# AP PGECET QUESTION PAPER

2023



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**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 28th May 2023 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 |
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# Geo Engineering and Geo Informatics

| | |
|---|---|
| **Section Id :** | 78773217 |
| **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 : 7877321921 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:

a. Continental crust is lighter than ocean crust

b. The boundary between the Mantle and Core is demarcated by Gutenberg discontinuity.

**Options :**

1. ✖ Only 'a' is correct

2. ✖ Only 'b' is correct

3. ✔ Both ‘a’ and ‘b’ are correct

4. ✖ Both ‘a’ and ‘b’ are incorrect

**Question Number : 2 Question Id : 7877321922 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 division of ocean floors?

**Options :**

1. ✖ Deep sea plain

2. ✖ Continental slopes

3. ✖ Continental shelf

4. ✔ Continental deeps

**Question Number : 3 Question Id : 7877321923 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

What percentage of the oceans’ water does the deep layer hold?

**Options :**

1. ✔ 50%

2. ✖ 60%

3. ✖ 80%

4. ✖ 30%

**Question Number : 4 Question Id : 7877321924 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 is true?

**Options :**

1. ✔ The crust constitutes by 1% by volume of earth

2. ✖ The innermost layer over the earth's surface is called crust

3. ✖ The mantle is responsible for earth magnetic field

4. ✖ India is divided into seven earthquake zones (seismic zones)

**Question Number : 5 Question Id : 7877321925 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Sequence of layers starting from Earth surface

i. Troposphere
ii. Exosphere
iii. Stratosphere
iv. Thermosphere
v. Mesosphere

**Options :**

1. ✖ i, ii, v, iv, iii

2. ✖ iii, ii, i, iv, v

3. ✔ i, iii, v, iv, ii

4. ✖ i. iv, v, ii, iii

**Question Number : 6 Question Id : 7877321926 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 direct source of information about the interior of the earth

**Options :**

1. ✖ Mining activities

2. ✔ Seismic activities and Volcanic activities

3. ✖ Deep ocean drilling activities

4. ✖ Infrastructure activities

**Question Number : 7 Question Id : 7877321927 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

_____is the extended margin of each continent occupied by relatively shallow seas and gulf

**Options :**

1. ✖ Deep sea plain

2. ✔ Continental shelf

3. ✖ Continental slope

4. ✖ Oceanic deeps

**Question Number : 8 Question Id : 7877321928 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Match the following:

| | Associated with | Ocean |
|---|---|---|
| a) | Largest and deepest ocean | i) Indian ocean |
| b) | 'S' shaped ocean | ii) Atlantic Ocean |
| c) | Madagascar is located | iii) Pacific Ocean |

**Options :**

1. ✖ a-i b-ii c-iii

2. ✖ a-ii b-i c-iii

3. ✖ a-i b-iii c-ii

4. ✔ a-iii b-ii c-i

**Question Number : 9 Question Id : 7877321929 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

_____layer extends from 6000 m to the bottom of the deepest parts of the ocean.

**Options :**

1. ✔ Hadalpelagic Zone

2. ✖ Abyssopelagic zone

3. ✖ Pelagic zone

4. ✖ Neritic zone

**Question Number : 10 Question Id : 7877321930 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which unit is used to measure astronomical distance

**Options :**

1. ✖ Leap year

2. ✖ Second year

3. ✖ Century

4. ✔ Light year

**Question Number : 11 Question Id : 7877321931 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 rock exhibits highest compressive strength

**Options :**

1. ✖ Granite

2. ✖ Laterite

3. ✖ Limestone

4. ✔ Gneiss

**Question Number : 12 Question Id : 7877321932 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Sand stone is generally weak in

**Options :**

1. ✖ Hardness

2. ✔ Abrasion

3. ✖ Compression

4. ✖ Tension

**Question Number : 13 Question Id : 7877321933 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Granite is mainly composed of

**Options :**

1. ✔ Quartz and feldspar

2. ✖ Quartz and clay

3. ✖ Quartz and sandstone

4. ✖ Feldspar and clay

**Question Number : 14 Question Id : 7877321934 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 physical properties is likely to be most useful in identifying a mineral

**Options :**

1. ✖ Streak

2. ✖ Density

3. ✔ Hardness

4. ✖ Lustre

**Question Number : 15 Question Id : 7877321935 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction**

**Time : 0**

____of the stone can be determined by subjecting it to a hammering blow

**Options :**

1. ✖ Hardness

2. ✔ Toughness

3. ✖ Attrition

4. ✖ Dressing

**Question Number : 16 Question Id : 7877321936 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

_____rocks are formed by cooling of the molten lava on or inside the earth's surface during the volcanic eruption

**Options :**

1. ✖ Calcareous rock

2. ✖ Metamorphic rock

3. ✖ Sedimentary rock

4. ✔ Igneous rock

**Question Number : 17 Question Id : 7877321937 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 are those which exhibits distinct layers which can be separated

**Options :**

1. ✖ Argillaceous rock

2. ✔ Stratified rock

3. ✖ Calcareous rock

4. ✖ Sedimentary rock

**Question Number : 18 Question Id : 7877321938 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following is the group of silicate minerals that have perfect cleavage, so that they split in to thin plates.

**Options :**

1. ✖ Feldspar

2. ✖ Gypsum

3. ✔ Mica

4. ✖ Quartz

**Question Number : 19 Question Id : 7877321939 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 mineral made up of a pure element

**Options :**

1. ✖ Coal

2. ✖ Glass

3. ✔ Copper

4. ✖ Quartz

**Question Number : 20 Question Id : 7877321940 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Halite dominantly occurs within sedimentary rocks where it has formed from the _____

**Options :**

1. ✖ Cooling of magma

2. ✔ Evaporation of seawater or salty lake water

3. ✖ Cooling of lava

4. ✖ Crystallization of hot water solution on the ocean floor

**Question Number : 21 Question Id : 7877321941 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

_____describes the light is highly reflected from the mineral surface.

**Options :**

1. ✖ Streak

2. ✖ Density

3. ✖ Fluorescence

4. ✔ Lustre

**Question Number : 22 Question Id : 7877321942 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 colour of a mineral in powdered form called?

**Options :**

1. ✖ Lustre

2. ✔ Streak

3. ✖ Density

4. ✖ Hardness

**Question Number : 23 Question Id : 7877321943 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 metamorphic rock has most weather resisting characteristics?

**Options :**

1. ✖ Marble

2. ✖ Slate

3. ✔ Quartzite

4. ✖ Lime stone

**Question Number : 24 Question Id : 7877321944 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The following can be obtained by performing Smith test

**Options :**

1. ✖ Durability

2. ✔ Soluble and clay matter

3. ✖ Water absorption

4. ✖ Hardness

**Question Number : 25 Question Id : 7877321945 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Kaolin is chemically classified as _____ rock

**Options :**

1. ✖ Siliceous

2. ✔ Argillaceous

3. ✖ Metamorphic

4. ✖ Calcareous

**Question Number : 26 Question Id : 7877321946 Display Question Number : Yes Is Question**

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

The representation of difference in elevation between two points is called as

**Options :**

1. ✖ Topography

2. ✔ Relief

3. ✖ Level line

4. ✖ Ridge line

**Question Number : 27 Question Id : 7877321947 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Locating the details of rivers, streams, lakes, roads, mountains and contours in which of the following survey?

**Options :**

1. ✖ Cadastral survey

2. ✖ Astrological survey

3. ✔ Topological survey

4. ✖ Tachometric survey

**Question Number : 28 Question Id : 7877321948 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:

a. Size of Theodolite is governed by lower plate

b. Shifting head help in accurate centering of instrument

**Options :**

1. ✖ Only 'a' is correct

2. ✖ Only 'b' is correct

3. ✔ Both 'a' and 'b' are correct

4. ✖ Both 'a' and 'b' are incorrect

**Question Number : 29 Question Id : 7877321949 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 instrument is designed for the measurement of horizontal and vertical angles?

**Options :**

1. ✖ Dumpy level

2. ✖ Crass staff

3. ✔ Theodolite

4. ✖ Invar tape

**Question Number : 30 Question Id : 7877321950 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The vertical circle is a circular graduated arc attached to the following axis of the telescope?

**Options :**

1. ✖ Inner axis

2. ✖ Outer axis

3. ✖ Line of sight

4. ✔ Trunnion axis

**Question Number : 31 Question Id : 7877321951 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Presence of artificial manmade tank in toposheet with an embankment shows_____

**Options :**

1. ✖ scanty rainfall in the area

2. ✔ water is being stored in off season and is used for irrigation through canals

3. ✖ advancement of science and technology

4. ✖ people of the area need extra water

**Question Number : 32 Question Id : 7877321952 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 full form of DEM

**Options :**

1. ✖ Discrete elevation model

2. ✖ Data elevation model

3. ✔ Digital elevation model

4. ✖ Decision enterprise method

**Question Number : 33 Question Id : 7877321953 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction**

**Time : 0**

As the height of a satellite orbit gets lower, the speed of the satellite _____ by keeping other characteristics are same.

**Options :**

1. ✔ Increases

2. ✖ Decreases

3. ✖ Remains same

4. ✖ Zero

**Question Number : 34 Question Id : 7877321954 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The apparent moment of point under observation with respect to the reference system caused by the moment of the camera position is known as?

**Options :**

1. ✔ Parallax

2. ✖ Photo interpretation

3. ✖ Mosaic

4.

✖ Tilted photograph

**Question Number : 35 Question Id : 7877321955 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

_____provides height or depth to the object in the photograph as it would have been seen by the human eye.

**Options :**

1. ✖ Terrestrial photography

2. ✖ Mirror

3. ✔ Stereoscopic vision

4. ✖ Aerial photography

**Question Number : 36 Question Id : 7877321956 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 is the best mapping procedure?

**Options :**

1. ✔ Aerial photogrammetry

2. ✖ Elite photogrammetry

3. ✖ Terrestrial photogrammetry

4. ✖ Plane table photogrammetry

**Question Number : 37 Question Id : 7877321957 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which projection is mainly used in aerial photographs.

**Options :**

1. ✔ Central projection

2. ✖ Parallel projection

3. ✖ Orthogonal projection

4. ✖ Oblique projection

**Question Number : 38 Question Id : 7877321958 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 wrong statement

**Options :**

1. ✖ A map is geometrical correct representation of part of the earth projection

2. ✔ Map is a central projection

3. ✖ Scale of the map is uniform throughout the map extent

4. ✖ Map is an orthogonal projection

**Question Number : 39 Question Id : 7877321959 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The foot of the perpendicular drawn from the camera lens on the ground plane is known as _____

**Options :**

1. ✔ Nadir point or photographic Nadir

2. ✖ Interpretative point

3. ✖ Homologous point

4. ✖ Iso-centre

**Question Number : 40 Question Id : 7877321960 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 covers the entire area in short span?

**Options :**

1. ✖ Aerial photogrammetry

2. ✖ Theodolite photogrammetry

3. ✔ Terrestrial photogrammetry

4. ✖ Traversing surveying

**Question Number : 41 Question Id : 7877321961 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Optical center of camera through which all rays of light pass is called as

**Options :**

1. ✔ Perspective center

2. ✖ Isocentre

3. ✖ Tilt

4. ✖ Nadir point

**Question Number : 42 Question Id : 7877321962 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The perpendicular distance between the camera lens and negative plane is known as_____

**Options :**

1. ✖ Map distance

2. ✖ Ground distance

3. ✔ Focal length

4. ✖ Flying height

**Question Number : 43 Question Id : 7877321963 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The shift in an object's image position caused by its elevation above a particular datum is known as _____

**Options :**

1. ✖ Radial displacement

2. ✖ Vertical displacement

3. ✔ Relief displacement

4. ✖ Parallax

**Question Number : 44 Question Id : 7877321964 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The art, science and technology of making maps together with their study as scientific documents and work of art known as

**Options :**

1. ✖ Demography

2. ✖ Bibliography

3. ✖ Stenography

4. ✔ Cartography

**Question Number : 45 Question Id : 7877321965 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The distance between two points on an aerial photograph is measured as 2 centimetres. The known distance between the same two points on the ground is 1 km. Compute the scale of the aerial photograph.

**Options :**

1. ✖ 1:100000

2. ✔ 1:50000

3. ✖ 1:20000

4. ✖ 1:5000

**Question Number : 46 Question Id : 7877321966 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which imaging system use conventional type camera

**Options :**

1. ✔ Multispectral

2. ✖ Thermal

3. ✖ Infra red

4. ✖ Microwave

**Question Number : 47 Question Id : 7877321967 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Reconnaissance survey is advantage in case of_____

**Options :**

1. ✖ Vertical photograph

2. ✔ Low oblique photograph

3. ✖ Medium scale photograph

4. ✖ Small scale photograph

**Question Number : 48 Question Id : 7877321968 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

For measuring horizontal angle between two lines with better accuracy than that given by the Vernier method commonly used is

**Options :**

1. ✖ Reiteration

2. ✖ Double centering

3. ✖ Double sighting

4. ✔ Repetition

**Question Number : 49 Question Id : 7877321969 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The most significant systematic error in GPS observable is

**Options :**

1. ✖ Cycle slip

2. ✔ Receiver clock error

3. ✖ Ionospheric error

4. ✖ Integer ambiguity

**Question Number : 50 Question Id : 7877321970 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Planimeter is an instrument which is used for the following reason

**Options :**

1. ✖ Sighting parallel and perpendicular points to station

2. ✔ Measuring area of plan

3. ✖ Transforming points from paper to ground

4. ✖ Simpsons one third rule

**Question Number : 51 Question Id : 7877321971 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

A vertical line in the direction of gravity pass through perspective centre and meet on the ground known as

**Options :**

1. ✔ Plumb line

2. ✖ Oblique line

3. ✖ Focal line

4. ✖ Fiducial line

**Question Number : 52 Question Id : 7877321972 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 does not include in lens of aerial photogrammetry

**Options :**

1. ✖ Filter

2. ✔ Azimuth

3. ✖ Diaphragm

4. ✖ Shutter

**Question Number : 53 Question Id : 7877321973 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which traversing that is used for running survey lies of a closed or open survey

**Options :**

1. ✖ Plane table survey

2. ✖ Topographical survey

3. ✖ Compass surveying

4. ✔ Theodolite survey

**Question Number : 54 Question Id : 7877321974 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Global Positioning System uses 24 satellites in _____ number of orbits

**Options :**

1. ✖ Two

2. ✖ Twelve

3. ✖ Thirty two

4. ✔ Six

**Question Number : 55 Question Id : 7877321975 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 commonly used for applications involved with archaeology, Geomorphology, and civil engineering

**Options :**

1. ✖ Tilted or oblique photographs

2. ✖ vertical photographs

3. ✖ Near vertical photographs

4. ✔ Horizontal or terrestrial photographs

**Question Number : 56 Question Id : 7877321976 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 proves that electromagnetic waves are transverse?

**Options :**

1. ✔ Phenomenon of Polarisation

2. ✖ Phenomenon of Interference

3. ✖ Phenomenon of Diffraction

4. ✖ Phenomenon of Reflection

**Question Number : 57 Question Id : 7877321977 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The science of acquiring the information about earth surface without actually being in contact with it is known as?

**Options :**

1. ✖ Geomorphology

2. ✖ Geographical Information System

3. ✖ Global Positioning system

4. ✔ Remote Sensing

**Question Number : 58 Question Id : 7877321978 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Relation between the velocity of propagation (V), the wavelength (λ), and wave frequency (f) is

**Options :**

1. ✖ $V = 0.5\, f \lambda$

2. ✖ $V = 2\, f \lambda$

3. ✔ $V = f \lambda$

4. ✖ $V = 0.1 f \lambda$

**Question Number : 59 Question Id : 7877321979 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The full form of NASA is

**Options :**

1. ✖ National Aerospace and Space Administration

2.

National Aerospace and satellite Administration

3. National Aeronautics and Space Academy

4. National Aeronautics and Space Administration

**Question Number : 60 Question Id : 7877321980 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Identify the infrared portion of electromagnetic radiation lies in between

**Options :**

1. 0.4 μm – 0.7 μm

2. 0.3 μm – 0.5 μm

3. 0.4 μm – 14 μm

4. 0.7 μm – 14 μm

**Question Number : 61 Question Id : 7877321981 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which resolution has the capability to view the same targets under similar condition at regular interval.

**Options :**

1. ✖ Spectral

2. ✖ Radiometric

3. ✖ Spatial

4. ✔ Temporal

**Question Number : 62 Question Id : 7877321982 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:

a. The narrower the bands, the lower the spectral resolution.

b. Spectral resolution refers to the specific wave length intervals in the electromagnetic spectrum that a sensor can record.

**Options :**

1. ✖ Only 'a' is correct

2. ✔ Only 'b' is correct

3. ✖ Both 'a' and 'b' are correct

4. ✖ Both ‘a’ and ‘b’ are incorrect

**Question Number : 63 Question Id : 7877321983 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which resolution relates to how much information is perceived by a satellite’s sensor.

**Options :**

1. ✖ Spectral resolution

2. ✔ Radiometric resolution

3. ✖ Spatial resolution

4. ✖ Temporal resolution

**Question Number : 64 Question Id : 7877321984 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 waves are used in Remote sensing technique

**Options :**

1. ✖ Electric waves

2. ✖ Sound waves

3. ✖ Wind waves

4. ✔ Electromagnetic waves

**Question Number : 65 Question Id : 7877321985 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Polar orbit satellites has an inclination of about _____ degrees to the body's equator.

**Options :**

1. ✔ 60 -90

2. ✖ 60 -100

3. ✖ 60 -110

4. ✖ 60 -125

**Question Number : 66 Question Id : 7877321986 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 considered under land cover category

**Options :**

1. ✔ Agriculture

2. ✖ Forest

3. ✖ Rivers

4. ✖ Hills

**Question Number : 67 Question Id : 7877321987 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which sensor that measures the intensity of electromagnetic radiation emanating from all objects with in its field of view and wave length range.

**Options :**

1. ✔ Radiometer

2. ✖ Photometer

3. ✖ Sensor

4. ✖ Radiation

**Question Number : 68 Question Id : 7877321988 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which sensing system that generates and uses its own energy to illuminate the target.

**Options :**

1. ✖ Passive sensing system

2. ✔ Active sensing system

3. ✖ Radioactive sensing system

4. ✖ Piezo electric sensing system

**Question Number : 69 Question Id : 7877321989 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Arrange the electromagnetic waves according to their increasing order of wave lengths

**Options :**

1. ✖ Gamma rays, Infrared, Ultraviolet and X- Rays

2. ✔ Gamma rays, X- Rays, Ultraviolet and Infrared

3. ✖ X- Rays, Ultraviolet, Gamma rays and Infrared

4. ✖ Infrared, Gamma rays, X- Rays and Ultraviolet

**Question Number : 70 Question Id : 7877321990 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 characteristic of Remote sensing?

**Options :**

1. ✖ Radiometric resolution

2. ✖ Spatial resolution

3. ✔ Mercator resolution

4. ✖ Spectral resolution

**Question Number : 71 Question Id : 7877321991 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

By which of the following agency launched Radarsat-1 on November 28, 1995.

**Options :**

1. ✔ Canadian space agency

2. ✖ Indian space agency

3. ✖ European space agency

4. ✖

Japan space agency

**Question Number : 72 Question Id : 7877321992 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The process of examining a remote sensing image and manually identifying features in the image is called_____

**Options :**

1. ✖ Image building

2. ✔ Image interpretation

3. ✖ Image classification

4. ✖ Image compression

**Question Number : 73 Question Id : 7877321993 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In the 1986, SPOT French earth satellite provided first time spatial resolution at

**Options :**

1. ✖ 40 m PAN and 50 m multispectral

2. ✔ 10 m PAN and 20 m multispectral

3. ✖ 20 m PAN and 30 m multispectral

4. ✖ 30 m PAN and 30 m multispectral

**Question Number : 74 Question Id : 7877321994 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 considered as fourth dimension of the remote sensing

**Options :**

1. ✖ Location

2. ✖ Scale

3. ✔ Time

4. ✖ Space

**Question Number : 75 Question Id : 7877321995 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

IFOV is angular cone of visibility of the following_____

**Options :**

1. ✔ Sensor

2. ✖ Image

3. ✖ Scanner

4. ✖ Satellite

**Question Number : 76 Question Id : 7877321996 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The energy captured by remote sensing sensor is called as _____

**Options :**

1. ✖ Emissivity

2. ✔ Radiance

3. ✖ Reflectance

4. ✖ Irradiance

**Question Number : 77 Question Id : 7877321997 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which index can be calculated using the band ratio

(Band 3 - Band 7)/(Band 3 + Band 7) of Landsat 8?

**Options :**

1. ✖ NDVI

2. ✖ NDII

3. ✔ NDWI

4. ✖ EVI

**Question Number : 78 Question Id : 7877321998 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 remote sensing technique is used for the identification of dense forest.

**Options :**

1. ✔ Thermal image

2. ✖ Microwave image

3. ✖ Aerial photograph

4. ✖ High resolution optical image

**Question Number : 79 Question Id : 7877321999 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In a Minimum Noise Factor (MNF) transformed satellite image, noise has _____

**Options :**

1. ✔ Unit variance

2. ✖ Multi variance

3. ✖ Two standard deviation

4. ✖ Zero variance

**Question Number : 80 Question Id : 7877322000 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The characteristic of electromagnetic radiation are particularly important to understand _____ in the remote sensing.

**Options :**

1. ✖ Wave length

2. ✖ Frequency

3. ✔ Wave length and frequency

4. ✖ Band width

**Question Number : 81 Question Id : 7877322001 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Write down full form of DGPS?

**Options :**

1. ✔ Differential Global Positioning System

2. ✖ Difference Global Posting system

3. ✖ Differential Global Posting system

4. ✖ Difference Global Positioning system

**Question Number : 82 Question Id : 7877322002 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

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

**Options :**

1. ✖ Auto cad

2. ✖ Arc GIS

3. ✖ Digitalization

4. ✔ Keyboard

**Question Number : 83 Question Id : 7877322003 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Pick odd one out with respect to key activities in urban planning.

**Options :**

1. ✔ Drafting

2. ✖ Mapping

3. ✖ Monitoring

4. ✖ Management

**Question Number : 84 Question Id : 7877322004 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following is the main purpose of Geostationary satellite?

**Options :**

1. ✖ Global positioning

2. ✔ Telecommunication and weather monitoring

3. ✖ Remote sensing

4. ✖ Temporal resolution

**Question Number : 85 Question Id : 7877322005 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

A cell with 1 metre Spatial resolution covers an area 1 $m^2$ where as a pixel with 0.1 m spatial resolution covers an area of

**Options :**

1. ✖ 0.1 $m^2$

2. ✖ 0.001 $m^2$

3. ✔ 100 $cm^2$

4. ✖ 0.1 $cm^2$

**Question Number : 86 Question Id : 7877322006 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 remote sensor other than that from required target

**Options :**

1. ✖ Increases the contrast of image but reduce the sharpness

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

3. ✖ Increases the contrast of image and sharpness

4. ✖ reduce the contrast of image but increases the sharpness

**Question Number : 87 Question Id : 7877322007 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Purpose of Geo referencing is,

**Options :**

1. ✖ Converting data to a future classes

2. ✖ Combining two data set

3. ✔ Assigning geographic information

4. ✖ Projecting your data so that it has no destruction

**Question Number : 88 Question Id : 7877322008 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The orbital radius of GPS satellites is nearer to

**Options :**

1. ✖ 15000 km

2. ✖ 18000 km

3. ✖ 36000 km

4. ✔ 26600 km

**Question Number : 89 Question Id : 7877322009 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 is Unsupervised classified technique?

**Options :**

1. ✖ Use training sets has numerical interpretation keys

2. ✔ Aggregate pixel in to natural spectral groupings/clusters

3. ✖ Pixel categorisation being supervised

4. ✖ Based in look like most concept

**Question Number : 90 Question Id : 7877322010 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

A special query in GIS is related to the following_____

**Options :**

1. ✖ Pixels

2. ✔ Attributes

3. ✖ Coordinates

4. ✖ Buffering

**Question Number : 91 Question Id : 7877322011 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In false colour composite (FCC) image healthy vegetation generally appears____

**Options :**

1. ✖ Blue colour

2. ✔ Red Colour

3. ✖ Green Colour

4. ✖ Orange colour

**Question Number : 92 Question Id : 7877322012 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The working/operation of the Global positioning system is based on the following.

**Options :**

1. ✖ Obliteration

2. ✖ Transmission

3. ✔ Trilateration

4. ✖ Globalisation

**Question Number : 93 Question Id : 7877322013 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 an example of special data

**Options :**

1. ✖ Points showing location of discrete objects

2. ✖ Lines showing the route of linear objects

3. ✖ Polygon showing the area occupied by the particular land use

4. ✔ Time of particular

**Question Number : 94 Question Id : 7877322014 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

GPS user solution depends on which of the following?

**Options :**

1. ✔ Space vehicle

2. ✖ Satellite vehicle

3. ✖ Relative positioning

4. ✖ Absolute positioning

**Question Number : 95 Question Id : 7877322015 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In Global positioning system, topology is implemented through data

**Options :**

1. ✖ Storage

2. ✖ Raster model

3. ✖ Collection

4. ✔ Structure

**Question Number : 96 Question Id : 7877322016 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The digital land surveying control stations are obtained through

**Options :**

1. ✖ Total station

2. ✖ Conventional method of surveying

3. ✔ Global positioning system

4. ✖ Astronomical observations

**Question Number : 97 Question Id : 7877322017 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Topology describe the following relationship between adjacent features

**Options :**

1. ✖ Spectral

2. ✔ Spatial

3. ✖ Especial

4. ✖ Special

**Question Number : 98 Question Id : 7877322018 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

How many satellites are required to measure two dimensional position, the longitude and latitude

**Options :**

1. ✔ Three

2. ✖ Two

3. ✖ Four

4. ✖ One

**Question Number : 99 Question Id : 7877322019 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 thematic layer?

**Options :**

1. ✖ Vector layer showing ground water depth

2. ✖ Vector layer showing state wise population of India

3. ✖ Vector layer showing the coal mines in India

4. ✔ Satellite image over India

**Question Number : 100 Question Id : 7877322020 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 best suits "meta data"

**Options :**

1. ✖ Mono data

2. ✔ Data about data

3. ✖ Meteorological data

4. ✖ Contour data

**Question Number : 101 Question Id : 7877322021 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which is the tendency of minerals to split along crystallographic planes as a result of structural locations of atoms and ions in the crystal, creating planes of relative weakness

**Options :**

1. ✔ Cleavage

2. ✖ Density

3. ✖ Fluorescence

4. ✖ Lustre

**Question Number : 102 Question Id : 7877322022 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 rocks are formed, when minerals are deposited and accumulated in the strata's

**Options :**

1. ✖ Sedimentary rock

2. ✔ Metamorphic rock

3. ✖ Igneous rock

4. ✖ Siliceous rock

**Question Number : 103 Question Id : 7877322023 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which one out of the following is plutonic rock

**Options :**

1. ✖ Gypsum

2. ✖ Genesis

3. ✔ Granite

4. ✖ Basalt

**Question Number : 104 Question Id : 7877322024 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which imaging system use conventional type camera

**Options :**

1. ✔ Multispectral

2. ✖ Thermal

3. ✖ Infrared

4. ✖ Microwave

**Question Number : 105 Question Id : 7877322025 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Expand IRNSS

**Options :**

1. ✖ Indian Regional Navy Satellite System

2. ✖ Indian Recreational Navigation Satellite System

3. ✔ Indian Regional Navigation Satellite System

4. ✖ Indian Recreational Navy Satellite System

**Question Number : 106 Question Id : 7877322026 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which instrument is used for duplicating a motion or copying a geometric shape to a reduced or enlarged scale?

**Options :**

1. ✔ Pantograph

2. ✖ Planimeter

3. ✖ Hydrograph

4. ✖ Photograph

**Question Number : 107 Question Id : 7877322027 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

_____ is the ability of a sensor to recognize finer wavelengths, which is having narrower bandwidths

**Options :**

1. ✔ Spectral resolution

2. ✖ Electromagnetic spectrum

3. ✖ Radiometry

4. ✖ Repetitively

**Question Number : 108 Question Id : 7877322028 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

NavIC signals will consist of

**Options :**

1. ✖ Only Standard Positioning Service.

2. ✖ Only Restricted Service.

3. ✖ No signal

4. ✔ Both Standard Positioning Service and a Restricted Service.

**Question Number : 109 Question Id : 7877322029 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Cartosat-3 is an advanced Indian Earth Observation satellite built and developed by

**Options :**

1. ✖ NASA

2. ✖ DRDO

3. ✔ ISRO

4. ✖

**Question Number : 110 Question Id : 7877322030 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which among following defines 'Radiance' in remote sensing?

**Options :**

1. ✖ An active sensor that uses radio waves to measure the distance to an object

2. ✔ A measure of the light or heat emitted from a target object.

3. ✖ The means by which you display the coordinate system and your data on a flat surface

4. ✖ The orientation of an electromagnetic wave

**Question Number : 111 Question Id : 7877322031 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

One of the eigen value of $\begin{bmatrix} 7 & 4 & -4 \\ 4 & -8 & -1 \\ 4 & -1 & -8 \end{bmatrix}$ is $-9$. Find the other two eigen values.

**Options :**

1. ✖ 5, -5

2. ✔ $7, -7$

3. ✖ $3, -3$

4. ✖ $2, -2$

**Question Number : 112 Question Id : 7877322032 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

For what values of a, b the following equations $x + 2y + z = 8$, $2x + y + 3z = 13$, $3x + 4y - az = b$ have a unique solution?

**Options :**

1. ✔ $a \neq -11/3, \forall\ b$

2. ✖ $a = -11/3, \forall\ b$

3. ✖ $a \neq 11/3, \forall\ b$

4. ✖ $a = 11/3, \forall\ b$

**Question Number : 113 Question Id : 7877322033 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The value of $\iint x^2\,dx\,dy$, where the region bounded by hyperbola $xy = 4$, $y = 0, x = 1, x = 4$ is

**Options :**

1. ✖ 10

2. ✖ 20

3. ✔ 30

4. ✖ 40

**Question Number : 114 Question Id : 7877322034 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

If $\bar{r} = x\,\boldsymbol{i} + y\boldsymbol{j} + z\boldsymbol{k}$ then, grad r =

**Options :**

1. ✖ $-\frac{\bar{r}}{r}$

2. ✖ $\frac{2}{r}$

3. ✖ $\frac{1}{r}$

4. ✔ $\frac{\bar{r}}{r}$

**Question Number : 115 Question Id : 7877322035 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The general solution of $(x+y+1)\frac{dy}{dx} = 1$

**Options :**

1. ✖ $x - y = C\,e^{y} - 2$

2. ✔ $x + y = C\,e^{y} - 2$

3. ✖ $x + y = C\,e^{x} - 2$

4. ✖ $x + y = C\,xe^{y} - 2$

**Question Number : 116 Question Id : 7877322036 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The general solution of $x^2 \frac{d^2y}{dx^2} - 2x \frac{dy}{dx} - 4y = 0$

**Options :**

1. ✖ $y = C_1x^{-1} + C_2x^{-4}$

2. ✖ $y = C_1x + C_2x^{-4}$

3. ✖ $y = C_1x + C_2x^4$

4. ✔ $y = C_1x^{-1} + C_2x^4$

**Question Number : 117 Question Id : 7877322037 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The value of $\oint_C \frac{Cosz}{z(z^2+8)} dz$, where $C : |z| = 1$ *is*

**Options :**

1. ✔ $\frac{\pi i}{4}$

2. ✖ $\frac{\pi i}{2}$

3. ✖

$\pi i$

$2\pi i$

4. ✖

**Question Number : 118 Question Id : 7877322038 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

If $f(z) = \frac{z^2 + 1}{z^2 - z}$, then the residue at z = 0 is

**Options :**

1. ✖ $0$

2. ✖ $1$

3. ✔ $-1$

4. ✖ $2$

**Question Number : 119 Question Id : 7877322039 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

A fair coin is tossed repeatedly till both head and tail appear at least once. The average number of tosses required is

**Options :**

1. ✖ 0

2. ✔ 3

3. ✖ 2

4. ✖ 1

**Question Number : 120 Question Id : 7877322040 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

If $\frac{dy}{dx} = 1 + xy$ and $y(0) = 1$ then using Picard's method the value of $y^{(1)}(1)$ is

**Options :**

1. ✖ 1

2. ✖ 1.5

3. ✔ 2.5

4. ✖ 2