

# Question Paper Preview

**Subject Name:** Geo Engineering and Geo Informatics

Display Number Panel: Yes  
Group All Questions: No

**Question Number : 1 Question Id : 7621613721 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

The characteristic polynomial of  $A = \begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$  is

**Options :**

1.  $\lambda^2 - 4\lambda - 8$
2.  $\lambda^2 - 4\lambda + 8$
3.  $\lambda^2 - 4\lambda - 5$
4.  $\lambda^2 + 4\lambda - 5$

**Question Number : 2 Question Id : 7621613722 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

The differential equation that can be obtained by eliminating the parameters a, b and c from  $y = ax^2 + bx + c$  is

**Options :**

1.  $y' = 0$
2.  $y'' = 0$
3.  $y''' = 3$
4.  $y''' = 0$

**Question Number : 3 Question Id : 7621613723 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

The integrating factor of the equation  $\frac{dx}{dy} - \frac{x}{y} = y$ , which is in linear form is

**Options :**

1. X
2. Y

3.  $\frac{1}{y}$

4.  $\frac{1}{x}$

Question Number : 4 Question Id : 7621613724 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of equation  $y'' + y' - 6y = 0$  is

Options :

1.  $y = c_1 e^{2x} + c_2 e^{-3x}$

2.  $y = c_1 e^{2x} + c_2 e^{3x}$

3.  $y = c_1 e^{-2x} + c_2 e^{-3x}$

4.  $y = c_1 e^{-2x} + c_2 e^{3x}$

Question Number : 5 Question Id : 7621613725 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The particular solution (i.e. particular integral) of the differential equation

$(D^3 + 2D^2 + D)y = e^{2x}$ , where  $D = \frac{d}{dx}$  is

Options :

1. 0 (zero)

2.  $18 e^{2x}$

3.  $\frac{1}{18}$

4.  $\frac{e^{2x}}{18}$

Question Number : 6 Question Id : 7621613726 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If  $u = \log\left(\frac{x^2}{y}\right)$ , then  $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$

Options :

1. u

2. 2u

3. 1

4. 0 (zero)

Question Number : 7 Question Id : 7621613727 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of  $\int_0^1 \int_0^x e^{x+y} dy$  is

Options :

1.  $1/e$
2.  $\frac{1}{2}(e-1)^2$
3.  $e/2$
4.  $\frac{1}{2}(e+1)^2$

Question Number : 8 Question Id : 7621613728 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If  $\lim_{X \rightarrow 0} \left( \frac{1}{X} - \frac{1}{e^X - 1} \right) = k$ , then  $k =$

Options :

1. 2
2. 0 (zero)
3.  $\frac{1}{2}$
4.  $-\frac{1}{3}$

Question Number : 9 Question Id : 7621613729 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The partially differential equation that can be formed by eliminating the arbitrary constants  $a$  and  $b$  from  $z = (x^2 + a)(y^2 + b)$  given  $p = \frac{\partial z}{\partial x}$  and  $q = \frac{\partial z}{\partial y}$  is

Options :

1.  $z = pq$
2.  $z = 4pq$
3.  $pq = 4xyz$
4.  $z = 4xy$

Question Number : 10 Question Id : 7621613730 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If a problem is given to three students A, B, C whose chances of solving it are  $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}$  respectively then the probability that the problem is solved is

Options :

1.  $\frac{7}{10}$
2.  $\frac{3}{10}$
3.  $\frac{1}{10}$
4.  $\frac{2}{5}$

Display Number Panel:

Yes

Group All Questions:

No

Question Number : 11 Question Id : 7621613731 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Mohorovicic Discontinuity is the difference of density from

Options :

1. Crust to mantle
2. Core to crust
3. Mantle to core
4. Core to mantle

Question Number : 12 Question Id : 7621613732 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The lighter silicate is a combination of

Options :

1. Silicon and Magnesium
2. Silicon and Aluminum
3. Iron and Silicon
4. Magnesium and Iron

Question Number : 13 Question Id : 7621613733 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Inner layer of mantle is composed of wholly

Options :

1. Simatic ultra basic rocks
2. basaltic
3. Simatic
4. ultra-basic rocks

Question Number : 14 Question Id : 7621613734 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The condition in which ideal theoretical balance of all large portions of Earth's lithosphere as though they were floating on the denser underlying layer is called as \_\_\_\_\_

Options :

1. Isostasy
2. Ichthyosis

3. Shearing

4. Isotropic

Question Number : 15 Question Id : 7621613735 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Who amongst the following was the first to consider the possibility of Europe, Africa and America having been located side by side?

Options :

1. Alfred Wegener

2. Abraham Ortelius

3. Antonio Pellegrini

4. Edmond Hess

Question Number : 16 Question Id : 7621613736 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following facts was not considered by those while discussing the concept of sea floor spreading?

Options :

1. Volcanic activity along the mid-oceanic ridges.

2. Stripes of normal and reverse magnetic field observed in rocks of ocean floor.

3. Distribution of fossils in different continents.

4. Age of rocks from the ocean floor.

Question Number : 17 Question Id : 7621613737 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is the type of plate boundary of the Indian plate along the Himalayan Mountains?

Options :

1. Ocean-continent convergence

2. Divergent boundary

3. Transform boundary

4. Continent-continent convergence

Question Number : 18 Question Id : 7621613738 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the radius of the earth were to shrink by one percent, its mass remaining the same, what would happen to the acceleration due to gravity ( $g$ ) on the earth's surface?

Options :

1.  $g$  is increased by 2%

2.  $g$  is decreased by 2%

3. g is increased by 4%
4. g is decreased by 4%

Question Number : 19 Question Id : 7621613739 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The time period of revolution of a planet in its orbit around the sun is directly proportional to the cube of semi-major axis of the elliptical path around the sun.

This statement is called

Options :

1. Kepler's first law
2. Kepler's second law
3. Kepler's third law
4. Law of orbits

Question Number : 20 Question Id : 7621613740 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ocean layer which is a zone of rapid temperature decrease is called

Options :

1. Thermocline
2. Pycnocline
3. Halocline
4. Isocline

Question Number : 21 Question Id : 7621613741 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Upwelling is an oceanographic phenomenon that involves motion of dense, cooler and usually nutrient-rich water towards the ocean surface driven by?

Options :

1. Wind
2. Tides
3. Volcanic activity
4. Earthquake

Question Number : 22 Question Id : 7621613742 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Oceanographers developed a simple method to measure the penetration of sunlight in the sea using a white disk 31 centimeters in diameter which is called a

Options :

1. Colorimeter
2. Doppler Radar

3. Secchi disk
4. Scatterometer

Question Number : 23 Question Id : 7621613743 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ocean stratification in regions of strong tidal currents will

Options :

1. be increased
2. be reduced
3. remain constant
4. increase and remain constant

Question Number : 24 Question Id : 7621613744 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

According to Dalton's law, evaporation is proportional to

Options :

1. the vapour pressure gradient
2. The difference between the saturation vapour pressure at  $100^{\circ}\text{C}$  and the actual vapour pressure
3. The difference between the actual vapour pressure and the saturation vapour pressure at  $0^{\circ}\text{C}$
4. The difference between the saturation vapour pressure at a given temperature and the saturation vapour pressure at  $0^{\circ}\text{C}$

Question Number : 25 Question Id : 7621613745 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The depth of water relative to sea level is defined as

Options :

1. Altimetry
2. Oceanography
3. Sonimetry
4. Bathymetry

Question Number : 26 Question Id : 7621613746 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

\_\_\_\_\_ are drowned volcanic islands that become submerged due to subsidence of the oceanic lithosphere.

Options :

1. Atoll
2. Guyots

3. Seamounts
4. Trenches

Question Number : 27 Question Id : 7621613747 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Plate boundaries which move apart from each other and often result in the formation of mid-ocean ridges are known as

Options :

1. Divergent Boundaries
2. Convergent boundaries
3. Transform faults
4. Subduction Zone

Question Number : 28 Question Id : 7621613748 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

\_\_\_\_\_ in the Pacific Ocean is the deepest trench with a depth of more than 11 km.

Options :

1. Mindanao deep
2. Tonga trench
3. Japanese trench
4. Mariana trench

Question Number : 29 Question Id : 7621613749 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Options :

1. Iron and nickel
2. Silica and aluminium
3. Iron and silver
4. Iron Oxide and potassium

Question Number : 30 Question Id : 7621613750 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is not a sedimentary rock?

Options :

1. Tillite
2. Breccia
3. Borax
4. Marble

Question Number : 31 Question Id : 7621613751 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Arrange the following minerals according to the Mohs' scale of hardness

Options :

1. Talc, Apatite, Quartz, Topaz, Corundum
2. Apatite, Talc, Topaz, Corundum, Quartz
3. Quartz, Corundum, Topaz, Talc, Apatite
4. Corundum, Quartz, Topaz, Apatite, Talc

Question Number : 32 Question Id : 7621613752 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A smooth, black rock that looks like glass which is formed when lava cools almost instantly is

Options :

1. Obsidian
2. Basalt
3. Scoria
4. Pumice

Question Number : 33 Question Id : 7621613753 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Prisms of crystals look like tetragonal crystals cut at an angle and their axes do not meet at 90° angles. Then it is said to be

Options :

1. Triclinic
2. Trigonal
3. Monoclinic
4. Tetragonal

Question Number : 34 Question Id : 7621613754 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the Isotypic Minerals

Options :

1. Diamond and graphite
2. Halite and galena
3. Gold and silver
4. Calcite and Talc

Question Number : 35 Question Id : 7621613755 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which is the world's largest gorge?

Options :

1. Yarlung Zangbo Grand Canyon
2. Kali Gandaki Gorge
3. Cotahuasi Canyon
4. The Grand Canyon

Question Number : 36 Question Id : 7621613756 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Rocks composed of at least two minerals having a conspicuous (large) difference in grain size is

Options :

1. Porphyritic Texture
2. Aphanitic Texture
3. Vesicular Texture
4. Glassy Texture

Question Number : 37 Question Id : 7621613757 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Metamorphism occurs as a result of mechanical deformation, like when two bodies of rock slide past one another along a fault zone . This is called

Options :

1. Regional Metamorphism
2. Cataclastic Metamorphism
3. Hydrothermal Metamorphism
4. Burial Metamorphism

Question Number : 38 Question Id : 7621613758 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Minerals that are formed only at high temperature in metamorphism are

Options :

1. Allotropic minerals
2. Metamorphic minerals
3. Ultramafic mineral
4. Mafic minerals

Question Number : 39 Question Id : 7621613759 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The term 'precision' is meant by

Options :

1. The level of detail at which data is stored.

2. The extent to which a value approaches its true value
3. The lack of bias in the data
4. The overall quality of the data

Question Number : 40 Question Id : 7621613760 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Surveys which are carried out to depict mountains, valleys, rivers, forest and other details of a country are known as

Options :

1. Cadastral survey
2. Engineering survey
3. Mine survey
4. Topographical survey

Question Number : 41 Question Id : 7621613761 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A line lying on the ground surface throughout and maintaining a constant inclination is called

Options :

1. Horizontal equivalent
2. Contour gradient
3. Grade contours
4. Contour interval

Question Number : 42 Question Id : 7621613762 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A contour interval

Options :

1. Is the vertical spacing between contour lines
2. Connects points of equal elevation above sea level
3. Is a single map in a topographic series
4. Heightens the graphic effect of a topographic map

Question Number : 43 Question Id : 7621613763 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The representative fraction  $1/2500$  means that the scale is

Options :

1. 1 cm = 0.25 m
2. 1 cm = 2.5 m
3. 1 cm = 25 m

4. 1 cm = 250 m

Question Number : 44 Question Id : 7621613764 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

\_\_\_\_\_ maps that shows climate weather and wind are environmental maps.

Options :

1. Forest
2. Meteorological
3. Biogeographic
4. Geological

Question Number : 45 Question Id : 7621613765 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In theodolite, telescope is mounted on a \_\_\_\_\_

Options :

1. Spindle
2. Stand
3. Support
4. Plate

Question Number : 46 Question Id : 7621613766 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One of the application of digital theodolite is \_\_\_\_\_

Options :

1. Compatibility with EDMS
2. To measure area of irregular plot
3. Built in illumination for night operation
4. Finding out horizontal and vertical angles

Question Number : 47 Question Id : 7621613767 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An unintentional and unavoidable inclination of the optical axis from vertical produces a \_\_\_\_\_ photograph.

Options :

1. Oblique
2. vertical
3. Tilted
4. horizontal

Question Number : 48 Question Id : 7621613768 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

These maps register the ownership of land property and they are prepared by government to realize tax and revenue

Options :

1. Topographical maps
2. Cadastral maps
3. Chronographical maps
4. Atlas maps

Question Number : 49 Question Id : 7621613769 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A map that depicts the terrain and indicates the bulges and the depressions present on the surface is called as

Options :

1. Relief maps
2. Climate map
3. Geological maps
4. Soil maps

Question Number : 50 Question Id : 7621613770 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Based on which of these following criteria map projections are not classified

Options :

1. Position of light source
2. Development surface used
3. Method of construction
4. Thickness of the surface

Question Number : 51 Question Id : 7621613771 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Mercator projection is actually which type of projection ?

Options :

1. Gnomonic
2. Cylindrical
3. Conical
4. Conformal

Question Number : 52 Question Id : 7621613772 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The shapes of different parts of earth are correctly represented on these projections

Options :

1. Homolographic projections
2. True scale projections
3. Orthomorphic projections
4. Equidistant projections

Question Number : 53 Question Id : 7621613773 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The scale which has the properties of both identity and magnitude but the interval between any two values is indeterminate, is called

Options :

1. Ordinal Scale
2. Ratio Scale
3. Nominal Scale
4. Interval Scale

Question Number : 54 Question Id : 7621613774 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The details on a part of a map are so clustered that they become difficult to read which is magnified to view that part of the map. The magnified map is called

Options :

1. Locator map
2. Reference map
3. Inset map
4. Index map

Question Number : 55 Question Id : 7621613775 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A map which uses symbols for representing the data is called

Options :

1. Chorochromatic map
2. Isopleth map
3. Dot map
4. Choroschematic map

Question Number : 56 Question Id : 7621613776 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The cartographic technique by which points on the sphere of the Earth are transferred to points on the plane surface of a map is

Options :

1. Trajection

2. Interpolation
3. Intersection
4. Projection

Question Number : 57 Question Id : 7621613777 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The wavelength region of this type of remote sensing usually extends from the visible and near infrared VNIR to the short-wave infrared SWIR

Options :

1. Optical remote sensing
2. Remote Sensing
3. Microwave Remote Sensing
4. Radar Remote Sensing

Question Number : 58 Question Id : 7621613778 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following satellites has Radio Occultation Sounder for Atmosphere (ROSA)

Options :

1. CARTOSAT-2
2. RISAT-C
3. LANDSAT
4. OCEANSAT-2

Question Number : 59 Question Id : 7621613779 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is an active remote sensing satellite ?

Options :

1. IRS-LISS
2. Nimbus-7
3. LIDAR
4. LANDSAT TM

Question Number : 60 Question Id : 7621613780 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A combination of a single detector plus a rotating mirror can be arranged such a way that the detector beam swipes in a straight line over the Earth across the track of the satellite at each rotation of the mirror.

Options :

1. Push broom scanner

2. Whiskbroom Scanner
3. Multispectral scanner
4. Thermal Scanner

Question Number : 61 Question Id : 7621613781 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The phenomenon of spreading out of light into its constituent colours is called

Options :

1. Corpuscles
2. Gamma rays
3. Photons
4. Dispersion

Question Number : 62 Question Id : 7621613782 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The wavelengths between 0.01 to 10nm are called-

Options :

1. Infrared waves
2. x-ray
3. Ultraviolet waves
4. Microwaves

Question Number : 63 Question Id : 7621613783 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The wavelength used in RADAR are

Options :

1. Infrared waves
2. Microwaves
3. Ultraviolet waves
4. X-rays

Question Number : 64 Question Id : 7621613784 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following are not electromagnetic in nature ?

Options :

1. Infrared rays
2. Ultraviolet rays
3. Radar waves
4. Sound waves

Question Number : 65 Question Id : 7621613785 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

High frequency light has

Options :

1. Short wavelength and high energy
2. Short wavelength and low energy
3. Long wavelength and low energy
4. Long wavelength and high energy

Question Number : 66 Question Id : 7621613786 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following mapping software does not give a graphic output ?

Options :

1. CAD
2. GIS
3. Graphic Design System
4. DBMS

Question Number : 67 Question Id : 7621613787 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Among the following which is not a raster data structures is

Options :

1. Irregular tessellation
2. Spaghetti
3. Scan-line
4. Hierarchical tessellation

Question Number : 68 Question Id : 7621613788 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A scale with ranking based on numerical values that are recorded with reference to an arbitrary datum

Options :

1. Nominal scale
2. ordinal Scale
3. Interval scale
4. Ratio Scale

Question Number : 69 Question Id : 7621613789 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Joining of two adjacent vector maps done after editing

Options :

1. Edge matching

2. Rubber sheeting
3. Exact matching
4. Fuzzy matching

Question Number : 70 Question Id : 7621613790 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An advantage of raster data storage is

Options :

1. The precision is held intact
2. The link to the feature model of the landscape
3. It is easy to transform between map projections
4. They can be used as a grid backdrop for further GIS work

Question Number : 71 Question Id : 7621613791 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not the advantage of quad-tree model ?

Options :

1. Rapid search because larger homogeneous areas are located higher up in the point structure
2. Compact storage because homogeneous squares are stored as units
3. Establishing the structures requires less processing time
4. Rapid data manipulation

Question Number : 72 Question Id : 7621613792 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not GIS packages ?

Options :

1. ArcGIS
2. Mapinfo
3. Idrisi32
4. Netscape

Question Number : 73 Question Id : 7621613793 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Spatial referencing is the process of which of the following ?

Options :

1. Combing attribute values with locational information
2. Referencing geo-relational tables
3. Establishing the topology of spatial objects
4. Computing the reference between items in databases

Question Number : 74 Question Id : 7621613794 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The vertical structure of the atmosphere is divided into

Options :

1. Three layers
2. Six layers
3. Four layers
4. Five layers

Question Number : 75 Question Id : 7621613795 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Effective precipitation is defined as:

Options :

1. Precipitation minus loss due to evaporation
2. Precipitation minus loss due to infiltration
3. Precipitation occurred during crop period
4. Available water stored within root zone

Question Number : 76 Question Id : 7621613796 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Rainfall with intensity of 5mm/h is classified as \_\_\_\_\_

Options :

1. Trace
2. light rain
3. Moderate rain
4. heavy rain

Question Number : 77 Question Id : 7621613797 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Isohyetel method is used for determination of

Options :

1. Evapo-transpiration
2. seepage loss
3. Precipitation
4. intensity of flood

Question Number : 78 Question Id : 7621613798 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Match List-I with List-II and select the correct answer from the codes given below the list:

List-I	List-II
(A) Isohyets	(1) Pressure
(B) Isobars	(2) Rainfall
(C) Isotherm	(3) Time of travel
(D) Isochrones	(4) Temperature

Options :

1. A – 1, B – 2, C – 4, D – 3
2. A – 2, B – 1, C – 3, D – 4
3. A – 2, B – 1, C – 4, D – 3
4. A – 3, B – 4, C – 2, D – 1

Question Number : 79 Question Id : 7621613799 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If mean annual runoff is 1 cumec from a catchment of area 10 km<sup>2</sup>, calculate effective rainfall (in cm)

Options :

1. 0.1
2. 315
3. 3.051
4. 413

Question Number : 80 Question Id : 7621613800 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Direct runoff is the sum of

Options :

1. The surface runoff and the base flow
2. The base flow and the groundwater runoff
3. The delayed subsurface runoff and deep percolation
4. The surface runoff and prompt subsurface runoff

Question Number : 81 Question Id : 7621613801 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Most of the weather phenomenon takes place in

Options :

1. Ionosphere
2. Mesosphere
3. Stratosphere
4. Troposphere

Question Number : 82 Question Id : 7621613802 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Flow mass curve is the graph drawn between

Options :

1. The flow rate and time
2. Cumulative volume of flow and time
3. Cumulative volume of flow and cumulative time
4. Cumulative discharge and time

Question Number : 83 Question Id : 7621613803 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The chemical compound which is generally used to reduce the evaporation from water surface is

Options :

1. D.D.T.
2. Alum
3. Cetylc alcohol
4. Potassium dichromate

Question Number : 84 Question Id : 7621613804 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

World Environment Day is celebrated on?

Options :

1. 5th June
2. 5th May
3. 2nd Aug
4. 4th Dec

Question Number : 85 Question Id : 7621613805 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Lysimeter is an instrument used to measure

Options :

1. Evaporation
2. Transpiration
3. Evapotranspiration
4. Sublimation

Question Number : 86 Question Id : 7621613806 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ozone protects biosphere from high energy

Options :

1. Infra-red rays
2. Ultraviolet rays
3. X-rays
4. Gamma rays

Question Number : 87 Question Id : 7621613807 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Humus is

Options :

1. Completely decomposed organic matter
2. Partially decomposed organic matter
3. Partially decomposed inorganic matter
4. Completely decomposed inorganic matter

Question Number : 88 Question Id : 7621613808 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Match the following

- |                 |  |
|-----------------|--|
| (a) Biosphere   | (i) Blanket of air which surrounds the earth   |
| (b) Atmosphere  | (ii) Our surroundings                          |
| (c) Hydrosphere | (iii) Region where land water and air interact |
| (d) Environment | (iv) Domain of water                           |

a b c d

Options :

1. (i) (ii) (iii) (iv)
2. (ii) (i) (iv) (iii)
3. (iii) (i) (iv) (ii)
4. (iv) (iii) (ii) (i)

Question Number : 89 Question Id : 7621613809 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following statements:

- (i) Consumers are called autotrophs
- (ii) The duration of sun exposure is the photo-period
- (iii) Producers are also called as heterotrophs

Which of the Statements given above is/are correct?

Options :

1. 1 and 2 only

- 2 only
- 1,2 and 3
- 2 and 3 only

Question Number : 90 Question Id : 7621613810 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The environment (protection) act has been introduced in the year

Options :

- 1982
- 1986
- 1984
- 1989

Question Number : 91 Question Id : 7621613811 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An ecological niche can be defined as

Options :

- the specific environment an organism inhabits
- the role an organism plays in its community
- the inorganic, nonliving aspects of a given area
- the various habitats an organism may inhabit

Question Number : 92 Question Id : 7621613812 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Decomposers include

Options :

- Bacteria only
- Fungi only
- Bacteria and Fungi
- Animals

Question Number : 93 Question Id : 7621613813 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Who coined the term Ecosystem

Options :

- E.P. Odum
- A.G. Tansley
- E. Haeckel
- E. Warming

Question Number : 94 Question Id : 7621613814 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If during a permeability test on a soil sample with a falling head permeameter, equal time intervals are noted for drop of head from  $h_1$  to  $h_2$  and again from  $h_2$  to  $h_3$ , then which one of the following relations would hold good?

Options :

1.  $h_1^2 = h_2h_3$
2.  $h_2^2 = h_1h_3$
3.  $h_3^2 = h_2h_1$
4.  $h_2^2 = h_1^2 + h_3^2$

Question Number : 95 Question Id : 7621613815 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For practically impervious type of soil, the coefficient of permeability is determined using

Options :

1. Variable head test
2. Constant head test
3. Consolidation test
4. Pumping test

Question Number : 96 Question Id : 7621613816 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Calculate the porosity of a soil sample that has a bulk density of  $1.35 \text{ g/cm}^3$ . Assume the particle density is  $2.65 \text{ g/cm}^3$

Options :

1. 56%
2. 49%
3. 29.6 %
4. 30 %

Question Number : 97 Question Id : 7621613817 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The average annual precipitation over India is

Options :

1. 1000 mm
2. 1140 mm
3. 1500 mm
4. 1350 mm

Question Number : 98 Question Id : 7621613818 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of the volume of voids to the volume of soil solids in a given soil mass, is known as

Options :

1. Void ratio
2. Specific gravity
3. Porosity
4. Water content

Question Number : 99 Question Id : 7621613819 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Darcy's law for flow through soil is valid if Reynold's number is less than

Options :

1. 4000
2. 3000
3. 10
4. 1

Question Number : 100 Question Id : 7621613820 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is highly permeable ?

Options :

1. Gravel
2. Sand mixture
3. Coarse sand
4. Clay

Question Number : 101 Question Id : 7621613821 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The shear strength of a soil

Options :

1. Is directly proportional to the angle of internal friction of the soil
2. Is inversely proportional to the angle of internal friction of the soil
3. Decreases with increase in normal stress
4. Decreases with decrease in normal stress

Question Number : 102 Question Id : 7621613822 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

According to IS classification, the range of silt particles size is

Options :

1. 4.75 mm to 2.00 mm
2. 2.00 mm to 0.425 mm
3. 0.425 mm to 0.075 mm

4. 0.075 mm to 0.002 mm

Question Number : 103 Question Id : 7621613823 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wind velocity is measured by

Options :

1. Current meter
2. Anemometer
3. Atmometer
4. Aerometer

Question Number : 104 Question Id : 7621613824 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following has the largest pan coefficient?

Options :

1. USWB class A land pan
2. Sunken pan
3. Floating pan
4. ISI standard pan

Question Number : 105 Question Id : 7621613825 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the case of flowing well, the piezometric surface is

Options :

1. Below the ground level
2. Above the ground level
3. Between the ground level and the water surface in the well
4. Below the water surface in the well

Question Number : 106 Question Id : 7621613826 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An unconfined aquifer is also known as

Options :

1. an artesian aquifer
2. a leaky aquifer
3. a perched aquifer
4. a water table aquifer

Question Number : 107 Question Id : 7621613827 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A geological formation which may contain water but is essentially impermeable to the flow of water through it is known as

Options :

1. Aquifer
2. Aquifuge
3. Aquitard
4. Aquiclude

Question Number : 108 Question Id : 7621613828 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Water existing in capillary zone is a part of

Options :

1. Phreatic water
2. Ground water
3. Gravity water
4. Vadose water

Question Number : 109 Question Id : 7621613829 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What are the types of linkages ?

Options :

1. Internal and External
2. Internal
3. External and None
4. External, Internal and None

Question Number : 110 Question Id : 7621613830 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the output of the following code ?

```
#include<stdio.h>
main()
{
int x = 5;
  if(x==5)
  {
    if(x==5) break;
    printf("Hello");
  }
  printf("Hi");
}
```

Options :

1. Compile error
2. Hi
3. HelloHi
4. Hello

Question Number : 111 Question Id : 7621613831 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In which header file is the NULL macro defined ?

Options :

1. stddef.h
2. stdio.h
3. math.h
4. stdio.h and stddef.h

Question Number : 112 Question Id : 7621613832 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum combined length of the command line arguments as well as the spaces between adjacent arguments is

A) 56 characters, B) 120 characters, C) Vary from one OS to another

Options :

1. A
2. B
3. A, B, C
4. C

Question Number : 113 Question Id : 7621613833 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

First operating system designed using C programming language.

Options :

1. DOS
2. Windows
3. UNIX
4. Mac

Question Number : 114 Question Id : 7621613834 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Bit fields can only be declared as part of a structure.

Options :

1. True
2. False

3. Nothing
4. Varies

Question Number : 115 Question Id : 7621613835 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If a variable is a pointer to a structure, then which of the following operator is used to access data members of the structure through the pointer variable ?

Options :

1. \*
2. ->
3. \*
4. &

Question Number : 116 Question Id : 7621613836 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In C, if you pass an array as an argument to a function, what actually gets passed ?

Options :

1. Value of elements in array
2. First element of the array
3. Base address of the array
4. Address of the last element of array

Question Number : 117 Question Id : 7621613837 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

By default a real number is treated as a

Options :

1. Integer
2. double
3. long double
4. float

Question Number : 118 Question Id : 7621613838 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Informal high level description of an algorithm in English is called

Options :

1. Bjarne Stroustrup
2. Dennis Ritchie
3. James A. Gosling
4. Dr. E. F. Codd

Which of the following is not a correct variable type ?

Options :

1. float
2. int
3. real
4. double

Which is the only function all C programs must contain ?

Options :

1. main()
2. start()
3. printf()
4. getch()