : 3330085134 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 band is better for delineating water bodies?

Options :

1. ✘ Blue band

2. ✘ Red band

3. ✘ Green band

4. ✔ Near-infrared band

Question Number : 95 Question Id : 3330085135 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A 1:50,000 scale map can be compared to the following spatial resolution:

Options :

1. ✘ 50000 m
2. ✘ 50 m
3. ✘ 1/50000 m
4. ✔ Not possible to compare

Question Number : 96 Question Id : 3330085136 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is it called when a mineral easily splits along a flat surface

Options :

1. ✘ Streak
2. ✔ Cleavage
3. ✘ Luster

4. ✖ Color

Question Number : 97 Question Id : 3330085137 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Who coined the term 'Remote sensing'?

Options :

1. ✔ Evelyn L. Pruitt, a geographer

2. ✖ Gaspard Felix Tournachon, a French scientist

3. ✖ Wilbur Wright, an Italian scientist

4. ✖ Albert Einstein

Question Number : 98 Question Id : 3330085138 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

TIN stands for

Options :

1. ✖ Traffic Internet Network

2.

✓ Triangulated Irregular Network

3. ✘ Temporal Interest Network

4. ✘ Temperature Interface Node

Question Number : 99 Question Id : 3330085139 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the image formed by the objective lens is not in the same plane with cross hairs, then it is known as

Options :

1. ✘ Focusing of eye piece

2. ✘ Focusing of objective

3. ✓ Parallax

4. ✘ Aberration

Question Number : 100 Question Id : 3330085140 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Interpolation is made possible by a principle called

Options :

1. ✓ Spatial Autocorrelation
2. ✗ Spatial Auto-correction
3. ✗ Thematic Autocorrelation
4. ✗ Thematic auto-correction

Question Number : 101 Question Id : 3330085141 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Water bodies appear in dark tone in Near Infrared (NIR) image, because water _____ most of the NIR radiations incident on it.

Options :

1. ✓ Absorbs
2. ✗ Emits
3. ✗ Reflects

Scatters

4. ✘

Question Number : 102 Question Id : 3330085142 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In GIS, which tables give data unique characteristics?

Options :

1. ✘ Data

2. ✘ Excel

3. ✘ Raster

4. ✔ Attribute

Question Number : 103 Question Id : 3330085143 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The part radiation due to scattered/diffused radiation entering the field of view of a remote sensor other than that from the required target:

Options :

1. ✘

Increases the contrast of the image but reduces the sharpness

2. ✓ Reduces the contrast of the image and also its sharpness

3. ✗ Increases both the contrast and sharpness

4. ✗ Reduces the contrast but increases the sharpness

Question Number : 104 Question Id : 3330085144 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which type of geodatabase can have multiple editors but only if they work on different parts of the data?

Options :

1. ✓ File geodatabase

2. ✗ Personal geodatabase

3. ✗ Microsoft database

4. ✗ Enterprise database

Question Number : 105 Question Id : 3330085145 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Thermal Infrared images are provided by

Options :

1. ✘ LANDSAT MSS and IRS LISS-II sensors
2. ✘ SPOT and CARTOSAT
3. ✘ IKONOS and QUICKBIRD
4. ✔ LANDSAT TM and NOAA AVHRR sensors

Question Number : 106 Question Id : 3330085146 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The ratio of the total solar radiant energy return by a planetary body to the total radiant energy incident on the body, is called

Options :

1. ✘ Reflectance factor
2. ✔ Albedo

3. ✘ Diffraction

4. ✘ Refraction

Question Number : 107 Question Id : 3330085147 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What will be the value of absorbance, if the absorbed and incident energies are given as 67 J and 109 J respectively?

Options :

1. ✘ 0.16

2. ✘ 0.69

3. ✔ 0.61

4. ✘ 0.72

Question Number : 108 Question Id : 3330085148 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Energy flux may affect which of the following?

Options :

1. ✘ Lens
2. ✔ Strength of the signal
3. ✘ Aperture
4. ✘ Declination

Question Number : 109 Question Id : 3330085149 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The rank of the matrix $A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 4 & 2 \\ 2 & 6 & 5 \end{bmatrix}$

Options :

1. ✘ 1
2. ✘ 3
3. ✔ 2

4. ✘ 0

Question Number : 110 Question Id : 3330085150 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For the matrix $\begin{bmatrix} 2 & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & 2 \end{bmatrix}$ which of the following is not an Eigen Vector

Options :

1. ✘ (1,0,0)

2. ✘ (0,1,0)

3. ✘ (0,0,1)

4. ✔ (0,0,0)

Question Number : 111 Question Id : 3330085151 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Augmented matrix of equations $x - y + z = 9; x - 3y + 4z = 25; 2x + 6y + 4z = 10$ is reduced to

Echelon form as $\begin{bmatrix} 1 & -1 & 1 & 9 \\ 0 & -2 & 3 & 16 \\ 0 & 0 & 7 & 28 \end{bmatrix}$. Then the solution set $X = \begin{bmatrix} x \\ y \\ z \end{bmatrix} =$

Options :

1. ✓ $\begin{bmatrix} 3 \\ -2 \\ 4 \end{bmatrix}$

2. ✗ $\begin{bmatrix} 4 \\ -2 \\ 3 \end{bmatrix}$

3. ✗ $\begin{bmatrix} 3 \\ 4 \\ -2 \end{bmatrix}$

4. ✗ $\begin{bmatrix} -2 \\ 3 \\ 4 \end{bmatrix}$

Question Number : 112 Question Id : 3330085152 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\lim_{x \rightarrow \infty} x \tan\left(\frac{1}{x}\right) = \underline{\hspace{2cm}}$$

Options :

1. ✗ 0

2. ✓ 1

3. ✘ 2

4. ✘ 3

Question Number : 113 Question Id : 3330085153 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\int_{-\pi/6}^{\pi/6} \left(\frac{(\sin x)^5 (\cos x)^3}{x^4} \right) dx =$$

Options :

1. ✘ $\pi/2$

2. ✘ $\pi/4$

3. ✘ $\pi/8$

4. ✔ 0

Question Number : 114 Question Id : 3330085154 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Evaluate $\oint_C (y^3 dx - x^3 dy)$, where C is positively oriented circle of radius 2 centre at origin.

Options :

1. ✘ 24π

2. ✘ 4π

3. ✔ -24π

4. ✘ -4π

Question Number : 115 Question Id : 3330085155 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$f(x) = 2x^2 - 2x + 6$ will have a minimum value at $x = \underline{\hspace{2cm}}$

Options :

1. ✘ 0.2

2. ✘ 0.3

3. ✘ 0.4

4. ✓ 0.5

Question Number : 116 Question Id : 3330085156 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $f(x)$ is differentiable function in x then it is

Options :

1. ✗ Unbounded

2. ✗ Many Valued

3. ✓ Continuous

4. ✗ Bounded

Question Number : 117 Question Id : 3330085157 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

As per Green's theorem $\int_c Mdx + Ndy = \iint_R (\text{_____}) dx dy$

Options :

1. ✗ $\frac{\partial M}{\partial x} - \frac{\partial N}{\partial y}$

2. ✘ $\frac{\partial N}{\partial y} - \frac{\partial M}{\partial x}$

3. ✔ $\frac{\partial N}{\partial x} - \frac{\partial M}{\partial y}$

4. ✘ $\frac{\partial M}{\partial y} - \frac{\partial N}{\partial x}$

Question Number : 118 Question Id : 3330085158 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Probability Density function $f(x)$ of a continuous random variable is given by

$f(x) = ce^{-|x|}$, $-\infty < x < \infty$. If the total probability $2 \int_0^{\infty} ce^{-x} dx$ is 1 then $c =$ _____

Options :

1. ✘ 0.6

2. ✔ 0.5

3. ✘ 0.4

4. ✘ 0.3

Question Number : 119 Question Id : 3330085159 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A problem of statistics is given to three students A, B and C whose chances of solving are $\frac{1}{2}$, $\frac{3}{4}$ and $\frac{1}{4}$ respectively. What is the probability that the problem will be solved?

Options :

1. ✘ $\frac{25}{32}$

2. ✘ $\frac{23}{32}$

3. ✘ $\frac{21}{32}$

4. ✔ $\frac{29}{32}$

Question Number : 120 Question Id : 3330085160 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The probability that at least one of the events A and B occurs is 0.6. If A and B occur simultaneously with the probability 0.2 then $P(\bar{A}) + P(\bar{B}) = ?$

Options :

1. ✘ 0.4

2. ✔

1.2

3. ✖ 0.8

4. ✖ 1.4