

# 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.

<b>Question Paper Name :</b>	GG2
<b>Subject Name :</b>	Geo Engineering and Geo Informatics
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## Geo Engineering and Geo Informatics

<b>Group Number :</b>	1
<b>Group Id :</b>	83189672
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	120
<b>Show Attended Group? :</b>	No
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**Break time :** 0  
**Group Marks :** 120

## Geo Engineering and Geo Informatics

**Section Id :** 83189672  
**Section Number :** 1  
**Section type :** Online  
**Mandatory or Optional :** Mandatory  
**Number of Questions :** 120  
**Number of Questions to be attempted :** 120  
**Section Marks :** 120  
**Maximum Instruction Time :** 0  
**Sub-Section Number :** 1  
**Sub-Section Id :** 83189672  
**Question Shuffling Allowed :** Yes

**Question Number : 1 Question Id : 8318968521 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

Where is Earth's core located relative to the surface?

**Options :**

1. ✓ 2,900 kilometers below the surface
2. ✗ 3,900 kilometers below the surface

3. ✖ At the crust – mantle boundary
4. ✖ 1,900 kilometers below the surface

Question Number : 2 Question Id : 8318968522 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What is the term for the process that led to the formation of Earth's core?

Options :

1. ✖ Plate tectonics
2. ✔ Planetary differentiation
3. ✖ Seafloor spreading
4. ✖ Mantle convection

Question Number : 3 Question Id : 8318968523 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What are polymorphs in mineralogy?

Options :

1. ✘ Rocks formed under identical pressure and temperature conditions
2. ✔ Two or more minerals with the same chemical formula but different crystal structures
3. ✘ Crystals that form only in metamorphic environments
4. ✘ Minerals with different chemical formulas but similar crystal structures

Question Number : 4 Question Id : 8318968524 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What characterizes a porphyritic texture in igneous rocks?

Options :

1. ✘ Layers of alternating light and dark minerals

2. ✓ A texture in which some crystals are distinctly larger than the rest

3. ✗ Crystals that form only from volcanic eruptions

4. ✗ Uniformly sized crystals throughout the rock

Question Number : 5 Question Id : 8318968525 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following correctly describes the composition of Earth's core?

Options :

1. ✗ Silicate rocks with low-density elements

2. ✗ Solid iron-nickel outer core and liquid silicate inner core

3. ✓ Liquid iron-nickel outer core and solid iron-nickel inner core

4. ✗ Primarily aluminum silicate with traces of magnesium

Question Number : 6 Question Id : 8318968526 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What is the process called when a parent rock transforms due to heat and pressure without melting?

Options :

- 1. ✖ Diagenesis
- 2. ✔ Metamorphism
- 3. ✖ Crystallization
- 4. ✖ Erosio

Question Number : 7 Question Id : 8318968527 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following best explains the term "continental shield"?

Options :

1. ✖ Submarine ridges with high heat flow
2. ✖ Oceanic crust covered by continental sediments
3. ✔ Large regions of exposed Precambrian crystalline igneous and metamorphic rocks
4. ✖ Young mountain ranges formed by recent tectonic activity

Question Number : 8 Question Id : 8318968528 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following is a framework silicate mineral?

Options :

1. ✖ A. Olivine
2. ✖ Biotite
3. ✔ Quartz



4. ✖ Pyroxene

Question Number : 9 Question Id : 8318968529 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The cleavage in mica minerals is described as:

Options :

1. ✔ Basal

2. ✖ Prismatic

3. ✖ Cubic

4. ✖ Irregular

Question Number : 10 Question Id : 8318968530 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The primary instrument used for measuring horizontal and vertical angles in surveying is:

Options :



1. ✓ Theodolite
2. ✗ Total station
3. ✗ Plane table
4. ✗ Dumpy level

Question Number : 11 Question Id : 8318968531 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

High oblique photographs differ from low oblique photographs in that they:

Options :

1. ✗ Are taken from a higher altitude
2. ✓ Include the horizon in the image

3. ✖ Are taken with a vertical camera axis

4. ✖ Show less ground area

Question Number : 12 Question Id : 8318968532 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which type of map projection assumes a globe resting on a flat surface, producing a circular map with a central point of tangency?

Options :

1. ✖ Conic Projection

2. ✖ Mercator Projection

3. ✔ Azimuthal Projection

4. ✖ Cylindrical Projection

Question Number : 13 Question Id : 8318968533 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which map projection is widely used for nautical navigation due to its ability to represent lines of constant true direction?

Options :

1. ✖ Azimuthal Projection
2. ✖ Robinson Projection
3. ✖ Polyconic Projection
4. ✔ Mercator Projection

Question Number : 14 Question Id : 8318968534 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The point on the ground vertically beneath the camera at the time of exposure is called the:

Options :

1. ✖ Perceptive point

- 2. ✓ Nadir Point
- 3. ✗ Principal point
- 4. ✗ Isoline

Question Number : 15 Question Id : 8318968535 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following characteristics most clearly distinguishes an oblique photograph from a vertical photograph in aerial photography?

Options :

- 1. ✗ Uniform scale throughout the photograph
- 2. ✓ Ability to see the horizon in the photograph
- 3. ✗ Taken with the camera axis vertical to the ground

Presence of overlapping areas between photos

4. ✖

Question Number : 16 Question Id : 8318968536 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In remote sensing, super wide angle cameras are cameras whose angular field of view is:

Options :

1. ✖ Less than  $60^\circ$

2. ✖ Between  $60^\circ$  and  $90^\circ$

3. ✔ Greater than  $90^\circ$

4. ✖ Exactly  $180^\circ$

Question Number : 17 Question Id : 8318968537 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What does the term 'radiance' refer to in radiometry?

Options :

- 1. ✖ Energy per unit wavelength
- 2. ✖ Energy per unit area
- 3. ✔ Energy per unit area per unit solid angle
- 4. ✖ Total energy emitted by a source

Question Number : 18 Question Id : 8318968538 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following is not a radiometric quantity?

Options :

- 1. ✖ Radiant flux
- 2. ✖ Irradiance

3. ✓ Reflectance

4. ✗ Radiance

Question Number : 19 Question Id : 8318968539 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which orbit is best suited for continuous weather monitoring over a specific region?

Options :

1. ✗ Molniya orbit

2. ✗ Polar orbit

3. ✓ Geostationary orbit

4. ✗ Sun-synchronous orbit

Question Number : 20 Question Id : 8318968540 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0



Geostationary satellites orbit at approximately:

Options :

1. ✓ 35,786 km
2. ✗ 786 km
3. ✗ 1000 km
4. ✗ 500 km

Question Number : 21 Question Id : 8318968541 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Across-track stereoscopic imaging is typically obtained by:

Options :

1. ✗ Combining radar and optical data
2. ✗ Not combining radar and optical data

3. ✓ Using side-looking sensors from different satellite passes

4. ✗ Capturing nadir images over different regions

Question Number : 22 Question Id : 8318968542 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following satellite systems is capable of along-track stereo imaging using fore and aft sensors?

Options :

1. ✓ Cartosat-1

2. ✗ MODIS

3. ✗ SPOT

4. ✗ Landsat

Question Number : 23 Question Id : 8318968543 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which among the following is not related to GIS software's?

Options :

1. ✓ STAAD Pro
2. ✗ QGIS
3. ✗ ARCVIEW
4. ✗ CAD

Question Number : 24 Question Id : 8318968544 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following best describes topology in GIS?

Options :

1. ✗ Raster resolution accuracy
2. ✗ Geometric measurement of features
3. ✓ Spatial relationships between vector features

## Storage of attribute information

4. ✖

Question Number : 25 Question Id : 8318968545 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which GIS file format is most commonly used for storing vector data, including points, lines, and polygons?

Options :

1. ✖ .img

2. ✖ .txt

3. ✖ .pps

4. ✔ .shp

Question Number : 26 Question Id : 8318968546 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following represents the correct set of coordinate classification in GIS?

**Options :**

1. ✖ Geographic, spherical systems
2. ✔ Geographic, projected systems
3. ✖ Linear, geometric systems
4. ✖ Spherical, projected systems

**Question Number : 27 Question Id : 8318968547 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

**In GIS, what is the purpose of indexing spatial data in a database?**

**Options :**

1. ✖ To speed up data visualization
2. ✔ To improve spatial query performance
3. ✖ To store backup copies of data

4. ✖ To manage spatial relationships

Question Number : 28 Question Id : 8318968548 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What is the key advantage of Object-Oriented Database Models in GIS?

Options :

1. ✖ They only work with vector data

2. ✖ They are easier to use than relational databases

3. ✖ They store data in a flat, three Dimensional table

4. ✔ They allow for more complex data relationships and inheritance

Question Number : 29 Question Id : 8318968549 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What is the primary advantage of using a hierarchical database structure in GIS?

Options :

1. ✖ Improved spatial data analysis
2. ✖ Faster query response times
3. ✖ Handling of data
4. ✔ Clear parent-child relationships between data sets

Question Number : 30 Question Id : 8318968550 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following would be considered a non-spatial data analysis technique?

Options :

1. ✖ Raster data interpolation
2. ✔ Database queries using SQL



Buffer zone creation

3. ✖

Network analysis

4. ✖

**Question Number : 31 Question Id : 8318968551 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

In GIS, what is the primary purpose of using symbology?

**Options :**

To perform spatial queries

1. ✖

To represent spatial features visually with symbols

2. ✔

To convert raster to vector

3. ✖

To store spatial data efficiently

4. ✖

**Question Number : 32 Question Id : 8318968552 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

Which of the following types of visualizations would be most appropriate for displaying elevation data?

Options :

1. ✖ Heat map
2. ✖ Bar chart
3. ✔ 3D surface model
4. ✖ Line graph

Question Number : 33 Question Id : 8318968553 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_map projection is best suited for regional or hemispheric maps, but unsuitable for entire world map.

Options :

1. ✖ Cylindrical
2. ✖ Equivalent

3. ✓ Conical

4. ✗ Azimuthal

**Question Number : 34 Question Id : 8318968554 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

Which attribute is not associated with digital maps?

**Options :**

1. ✗ Colour

2. ✗ Symbology

3. ✓ South arrow

4. ✗ Legends

**Question Number : 35 Question Id : 8318968555 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

Across track scanning systems are also called as \_\_\_\_\_ scanner systems.

Options :

1. ✖ Push broom
2. ✖ Lateral broom
3. ✖ Pull broom
4. ✔ Whisk broom

Question Number : 36 Question Id : 8318968556 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

RISAT stands for \_\_\_\_\_.

Options :

1. ✖ Radio Satellite
2. ✖ Radio Navigation and Ranging Satellite

3. ✓ Radar Imaging Satellite

4. ✗ Reference system

Question Number : 37 Question Id : 8318968557 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Joint earth-observing mission between ISRO and NASA using advanced radar imaging system is known as \_\_\_\_\_.

Options :

1. ✗ NASA-ISRO Systematic Radar Mission (NISAR)

2. ✓ NASA-ISRO Synthetic Aperture Radar (NISAR)

3. ✗ NASA-ISRO Side-looking Aperture Radar (NISAR)

4. ✗ NASA-ISRO Side-looking Aperture Radio (NISAR)

Question Number : 38 Question Id : 8318968558 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Instrument used for monitoring water levels in rivers/reservoirs from space is known as \_\_\_\_\_.

Options :

1. ✖ ☐ Stadiometer or Satellite Stadiometer
2. ✔ ☒ Altimeter or Satellite Altimeter
3. ✖ ☐ Space Theodolite
4. ✖ ☐ LISS

Question Number : 39 Question Id : 8318968559 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ resolution defines the smallest difference of radiant energy detected by a sensor.

Options :

1. ✖ ☐ Spectral resolution

2. ✓ Radiometric resolution

3. ✗ Temporal resolution

4. ✗ Spatial resolution

Question Number : 40 Question Id : 8318968560 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Diffused reflection of solar radiation from earth's surface is known  
as \_\_\_\_\_.

Options :

1. ✗ Radiance

2. ✗ Irradiance

3. ✓ Albedo



## Reflectance

4. ✖

Question Number : 41 Question Id : 8318968561 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The energy quantum for radiation is proportional to its \_\_\_\_\_.

Options :

1. ✔ Frequency

2. ✖ Reciprocal of energy

3. ✖ Square of frequency

4. ✖ Square root of frequency

Question Number : 42 Question Id : 8318968562 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Output from a thermal sensor is a measurement  
of \_\_\_\_\_ temperature of an object.

Options :

1. ✖ Kinetic
2. ✔ Radiant
3. ✖ Blackbody
4. ✖ Infrared

Question Number : 43 Question Id : 8318968563 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Who is known as father of Indian Space Program?

Options :

1. ✖ Prof. P. R. Pisharoty
2. ✔ Dr. Vikram Sarabhai
3. ✖ Dr. Homi J. Bhabha

4. ✖ Prof. U. R. Rao

Question Number : 44 Question Id : 8318968564 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

National Remote Sensing Day is celebrated on \_\_\_\_\_ every year.

Options :

1. ✔ August 12

2. ✖ June 5

3. ✖ November 14

4. ✖ August 15

Question Number : 45 Question Id : 8318968565 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which colour of EM spectrum is used for bathymetry studies?

Options :

- 1. ✖ Red
- 2. ✖ UV
- 3. ✖ SWIR
- 4. ✔ Green

Question Number : 46 Question Id : 8318968566 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Rayleigh scattering occurs when particle size is \_\_\_\_\_ than wavelength of incoming radiation.

Options :

- 1. ✔ very small
- 2. ✖ equal

3. ✖ not equal

4. ✖ very big

Question Number : 47 Question Id : 8318968567 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The reflectance \_\_\_\_\_ with presence of moisture, surface roughness or organic content in soils.

Options :

1. ✖ increases

2. ✔ decreases

3. ✖ remains same

4. ✖ zero

Question Number : 48 Question Id : 8318968568 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In digital image processing, the \_\_\_\_\_ process adjusts translational and rotational alignment between two images.

Options :

1. ✓ Registration
2. ✗ Filtering
3. ✗ Enhancement
4. ✗ Processing

Question Number : 49 Question Id : 8318968569 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ helps to transform a correlated dataset into uncorrelated dataset.

Options :

1. ✗ Rationing

2. ✓ Principal Component Analysis

3. ✗ Fusion

4. ✗ Classification

Question Number : 50 Question Id : 8318968570 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Rectification accuracy is expressed in terms of \_\_\_\_\_ error.

Options :

1. ✗ Commission

2. ✓ Root Mean Square

3. ✗ Kappa

4. ✗ Omission



Question Number : 51 Question Id : 8318968571 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Spectral region of electromagnetic radiation which passes through atmosphere without much attenuation is known as \_\_\_\_\_.

Options :

1. ✖ Ozone hole
2. ✔ Atmospheric window
3. ✖ Ozone window
4. ✖ Black hole

Question Number : 52 Question Id : 8318968572 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

GIS ideally deals with \_\_\_\_\_.

Options :

1. ✖ Numeric data

- 2. ✖ Binary data
- 3. ✔ Spatial data
- 4. ✖ Complex data

Question Number : 53 Question Id : 8318968573 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

SDI stands for

Options :

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

Question Number : 54 Question Id : 8318968574 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ defines the property of connectivity in GIS.

Options :

1. ✖ Proximity
2. ✖ Neighbourhood
3. ✔ Topology
4. ✖ Boolean Identity

Question Number : 55 Question Id : 8318968575 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following are true of AM/FM systems?

Options :

1. ✖ The terms GIS and AM/FM are synonymous

2. ✖ AM/FM are always vector based
3. ✔ AM/FM is a specialized GIS
4. ✖ AM/FM systems are always confined to the utility industry

Question Number : 56 Question Id : 8318968576 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

India-WRIS is a portal for \_\_\_\_\_.

Options :

1. ✖ Agricultural resources
2. ✔ Water resources
3. ✖ Forest resources
4. ✖ Geological resources

Question Number : 57 Question Id : 8318968577 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ is a type of vector data model.

Options :

1. ✓ Spaghetti
2. ✗ Spatial
3. ✗ Raster
4. ✗ Quadtree

Question Number : 58 Question Id : 8318968578 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The purpose of GIS data models is to \_\_\_\_\_.

Options :

1. ✗ Generate random data structures

2. ✖ Analyse and describe fictional features in GIS
3. ✔ Represent real-world features in various forms like points, lines, arcs, and polygons
4. ✖ Create abstract sculptures of real world

Question Number : 59 Question Id : 8318968579 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ function is performed by data input/capture subsystem of GIS.

Options :

1. ✖ Retrieval of data elements
2. ✖ Storage of data elements
3. ✔ Acquiring data

#### 4. ✖ Transformation of data

Question Number : 60 Question Id : 8318968580 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

A network is a series of interconnecting lines along which there is a flow of\_\_\_\_\_.

Options :

1. ✖ Entities

2. ✖ Points

3. ✖ Nodes

4. ✔ Data

Question Number : 61 Question Id : 8318968581 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which interpolation technique is not used for continuous data?

Options :

1. ✖ Kriging
2. ✖ Trend surface fitting
3. ✔ Digitization
4. ✖ Triangulation

Question Number : 62 Question Id : 8318968582 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What is the approximate radius of the Earth?

Options :

1. ✖ 5,000 km
2. ✔ 6,371 km
3. ✖ 7,500 km



4. ✖ 8,000 km

Question Number : 63 Question Id : 8318968583 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The Earth's core is primarily made up of which two elements?

Options :

1. ✖ Silicon and Oxygen

2. ✔ Iron and Nickel

3. ✖ Iron and Magnesium

4. ✖ Nickel and Oxygen

Question Number : 64 Question Id : 8318968584 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following statements accurately describes the formation of an intrusive igneous rock?

Options :

1. ✖ It forms from the rapid cooling of lava on the Earth's surface, resulting in fine-grained crystals.
2. ✖ It forms from the compaction and cementation of sediments over millions of years.
3. ✔ It forms from the slow cooling of magma beneath the Earth's surface, allowing for the development of large crystals.
4. ✖ It forms from the transformation of existing rocks due to high temperatures and pressures.

Question Number : 65 Question Id : 8318968585 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which one of the following are the two main constituents of granite?

Options :

1. ✖ Iron and nickel

- 2. ✖ Iron and silver
- 3. ✔ Silica and aluminium
- 4. ✖ Iron Oxide and potassium

Question Number : 66 Question Id : 8318968586 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following rocks is an intrusive igneous rock?

Options :

- 1. ✖ Basalt
- 2. ✖ Rhyolite
- 3. ✔ Granite
- 4. ✖ Pumice

Question Number : 67 Question Id : 8318968587 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which rock type primarily forms from cooling of lava on Earth's surface?

Options :

- 1. ✖ Plutonic igneous
- 2. ✔ Volcanic igneous
- 3. ✖ Metamorphic
- 4. ✖ Clastic sedimentary

Question Number : 68 Question Id : 8318968588 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following is true about rocks?

Options :

1. ✖ Rocks are composed of only one mineral.
2. ✖ Rocks do not contain any non-mineral matter.
3. ✖ Coal is not considered a true rock.
4. ✔ Most rocks are a mixture of minerals.

Question Number : 69 Question Id : 8318968589 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

A rock that forms from cooling lava is classified as an.

Options :

1. ✖ Intrusive igneous rock
2. ✔ Extrusive igneous rock
3. ✖ Extrusive metamorphic rock

4. ✖ Intrusive volcanic rock

Question Number : 70 Question Id : 8318968590 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which environment is most favourable for the formation of metamorphic rocks?

Options :

1. ✔ High pressure and high temperature

2. ✖ Low pressure and low temperature

3. ✖ High pressure and low temperature

4. ✖ Surface weathering

Question Number : 71 Question Id : 8318968591 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Igneous rocks that crystallize from magma and are composed almost entirely of quartz and feldspars have a\_\_\_\_\_.

Options :

1. ✓ Granitic composition
2. ✗ Ultramafic composition
3. ✗ Andesitic composition
4. ✗ Basaltic composition

Question Number : 72 Question Id : 8318968592 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The mineral group that constitutes most of Earth's crust is\_\_\_\_\_.

Options :

1. ✗ Carbonates



2. ✖ Oxides

3. ✔ Silicates

4. ✖ Sulfides

Question Number : 73 Question Id : 8318968593 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following statements accurately distinguishes between a silicate and a non-silicate mineral?

Options :

1. ✖ Silicate minerals are always harder than non-silicate minerals.

2. ✖ Non-silicate minerals never contain oxygen in their chemical formula.

3. ✔ Silicate minerals contain silicon and oxygen as major elements, while non-silicate minerals do not always contain both.



Non-silicate minerals are always formed through biological processes.

4. ✖

Question Number : 74 Question Id : 8318968594 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which instrument is primarily used to measure angles between lines of sight in surveying?

Options :

A GPS receiver.

1. ✖

A theodolite.

2. ✔

A level.

3. ✖

A clinometer.

4. ✖

Question Number : 75 Question Id : 8318968595 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which type of aerial photograph is taken with the camera's optical axis directed vertically downward?

Options :

An oblique photograph.

1. ✖

A tilted photograph.

2. ✖

A stereoscopic photograph.

3. ✖

A vertical photograph.

4. ✔

Question Number : 76 Question Id : 8318968596 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT typically found as marginal information on a topographic sheet?

Options :

1. ✖ The sheet name and number.
2. ✖ The contour interval.
3. ✖ The magnetic declination.
4. ✔ The coordinates of specific landmarks within the mapped area.

**Question Number : 77 Question Id : 8318968597 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

Parallax in aerial photographs is an error due to\_\_\_\_\_.

**Options :**

1. ✔ Movement of camera and ground relief
2. ✖ Overlap in photographs

Distortion caused by camera lens

3. ✖

Distortion due to lack of focus

4. ✖

Question Number : 78 Question Id : 8318968598 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In map projections, the Mercator projection is best suited  
for\_\_\_\_\_.

Options :

Polar regions

1. ✖

Small-scale world maps

2. ✖

Navigation purposes

3. ✔

Land use planning

4. ✖

Question Number : 79 Question Id : 8318968599 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a key characteristic of a map projection?

Options :

1. ✖ It accurately portrays the true shape of the Earth's surface.
2. ✖ It preserves the scale and area of the map.
3. ✖ It provides a 3D representation of the terrain.
4. ✔ It distorts the Earth's shape to fit on a flat surface.

Question Number : 80 Question Id : 8318968600 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which aerial photo format typically provides the largest area of coverage on a single photograph?

Options :

1. ✖ Small format (e.g., 70mm)

2. ✓ Medium format (e.g., 9 inches x 9 inches)

3. ✗ Large format (e.g., 12 inches x 12 inches)

4. ✗ Digital imagery with a small sensor size.

Question Number : 81 Question Id : 8318968601 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which type of map projection is most likely to distort the shape of large landmasses?

Options :

1. ✗ Cylindrical map projection.

2. ✗ Conic map projection.

3. ✗ Planar map projection.

Gnomonic map projection.

4. ✓

Question Number : 82 Question Id : 8318968602 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The process of transforming and representing features from the Earth's curved surface onto a flat map is known as\_\_\_\_\_.

Options :

1. ✗ Geo-referencing. .

2. ✓ Cartography.

3. ✗ Photogrammetry.

4. ✗ Remote sensing

Question Number : 83 Question Id : 8318968603 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In cartography, map generalization refers to the process of:



Options :

Accurately representing every single feature on the ground at the map scale.

1. ✖

Simplifying or omitting features on a map to maintain clarity and legibility at a reduced scale.

2. ✔

Projecting geographic coordinates onto a flat map surface.

3. ✖

Assigning colors and symbols to different features on a map.

4. ✖

Question Number : 84 Question Id : 8318968604 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The propagation of electromagnetic waves involves the interplay of oscillating:

Options :

Electric and magnetic fields perpendicular to each other and the direction of propagation.

1. ✔



2. ✖ Electric and gravitational fields parallel to each other and perpendicular to the direction of propagation.
3. ✖ Magnetic and gravitational fields perpendicular to each other and parallel to the direction of propagation.
4. ✖ Electric and magnetic fields parallel to each other and the direction of propagation.

Question Number : 85 Question Id : 8318968605 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Radiance is best defined as:

Options :

1. ✖ Power per unit area
2. ✖ Power per unit solid angle
3. ✔ Power per unit area per unit solid angle

4. ✖ Power per unit wavelength

Question Number : 86 Question Id : 8318968606 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which of the following defines the spatial resolution of a sensor?

Options :

- 1. ✖ Number of spectral bands
- 2. ✔ Smallest object detectable on the ground
- 3. ✖ Energy detection capacity
- 4. ✖ Frequency of satellite revisits

Question Number : 87 Question Id : 8318968607 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Higher radiometric resolution means:

Options :

1. ✖ Ability to distinguish finer wavelength differences
2. ✔ Ability to detect small differences in energy
3. ✖ Ability to capture more images per day
4. ✖ Ability to detect larger objects

Question Number : 88 Question Id : 8318968608 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Along-track stereoscopic imaging involves\_\_\_\_\_.

Options :

1. ✖ Two separate satellites imaging the same area
2. ✔ Imaging the same area from different angles during the same orbit

3. ✖ Successive orbits imaging the same area

4. ✖ Using a microwave radar for 3D imaging

**Question Number : 89 Question Id : 8318968609 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

Which systematic error in digital image processing is caused by the Earth's rotation during image acquisition?

**Options :**

1. ✖ Scan Skew

2. ✖ Mirror-Scan Velocity

3. ✖ Panoramic Distortion

4. ✔ Earth Rotation

**Question Number : 90 Question Id : 8318968610 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

The ALOS satellite belongs to\_\_\_\_\_.

Options :

1. ✖ Europe
2. ✔ Japan
3. ✖ Canada
4. ✖ India

Question Number : 91 Question Id : 8318968611 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The Copernicus program for Earth Observation is run by\_\_\_\_\_.

Options :

1. ✖ NASA
2. ✖ JAXA

3. ✓ ESA- European Space Agency

4. ✗ ISRO

Question Number : 92 Question Id : 8318968612 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Which image enhancement technique stretches the range of pixel intensity values to cover the full dynamic range of display devices?

Options :

1. ✗ Level slicing

2. ✓ Contrast stretching

3. ✗ Gray level thresholding

4. ✗ Histogram equalization

Question Number : 93 Question Id : 8318968613 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The European Space Agency's primary Earth observation program is known as\_\_\_\_\_.

Options :

1. ✓ ENVISAT/Sentinel
2. ✗ JERS
3. ✗ ALOS
4. ✗ CBERS

Question Number : 94 Question Id : 8318968614 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

For urban mapping requiring very detailed building footprints, the ideal satellite would provide\_\_\_\_\_.

Options :

1. ✗ 30 m spatial resolution multispectral data
2. ✗ 5 m spatial resolution panchromatic data



3. ✓ 1 m or finer spatial resolution imagery

4. ✗ 250 m spatial resolution MODIS data

Question Number : 95 Question Id : 8318968615 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

What does spectral resolution refer to in remote sensing?

Options :

1. ✓ Ability to detect different wavelengths of electromagnetic radiation

2. ✗ Ability to distinguish between different features on the ground

3. ✗ Ability to capture images at various times

4. ✗ Ability to discern details within an image

Question Number : 96 Question Id : 8318968616 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0



Which of the following best describes a relational database structure commonly used in GIS?

Options :

1. ✖ Data is organized in a tree-like hierarchy.
2. ✖ Data elements are linked through predefined relationships, forming a network.
3. ✔ Data is organized into tables with rows representing entities and columns representing attributes, with relationships established through keys.
4. ✖ Spatial data and attribute data are stored in separate, unconnected files.

Question Number : 97 Question Id : 8318968617 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Raster data typically represents geographic phenomena as:

Options :

1. ✖ Points, lines, and polygons.
2. ✔ A grid of cells, each with an associated value.
3. ✖ Topologically structured features with nodes and edges.
4. ✖ A collection of attribute records linked to spatial coordinates.

Question Number : 98 Question Id : 8318968618 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

A topological error where adjacent polygons overlap is called\_\_\_\_\_.

Options :

1. ✖ Dangle
2. ✖ Overshoot
3. ✖ Gap

4. ✓ Sliver

Question Number : 99 Question Id : 8318968619 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

DEM files are critical in which GIS applications?

Options :

1. ✗ Noise pollution mapping
2. ✓ Surface water runoff modeling
3. ✗ Soil pH mapping
4. ✗ Land use categorization

Question Number : 100 Question Id : 8318968620 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In raster to vector conversion, errors typically occur because  
of\_\_\_\_\_.

Options :

1. ✓ Topological inaccuracies
2. ✗ Attribute duplication
3. ✗ File compression
4. ✗ Metadata loss

Question Number : 101 Question Id : 8318968621 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In the vector data model, an area is typically stored as\_\_\_\_\_.

Options :

1. ✗ A single coordinate pair representing its centroid.
2. ✗ A grid of cells covering its extent.
3. ✓ A closed sequence of connected coordinate pairs forming a polygon.

A series of disconnected line segments

4. ✖

Question Number : 102 Question Id : 8318968622 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

TIN (Triangulated Irregular Network) sheeting is a method used to represent\_\_\_\_\_.

Options :

1. ✖ Categorical spatial data.

2. ✔ Continuous surface data using non-overlapping triangles.

3. ✖ Linear features with associated attributes.

4. ✖ Regularly spaced grid data

Question Number : 103 Question Id : 8318968623 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

A common challenge in raster to vector conversion, especially when dealing with scanned maps, is\_\_\_\_\_.

Options :

1. ✖ Loss of attribute information.
2. ✖ Introduction of topological errors.
3. ✔ Generalization and loss of detail in curved or complex features.
4. ✖ Difficulty in assigning coordinate values.

Question Number : 104 Question Id : 8318968624 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Structured Query Language (SQL) is primarily used in GIS  
to\_\_\_\_\_.

Options :

1. ✖ Perform spatial analysis operations.
2. ✔ Manage and query attribute data stored in databases.



3. ✖ Visualize spatial data in different map projections.

4. ✖ Convert data between different file formats.

Question Number : 105 Question Id : 8318968625 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

A GPS collected point dataset suffers from high horizontal error.

The best immediate action is:

Options :

1. ✖ Increase the sampling interval

2. ✔ Correct using differential GPS (DGPS)

3. ✖ Rasterize the point data

4. ✖ Smooth using TIN creation

Question Number : 106 Question Id : 8318968626 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In the context of GIS modeling, a conceptual model represents:

Options :

1. ✖ The physical implementation of the database.
2. ✔ A high-level, user-oriented understanding of the real-world phenomena and their relationships.
3. ✖ The logical organization of data elements and their relationships within a database.
4. ✖ The specific data structures and file formats used to store the data.

Question Number : 107 Question Id : 8318968627 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

A key characteristic of object-oriented database models in GIS is their ability to:

Options :



Only store spatial data efficiently.

1. ✖

Represent both spatial and non-spatial data as objects with associated attributes and behaviors (methods).

2. ✔

Organize data in a strictly hierarchical structure.

3. ✖

Primarily handle raster data.

4. ✖

Question Number : 108 Question Id : 8318968628 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Recent trends in GIS applications include all EXCEPT:

Options :

Mobile GIS

1. ✖

Cloud-based GIS

2. ✖

3. ✖ Real-time spatial analytics

4. ✔ Paper-based cartography

**Question Number : 109 Question Id : 8318968629 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

In GIS, what is the function of a topology rule?

**Options :**

1. ✔ To enforce spatial relationships between features

2. ✖ To define the spatial extent of a dataset

3. ✖ To specify the coordinate system of a map

4. ✖ To categorize features based on attributes

**Question Number : 110 Question Id : 8318968630 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes**  
**Correct Marks : 1 Wrong Marks : 0**

In the context of hydrological modeling within GIS, a Digital Elevation Model (DEM) is crucial for:

Options :

1. ✖ Determining soil texture and permeability.
2. ✖ Estimating evapotranspiration rates.
3. ✔ Delineating watersheds and analyzing flow direction.
4. ✖ Measuring rainfall intensity directly.

Question Number : 111 Question Id : 8318968631 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

If  $A$  and  $B$  are two non-zero square matrices of same size such that the product matrix  $AB$  is a zero matrix, then which of the following must be true?

Options :

1. ✖ Both  $A$  and  $B$  are invertible
2. ✔ At least one of  $A$  or  $B$  is singular
3. ✖  $A + B$  is invertible
4. ✖  $A$  and  $B$  must be symmetric matrices

Question Number : 112 Question Id : 8318968632 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Consider the system of equations:

$$x + y + z = 6$$

$$2x + 2y + 3z = 13$$

$$3x + 4y + 5z = 20$$

Which of the following statements is true about the solution to this system?

Options :

1. ✓ The system has a unique solution.
2. ✗ The system has no solution.
3. ✗ The system has infinitely many solutions.
4. ✗ The system has finitely many solutions but not unique.

Question Number : 113 Question Id : 8318968633 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Let  $f: \mathbb{R} \rightarrow \mathbb{R}$  be a function such that  $f(0) = 3$  and  $|f'(x)| \leq 2$ ,

$\forall x \in \mathbb{R}$ . Then  $f(2)$  lies in which of the following intervals?

Options :

1. ✗  $[-2, 5]$
2. ✗  $[0, 8]$

3. ✖ [3,8]

4. ✔ [-1,7]

Question Number : 114 Question Id : 8318968634 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

The directional derivative of the function  $f(x, y) = 2x^2 + y^2$  along a line directed from (0,0) to (1,1), evaluated at the point

$x = 1, y = 1$ , is \_\_\_\_\_

Options :

1. ✖  $6\sqrt{2}$

2. ✖  $2\sqrt{2}$

3. ✔  $3\sqrt{2}$

6

4. ✖

Question Number : 115 Question Id : 8318968635 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Given  $f(z) = \frac{z}{(z-2)^2}$ , which of the following is the Laurent series expansion of  $f(z)$  around  $z = 2$  ?

Options :

$$f(z) = \frac{1}{(z-2)} + \frac{1}{(z-2)^2}$$

1. ✖

$$f(z) = \frac{2}{(z-2)} + \frac{z}{(z-2)^2}$$

2. ✖

$$f(z) = \frac{z}{(z-2)^2}$$

3. ✖



$$f(z) = \frac{1}{(z-2)} + \frac{2}{(z-2)^2}$$

4. ✓

Question Number : 116 Question Id : 8318968636 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

A complex function  $f(z) = u + iv$  with  $u = Re(z) + Im(z)$  is analytic if  $v =$  \_\_\_\_\_

Options :

1. ✗  $v = Re(z) + Im(z) + c$ , where  $c$  is an arbitrary constant

2. ✓  $v = -Re(z) + Im(z) + c$ , where  $c$  is an arbitrary constant

3. ✗  $v = Re(z) - Im(z) + c$ , where  $c$  is an arbitrary constant

4. ✗  $v = -Re(z) - Im(z) + c$ , where  $c$  is an arbitrary constant



Question Number : 117 Question Id : 8318968637 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Let  $f(x) = x^3 - \frac{9}{2}x^2 + 6x - 2$  be a function defined on the closed interval  $[0,3]$ . Then, the global maximum value of  $f(x)$  is

\_\_\_\_\_

Options :

- 1. ✖ 4.5
- 2. ✖ 0.5
- 3. ✔ 2.5
- 4. ✖ 3.0

Question Number : 118 Question Id : 8318968638 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In a town, the probability that a person attends a gym on weekdays is 0.7, the probability that a person attends the gym on weekends is 0.4, and the probability that a person attends the gym on weekdays or weekends, or both is 0.3. What is the probability that a person attends the gym on both weekdays and weekends?

Options :

- 1. ✖ 0.6
- 2. ✖ 0.7
- 3. ✔ 0.8
- 4. ✖ 0.9

Question Number : 119 Question Id : 8318968639 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

In a workshop of having 100 machines, 25 machines are defected. Assuming the Poisson law for the number of defected machines, the probability that a random sample of 5 machines will have no defective machine is \_\_\_\_

Options :

1. ✖  $e^{-0.25}$

2. ✖  $0.25 e^{-0.25}$

3. ✖  $0.25 e^{-1.25}$

4. ✔  $e^{-1.25}$

Question Number : 120 Question Id : 8318968640 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Correct Marks : 1 Wrong Marks : 0

Let  $A, B$  be two events of a sample space such that  $P(A) = \frac{1}{4}, P(B|A) = \frac{1}{2}, P(A|B) = \frac{1}{4}$ . If  $\bar{B}$  is the complement of  $B$ , then  $P(A|\bar{B})$  is \_\_\_\_\_

Options :

1. ✖  $\frac{3}{4}$

2. ✔  $\frac{1}{4}$

3. ✖  $\frac{1}{3}$

4. ✖  $\frac{2}{3}$