

TCSiON CAE

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 :	PC22172ConcernedSubjectAssistantHydrometeorologistGAZ2217 18th July 2023 Shift 2
Subject Name :	PC22172 Concerned Subject Assistant Hydrometeorologist GAZ2217
Actual Answer Key :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No
Is this Group for Examiner? :	No

Examiner permission : Cant View

Show Progress Bar? : No

Concerned Subject Assistant Hydrometeorologist

Section type : Online

Enable Mark as Answered Mark

for Review and Clear Response Yes

:

Maximum Instruction Time : 0

Is Section Default? : null

Question Number : 1 Question Id : 630680267677 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The Earth's atmosphere is mainly composed of _____.

Options :

1. ✘ nitrogen and argon

2. ✘ carbon dioxide and nitrogen

3. ✔ nitrogen and oxygen

4. ✘ oxygen and carbon dioxide

Question Number : 2 Question Id : 630680267678 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The ozone layer is present in the _____.

Options :

1. ✘ troposphere
2. ✔ stratosphere
3. ✘ mesosphere
4. ✘ thermosphere

Question Number : 3 Question Id : 630680267679 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What does climate represent?

Options :

1. ✔ The long term average weather and its statistical variation for a given region
2. ✘ The measure of variation in precipitation
3. ✘ The measurement of only temperature
4. ✘ The measurement of only pressure

Question Number : 4 Question Id : 630680267680 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In the context of climate, what is the full form ITCZ?

Options :

1. ✘ Indian Trough Conversation Zone
2. ✔ Inter Tropical Convergence Zone
3. ✘ Indian Temperature Control Zone
4. ✘ Inter Temperature Climate Zone

Question Number : 5 Question Id : 630680267681 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following gases warms the Earth's atmosphere?

Options :

1. ✔ Carbon dioxide
2. ✘ Carbon monoxide
3. ✘ Oxygen
4. ✘ Ozone

Question Number : 6 Question Id : 630680267682 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The pressure field is represented on weather charts in terms of a set of _____ on a horizontal surface.

Options :

1. ✘ isotherms
2. ✔ isobars
3. ✘ turbulence
4. ✘ precipitation

**Question Number : 7 Question Id : 630680267683 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Select the correct option with respect to the following statements about monsoon.

- A. Most equatorial regions receive rainfall year round.
- B. The west region receives rainfall year round.

Options :

1. ✔ Only statement A is true
2. ✘ Only statement B is true
3. ✘ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 8 Question Id : 630680267684 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Select the correct option with respect to the following statements.

- A. A cyclonic circulation denotes a counter-clockwise circulation in the northern hemisphere.
- B. A cyclonic circulation denotes a clockwise circulation in the southern hemisphere.

Options :

- 1. ✘ Only statement A is true
- 2. ✘ Only statement B is true
- 3. ✔ Both statements A and B are true
- 4. ✘ Neither statement A nor B is true

Question Number : 9 Question Id : 630680267685 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correct option with respect to the following statements.

- A. The greenhouse gases are water vapour, carbon dioxide and ozone.
- B. Trace constituents CH_4 , N_2O , CO and CFC also significant contributors of greenhouse effect.
- C. High ozone is safe for human health.

Options :

- 1. ✘ Only statement A is true
- 2. ✔ Both statements A and B are true
- 3. ✘ All statements A, B and C are true

4. ✘ Only statement C is true

Question Number : 10 Question Id : 630680267686 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following for the given pairs of layers of the atmosphere and their respective pressures.

Atmosphere	Pressure
A. Stratosphere	1. 0.001 - 0.01 hPa
B. Thermosphere	2. 0-01 - 1 hPa
C. Mesosphere	3. 1 – 300 hPa
D. Troposphere	4. 300 – 1000 hPa
	5. >1000 hPa

Options :

1. ✔ A-3; B-1; C-2; D-4

2. ✘ A-5; B-3; C-2; D-1

3. ✘ A-2; B-3; C-4; D-1

4. ✘ A-3; B-4; C-1; D-5

Question Number : 11 Question Id : 630680267687 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correct option from among the following for the given pairs of layers of the atmosphere and their respective altitudes.

A. Tropopause :	10 km
B. Stratopause :	20 km
C. Mesopause :	50 km
D. Thermopause :	70 km

Options :

1. ✓ Only A
2. ✗ Only B
3. ✗ Only A and C
4. ✗ Only B and D

Question Number : 12 Question Id : 630680267688 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following layers in the atmosphere according to their height from the surface of the earth

- A. Mesosphere
- B. Troposphere
- C. Exosphere
- D. Thermosphere
- E. Stratosphere

Options :

1. ✗ A, B, C, D, E
2. ✗ C, D, A, E, B

3. ✘ B, D, A, C, E

4. ✔ B, E, A, D, C

Question Number : 13 Question Id : 630680267689 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which law about gases states that 'At constant temperature, the volume of the gas is inversely proportional to its pressure'?

Options :

1. ✔ Boyle's law

2. ✘ Charles' law

3. ✘ Avogadro law

4. ✘ Plank's law

Question Number : 14 Question Id : 630680267690 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which law about gases states that 'For a fixed mass of gas at constant pressure, the volume of the gas is directly proportional to its absolute temperature'?

Options :

1. ✘ Boyle's law

2. ✓ Charles' law

3. ✗ Avogadro law

4. ✗ Plank's law

**Question Number : 15 Question Id : 630680267691 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

What is the unit of geopotential?

Options :

1. ✗ newton/coulomb

2. ✗ joule/coulomb

3. ✗ newton.kg

4. ✓ joule/kg

**Question Number : 16 Question Id : 630680267692 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

The first law of thermodynamics is based on the:

Options :

1. ✗ law of conservation of mass

2. ✘ law of conservation of momentum

3. ✔ law of conservation of energy

4. ✘ law of conservation of work

Question Number : 17 Question Id : 630680267693 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The amount of energy required to change a liquid to a gas and vice versa without any change in temperature, is termed as _____.

Options :

1. ✘ latent heat of fusion

2. ✔ latent heat of vaporisation

3. ✘ heat capacity

4. ✘ specific heat capacity

Question Number : 18 Question Id : 630680267694 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Pseudo adiabatic process is _____.

Options :

1. ✘ reversible

2. ✓ irreversible

3. ✘ both reversible and irreversible

4. ✘ constant

**Question Number : 19 Question Id : 630680267695 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Select the correct option with respect to the following statements about Joules law.

A. At constant temperature, a gas neither does external work nor takes in or gives out heat.

B. Internal energy is independent of temperature.

Options :

1. ✓ Only statement A is true

2. ✘ Only statement B is true

3. ✘ Both statements A and B are true

4. ✘ Neither statement A nor B is true

**Question Number : 20 Question Id : 630680267696 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements for the term 'potential temperature' and select the correct option.

- A. Potential temperature is conserved quantity for an air parcel.
- B. Potential temperature is related to Poisson's equation.

Options :

- 1. ✘ Only statement A is true
- 2. ✘ Only statement B is true
- 3. ✔ Both statements A and B are true
- 4. ✘ Neither statement A nor B is true

Question Number : 21 Question Id : 630680267697 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements about the second law of thermodynamics and select the correct option.

- A. For a reversible process there is no change in the entropy of the universe.
- B. The second law of thermodynamic was deduced by Carnot, Clausius and Lord Kelvin.
- C. For an irreversible process there is no change in the entropy of the universe.

Options :

- 1. ✘ Only statement A is true
- 2. ✔ Only statements A and B are true
- 3. ✘ Only statements B and C are true
- 4.

✘ Only statement C is true

Question Number : 22 Question Id : 630680267698 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correct options from among the following pairs of parameters and their symbols.

A. Heat : S

B. Enthalpy: H

C. Internal energy : U

D. Temperature: T

Options :

1. ✘ Only A and C

2. ✘ Only C and D

3. ✘ Only A, B and C

4. ✔ Only B, C and D

Question Number : 23 Question Id : 630680267699 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following pairs related to thermodynamics

A. Kinetic Energy	1. Function of state
B. Potential Energy	2. Molecular Motion
C. Internal energy	3. Molecular Position
D. Conservation of energy	4. Boyle's law
	5. 1 st law of thermodynamics

Options :

1. ✘ A-1, B-4, C-2, D-5

2. ✔ A-2, B-3, C-1, D-5

3. ✘ A-1, B-2, C-4, D-3

4. ✘ A-2, B-1, C-4, D-3

Question Number : 24 Question Id : 630680267700 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following temperature scales in increasing order.

A. Kelvin

B. Celsius

C. Fahrenheit

Options :

1. ✘ A, B, C

2. ✘ C, B, A

3. ✘ B, A, C

4. ✔ B, C, A

Question Number : 25 Question Id : 630680267701 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

A blackbody is a surface that completely _____ all incident radiation.

Options :

1. ✔ absorbs

2. ✘ reflects

3. ✘ converts

4. ✘ passes

Question Number : 26 Question Id : 630680267702 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to Wien's displacement law, the relation between maximum wavelength and temperature is _____.

Options :

1. ✘ directly proportional

2. ✔ inversely proportional

3. ✘ same

4. ✘ independent

Question Number : 27 Question Id : 630680267703 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the unit of Stefan-Boltzmann constant?

Options :

1. ✘ W/m^2

2. ✘ W/mk

3. ✘ W/m^2k

4. ✔ W/m^2k^4

Question Number : 28 Question Id : 630680267704 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to the Stefan-Boltzmann law, the relation between flux density and temperature is _____.

Options :

1. ✔ directly proportional

2. ✘ inversely proportional

3. ✘ same

4. ✘ independent

Question Number : 29 Question Id : 630680267705 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which equation is used to calculate the radius of droplet that is in equilibrium with a given water vapour pressure?

Options :

1. ✘ Newton's equation

2. ✔ Kelvin's equation

3. ✘ Beer's equation

4. ✘ Lambert's equation

Question Number : 30 Question Id : 630680267706 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The rate of growth of a droplet by condensation is _____ its radius.

Options :

1. ✘ directly proportional to

2. ✘ equal to

3. ✔ inversely proportional to

4. ✘ half

Question Number : 31 Question Id : 630680267707 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. The blackbody radiation is isotropic.

B. The blackbody radiation is non isotropic.

Options :

1. ✔ Only statement A is true

2. ✘ Only statement B is true

3. ✘ Both statements A and B are true

4. ✘ Neither statement A nor B is true

Question Number : 32 Question Id : 630680267708 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. Blackbody radiation can be described by the Planck radiation law.

B. The total energy radiated by a blackbody is directly proportional to the fourth power of its absolute temperature.

Options :

1. ✘ Only statement A is true

2. ✘ Only statement B is true
3. ✔ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 33 Question Id : 630680267709 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. The greenhouse effect is primarily caused by the emission of greenhouse gases into the atmosphere.
- B. Scattering of sunlight by air molecules contributes to the greenhouse effect.
- C. The greenhouse effect is a natural process that helps regulate the Earth's temperature.

Options :

1. ✘ Only statement A is true
2. ✘ Only statements A and B are true
3. ✘ Only statements B and C are true
4. ✔ Only statements A and C are true

**Question Number : 34 Question Id : 630680267710 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. Non-renewable energy resources are infinite and will never run out.
- B. Fossil fuels are a type of non-renewable energy resource.
- C. Nuclear energy is generated through the process of nuclear fusion.

Options :

- 1. ✘ Only statement A is true
- 2. ✔ Only statement B is true
- 3. ✘ Only statements B and C are true
- 4. ✘ Only statements A and C are true

Question Number : 35 Question Id : 630680267711 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following pairs related to power generation and transmission

A. Generator	1. Conducts electrical energy over long distances
B. Transformer	2. Device or system that consumes electrical energy
C. Transmission line	3. Device that changes the voltage level of an electrical signal
D. Load	4. Device that converts heat energy into electrical energy
	5. Device that converts mechanical energy into electrical energy

Options :

- 1. ✔ A-5, B-3, C-1, D-2
- 2. ✘ A-4, B-3, C-1, D-5

3. ✘ A-4, B-5, C-2, D-1

4. ✘ A-2, B-1, C-4, D-3

Question Number : 36 Question Id : 630680267712 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correctly paired instruments and their respective application from among the following.

A. Solarimeter : Measures the intensity of solar radiation at a specific location

B. Sunshine duration sensor : Measures total radiation

C. Sun photometer : Measures the optical properties of atmospheric aerosols and total columnar water vapor

D. Global radiation sensor : Measures intensity of light

Options :

1. ✘ Only A and B

2. ✘ Only B and D

3. ✔ Only A and C

4. ✘ Only C and D

Question Number : 37 Question Id : 630680267713 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to Wien's displacement law, arrange the temperature for increasing λ_m .

- A. 4000 K
- B. 5000 K
- C. 7000 K
- D. 6000 K

Options :

- 1. ✘ A, B, C, D
- 2. ✘ C, A, B, D
- 3. ✘ A, B, D, C
- 4. ✔ C, D, B, A

Question Number : 38 Question Id : 630680267714 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the cloud classifications from lowest to highest altitude.

- A. Altocumulus clouds
- B. Cumulonimbus clouds
- C. Stratocumulus clouds
- D. Cirrus clouds

Options :

- 1. ✘ B, A, D, C
- 2. ✘ A, C, B, D

3. ✘ D, B, C, A

4. ✔ C, A, D, B

Question Number : 39 Question Id : 630680267715 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

A linear equation _____.

Options :

1. ✘ can have multiple solutions

2. ✔ always has a unique solution

3. ✘ does not have a solution

4. ✘ has infinitely many solutions

Question Number : 40 Question Id : 630680267716 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Nonlinear equations _____.

Options :

1. ✘ are always solvable using algebraic methods

2. ✘ have a constant rate of change

3. ✓ can involve variables raised to powers other than 1
4. ✗ have a unique solution for any set of initial conditions

Question Number : 41 Question Id : 630680267717 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following systems represents a linear system?

Options :

1. ✓ $x = y + 2, y = 3x - 1$

2. ✗ $x = y^2, y = 2x - 3$

3. ✗ $x = \sin(y), y = e^x$

4. ✗ $x = y^3, y = x^2 + 1$

Question Number : 42 Question Id : 630680267718 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the purpose of numerical methods in the study of PDEs?

Options :

1. ✓ To obtain approximate solutions when exact solutions are not available.

2. ✗ To validate the existence and uniqueness of solutions.

3. ✘ To analyse the regularity properties of PDE solutions.
4. ✘ Numerical methods are not applicable to the study of PDEs.

**Question Number : 43 Question Id : 630680267719 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

What is a classical solution of a PDE?

Options :

1. ✘ A solution that is valid for a specific range of values
2. ✘ A solution that involves complex numbers
3. ✘ A solution that cannot be expressed analytically
4. ✔ A solution that satisfies the PDE and any necessary boundary conditions

**Question Number : 44 Question Id : 630680267720 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Weak solutions of PDEs are typically sought in which class of functions?

Options :

1. ✘ Analytic functions
2. ✘ Elementary functions

3. ✘ Piecewise continuous functions

4. ✔ Functions with certain integrability properties

Question Number : 45 Question Id : 630680267721 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. The transport equation is a linear partial differential equation.

B. The transport equation is a hyperbolic equation.

Options :

1. ✘ Only statement A is true

2. ✔ Only statement B is true

3. ✘ Both statements A and B are true

4. ✘ Neither statement A nor B is true

Question Number : 46 Question Id : 630680267722 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. Regularity analysis is only applicable to linear PDEs.

B. Separation of variables is a commonly used strategy for solving PDEs.

Options :

1. ✘ Only statement A is true
2. ✔ Only statement B is true
3. ✘ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 47 Question Id : 630680267723 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. Variational methods can be used to find approximate solutions to nonlinear PDEs.
- B. The method of characteristics is applicable only to linear PDEs.
- C. Separation of variables is a common technique for solving PDEs.

Options :

1. ✘ Only statements A and B are true
2. ✘ Only statements B and C are true
3. ✔ Only statements A and C are true
4. ✘ Only statement A is true

**Question Number : 48 Question Id : 630680267724 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Select the correctly paired strategies and their respective descriptions from among the following.

- A. Variational methods : Finds solutions by minimising a functional involving the PDE
- B. Fourier transform : Finds solutions of four equations
- C. Numerical methods : Approximates PDE solutions using computational algorithms and discrete grids
- D. Separation of variables : Constructs characteristic curves to determine the behaviour of solutions based on initial conditions

Options :

- 1. ✘ Only A and B
- 2. ✔ Only A and C
- 3. ✘ Only B and C
- 4. ✘ Only B and D

Question Number : 49 Question Id : 630680267725 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following PDEs in increasing order based on their number of order.

A. $u_{xx} + u_{yy} = 0$

B. $u_{ttt} + u_{xxx} = 0$

C. $a(x,y)u_x + b(x,y)u_y = f(x,y)$

D. $u_{xxxx} - u_{xx} + u = 0$

Options :

- 1. ✘ A, B, C, D

2. ✘ C, B, D, A

3. ✔ C, A, B, D

4. ✘ D, B, A, C

Question Number : 50 Question Id : 630680267726 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The pressure gradient force is _____.

Options :

1. ✘ always greater than friction

2. ✔ directed from high to low pressure

3. ✘ directed from low to high pressure

4. ✘ parallel to isobars

Question Number : 51 Question Id : 630680267727 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The Coriolis effect is due to _____.

Options :

1. ✘ pressure gradient

2. ✘ gravitation

3. ✘ friction

4. ✔ the Earth's rotation

Question Number : 52 Question Id : 630680267728 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The wind associated with a three way balance between the pressure gradient, the Coriolis, and centrifugal forces is called _____.

Options :

1. ✘ thermal wind

2. ✘ geostrophic wind

3. ✔ gradient wind

4. ✘ cyclone

Question Number : 53 Question Id : 630680267729 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The _____ force pulls all objects outward from the axis of the planetary rotation.

Options :

1. ✘ coulomb

2. ✘ Coriolis

3. ✘ centripetal

4. ✔ centrifugal

Question Number : 54 Question Id : 630680267730 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The vertical shear of the geostrophic wind between two layers is called _____.

Options :

1. ✘ barotropic

2. ✘ isotherms

3. ✔ thermal wind

4. ✘ gradient wind

Question Number : 55 Question Id : 630680267731 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Shear is defined as the rate of change of the _____ in the direction transverse to the flow.

Options :

1. ✔ velocity

2. ✘ force

3. ✘ mass

4. ✘ energy

Question Number : 56 Question Id : 630680267732 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. A ridge is an elongated area of high pressure extended from the centre of a high pressure region.

B. A trough is an elongated area of low pressure extended from the centre of a low pressure region.

Options :

1. ✘ Only statement A is true

2. ✘ Only statement B is true

3. ✔ Both statements A and B are true

4. ✘ Neither statement A nor B is true

Question Number : 57 Question Id : 630680267733 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. The force per unit mass is referred as effective gravity.
- B. The force per unit area is referred as effective gravity.

Options :

- 1. ✓ Only statement A is true
- 2. ✘ Only statement B is true
- 3. ✘ Both statements A and B are true
- 4. ✘ Neither statement A nor B is true

**Question Number : 58 Question Id : 630680267734 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. The frictional force is much smaller than the pressure gradient force.
- B. The frictional force is greater than the Coriolis force.
- C. The frictional force is much smaller than the Coriolis force.

Options :

- 1. ✘ Only statement A is true
- 2. ✘ Only statements A and B are true
- 3. ✓ Only statements A and C are true

4. ✘ Only statements B and C are true

Question Number : 59 Question Id : 630680267735 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following pairs related to momentum equations

A. x equation momentum	1. dv/dt
B. y equation momentum	2. dx/dt
C. z equation momentum	3. du/dt
	4. dw/dt

Options :

1. ✘ A-1, B-2, C-3

2. ✘ A-3, B-1, C-2

3. ✘ A-2, B-4, C-1

4. ✔ A-3, B-1, C-4

Question Number : 60 Question Id : 630680267736 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following fundamental forces in increasing order based on their relative strength.

- A. Viscous Forces
- B. Surface Tension
- C. Gravity
- D. Pressure Gradient Force

Options :

1. ✘ A, B, C, D

2. ✘ C, D, A, B

3. ✘ C, A, B, D

4. ✔ C, B, D, A

Question Number : 61 Question Id : 630680267737 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following balanced motion in order of increasing altitude.

- A. Thermal wind balance
- B. Gradient balance
- C. Geostrophic balance
- D. Hydrostatic balance

Options :

1. ✔ C, B, D, A

2. ✘ C, D, A, B

3. ✘ B, C, A, D

4. ✘ D, B, A, C

Question Number : 62 Question Id : 630680267738 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What does the term 'Isotachs' represent?

Options :

1. ✔ Line connecting equal wind speed

2. ✘ Line connecting equal temperature

3. ✘ Line connecting equal high pressure

4. ✘ Line connecting equal low pressure

Question Number : 63 Question Id : 630680267739 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The lines that are everywhere parallel to the instantaneous wind velocity are called _____.

Options :

1. ✘ streaklines

2. ✔ streamlines

3. ✘ trajectories

4. ✘ isotherms

Question Number : 64 Question Id : 630680267740 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

When a low pressure system is developing or strengthening, it will be referred as _____.

Options :

1. ✔ deepening

2. ✘ intensification

3. ✘ filling

4. ✘ weakening

Question Number : 65 Question Id : 630680267741 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

When a low pressure system is dissipating or weakening it will be referred as _____.

Options :

1. ✘ deepening

2. ✔ filling

3. ✘ intensification

4. ✘ aloft

**Question Number : 66 Question Id : 630680267742 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

In which of the following cases will a cyclone intensify?

Options :

1. ✔ Upper tropospheric divergence > surface convergence

2. ✘ Upper tropospheric divergence < surface convergence

3. ✘ Upper tropospheric divergence = surface convergence

4. ✘ Upper tropospheric divergence << surface convergence

**Question Number : 67 Question Id : 630680267743 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

A cyclonic circulation in the northern hemisphere is _____.

Options :

1. ✘ clockwise

2. ✔ counter-clockwise

3. ✘ in the opposite direction of earth's motion

4. ✘ the same as in the southern hemisphere

Question Number : 68 Question Id : 630680267744 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

A cyclonic circulation in the southern hemisphere is _____.

Options :

1. ✔ clockwise

2. ✘ counter-clockwise

3. ✘ in the opposite direction of earth's motion

4. ✘ the same as in the northern hemisphere

Question Number : 69 Question Id : 630680267745 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. A cyclone is a wind system with a high pressure centre.

B. A cyclone is a wind system with a low pressure centre.

Options :

1. ✘ Only statement A is true

2. ✓ Only statement B is true
3. ✘ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 70 Question Id : 630680267746 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 2 Wrong Marks : 0**

Read the following statements and select the correct option for the case(s), when will the trajectories and streamlines coincide?

- A. When rate of change of wind direction increases
- B. When rate of change of wind direction decreases
- C. When rate of change of wind direction vanishes

Options :

1. ✘ Only statement A is true
2. ✘ Only statement B is true
3. ✓ Only statement C is true
4. ✘ Only statement A & B are true

**Question Number : 71 Question Id : 630680267747 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 2 Wrong Marks : 0**

Match the following pairs related to cyclone and anticyclone.

Cyclone	Anticyclone
A. Cyclone northern hemisphere	1. High pressure clockwise
B. Cyclone southern hemisphere	2. Low pressure counter-clockwise
C. Anticyclone northern hemisphere	3. High pressure counter-clockwise
D. Anticyclone southern hemisphere	4. Low pressure clockwise

Options :

1. ✓ A-2, B-4, C-1, D-3

2. ✗ A-2, B-3, C-1, D-4

3. ✗ A-1, B-2, C-3, D-4

4. ✗ A-3, B-4, C-1, D-2

Question Number : 72 Question Id : 630680267748 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following type of trajectories based on increasing number of directions.

- A. Curved trajectories
- B. Chaotic trajectories
- C. Periodic trajectories
- D. Linear trajectories

Options :

1. ✗ C, B, D, A

2. ✗ C, D, A, B

3. ✓ D, C, A, B

4. ✗ D, A, C, D

Question Number : 73 Question Id : 630680267749 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the latitude of earth in decreasing order based on tropical cyclone intensity.

A. 30°

B. 50°

C. 0°

D. 10°

Options :

1. ✗ C, B, D, A

2. ✗ A, C, D, B

3. ✓ B, A, D, C

4. ✗ D, A, C, D

Question Number : 74 Question Id : 630680267750 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

According to law of transverse vibration of string, what is the relation between frequency (n) and length of string (l)?

Options :

1. ✘ $n \propto l$

2. ✔ $n \propto l^{-1}$

3. ✘ $n \propto l^2$

4. ✘ $n \propto l^{-2}$

Question Number : 75 Question Id : 630680267751 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In transverse mode of vibration, if the number of nodes are 6, then in longitudinal mode of vibration the number of nodes will be _____.

Options :

1. ✘ 1

2. ✘ 2

3. ✔ 3

4. ✘ 4

Question Number : 76 Question Id : 630680267752 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The ratio of the deformation radius to scale of motion of the fluid is called the _____.

Options :

1. ✘ Burger number
2. ✔ Rossby number
3. ✘ gravity number
4. ✘ Reynolds number

**Question Number : 77 Question Id : 630680267753 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

The ratio of the inertial terms to the viscous terms is called _____.

Options :

1. ✘ Rossby number
2. ✘ Burger number
3. ✘ gravity number
4. ✔ Reynolds number

**Question Number : 78 Question Id : 630680267754 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

A waves in a fluid in which gravity provides the restoring force is called _____.

Options :

1. ✘ Rossby wave
2. ✘ Reynolds wave
3. ✔ gravity wave
4. ✘ cyclonic wave

**Question Number : 79 Question Id : 630680267755 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Gravity waves on an air-sea interface are called _____.

Options :

1. ✘ inertial gravity waves
2. ✔ surface gravity waves
3. ✘ internal gravity waves
4. ✘ Reynolds waves

**Question Number : 80 Question Id : 630680267756 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. Sound waves are longitudinal waves.

B. Sound waves are transverse waves.

Options :

1. ✓ Only statement A is true
2. ✗ Only statement B is true
3. ✗ Both statements A and B are true
4. ✗ Neither statement A nor B is true

Question Number : 81 Question Id : 630680267757 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correct option with respect the following statements about the laws of transverse vibration of string.

A. Frequency is directly proportional to the square root of the tension applied on the string.

B. Frequency is inversely proportional to the square root of the tension applied on the string.

C. Frequency is inversely proportional to the square root of the mass of the string.

Options :

1. ✗ Only statement A is true
2. ✗ Only statements A and B are true
3. ✓ Only statements A and C are true

4. ✘ Only statements B and C are true

Question Number : 82 Question Id : 630680267758 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following terms related to wave motion.

A. Wave speed	1. Maximum displacement of the string from its equilibrium position
B. Frequency	2. Distance between two consecutive crests or troughs
C. Amplitude	3. Ratio of speed of the wave and light
D. Wavelength	4. Speed at which the wave travels along the string
	5. Number of complete oscillations or cycles per unit time

Options :

1. ✘ A-1, B-2, C-3, D-4

2. ✘ A-5, B-3, C-1, D-4

3. ✘ A-1, B-2, C-3, D-5

4. ✔ A-4, B-5, C-1, D-2

Question Number : 83 Question Id : 630680267759 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correctly paired geostrophic parameters and their respective descriptions from among the following.

- A. Geostrophic adjustment : The state of balance between the Coriolis force and the pressure gradient force, in which the wind flows parallel to the isobars.
- B. Geostrophic scaling : A scaling technique that allows for the estimation of atmospheric variables.
- C. Geostrophic wind : The wind pattern that results from the balance between the Coriolis force and the pressure gradient force in the atmosphere.
- D. Geostrophic balance : The process by which an initially imbalanced atmospheric flow adjusts over time to a state of geostrophic balance.

Options :

- 1. ✘ Only A
- 2. ✔ Only B and C
- 3. ✘ Only A and C
- 4. ✘ Only B and D

Question Number : 84 Question Id : 630680267760 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following is a component of a hydrological information system?

Options :

- 1. ✔ Rain gauge network design
- 2. ✘ Water treatment plant operation

3. ✘ Environmental impact assessment

4. ✘ Climate change modelling

Question Number : 85 Question Id : 630680267761 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is a Hydrological Information System?

Options :

1. ✘ A system used for generating hydrological data

2. ✔ A system for storing and managing hydrological information

3. ✘ A system used for analysing weather patterns

4. ✘ A system for predicting floods and droughts

Question Number : 86 Question Id : 630680267762 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is true about water resource information?

Options :

1. ✘ It is solely used for recreational purposes

2. ✘ It is primarily focused on wildlife conservation

3. ✓ It helps in managing water allocation and distribution

4. ✘ It is used for predicting volcanic eruptions

Question Number : 87 Question Id : 630680267763 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following is an example of a freshwater resource?

Options :

1. ✘ Ocean water

2. ✘ Saline lake

3. ✘ Sea water

4. ✓ Ground water

Question Number : 88 Question Id : 630680267764 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What does the term 'rainfall intensity' refer to?

Options :

1. ✘ The total amount of rain in a given time period

2. ✓ The rate at which rain falls

3. ✘ The size of raindrops

4. ✘ The direction from which rain is falling

Question Number : 89 Question Id : 630680267765 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the optimum density of stations in a network?

Options :

1. ✘ The maximum number of stations that can be deployed in a given area

2. ✔ The minimum number of stations required for network coverage and reliability

3. ✘ The average number of stations in a network

4. ✘ The minimum number of stations that can be deployed in a given area

Question Number : 90 Question Id : 630680267766 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. The components of a hydrological information system include data acquisition, data analysis, and data visualisation

B. Data management is not a component of a hydrological information system

Options :

1. ✔ Only statement A is true

2. ✘ Only statement B is true
3. ✘ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 91 Question Id : 630680267767 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. The equation of continuity of mass is used in the hydrological cycle for measurement of its properties.
- B. The equation of continuity of energy is used in the hydrological cycle for measurement of its properties.
- C. The equation of continuity of momentum is used in the hydrological cycle for measurement of its properties.

Options :

1. ✘ Only statement A is true
2. ✔ Only statements A and B are true
3. ✘ Only statements A and C are true
4. ✘ Only statements B and C are true

**Question Number : 92 Question Id : 630680267768 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Match the following pairs related to different types of water resources

A. Surface water	1. Water stored in form of ice and snow
B. Ground water	2. Water in river, lakes or ponds
C. Rain water	3. Water stored beneath the Earth's surface
D. Glacier or snowmelt	4. Water that falls from atmosphere
	5. Water wastage from industries

Options :

1. ✘ A-1, B-3, C-2, D-5

2. ✘ A-2, B-5, C-3, D-1

3. ✔ A-2, B-3, C-4, D-1

4. ✘ A-3, B-2, C-1, D-5

Question Number : 93 Question Id : 630680267769 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following steps of the water cycle in chronological order.

A. Condensation

B. Runoff

C. Infiltration

D. Evaporation

E. Precipitation

Options :

1. ✘ A, B, C, D, E

2. ✘ D, B, C, A, E

3. ✘ C, B, E, D, A

4. ✔ D, A, E, C, B

Question Number : 94 Question Id : 630680267770 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following stages related to a rain gauge in their chronological order:

A. Data collection

B. Calibration

C. Data analysis

D. Data recording

Options :

1. ✔ B, A, D, C

2. ✘ D, A, B, C

3. ✘ C, A, D, B

4. ✘ A, B, C, D

Question Number : 95 Question Id : 630680267771 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Point rainfall refers to _____.

Options :

1. ✓ rainfall measured at a single point or location
2. ✗ rainfall occurring during a specific time period
3. ✗ rainfall over a large geographical area
4. ✗ rainfall associated with a cyclone or storm system

Question Number : 96 Question Id : 630680267772 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

A basin is defined as _____.

Options :

1. ✗ a unit of measurement for rainfall used in meteorology
2. ✗ a measure of the intensity of rainfall in a particular location
3. ✗ the total volume of water stored in a reservoir or lake
4. ✓ an area of land that collects water from rainfall and drains it into a common outlet

Question Number : 97 Question Id : 630680267773 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The term 'catchment' refers to _____.

Options :

1. ✘ the process of measuring rainfall using rain gauges
2. ✔ the area from which water drains into a specific river or lake
3. ✘ the average annual rainfall in a particular region
4. ✘ the study of atmospheric conditions related to rainfall

Question Number : 98 Question Id : 630680267774 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which river basin is the largest in India in terms of the catchment area?

Options :

1. ✔ Ganges-Brahmaputra-Meghna Basin
2. ✘ Godavari Basin
3. ✘ Krishna Basin
4. ✘ Narmada Basin

Question Number : 99 Question Id : 630680267775 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The Brahmaputra River basin is shared by India and _____.

Options :

1. ✘ Nepal
2. ✘ Bhutan
3. ✘ Myanmar
4. ✔ Bangladesh

Question Number : 100 Question Id : 630680267776 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements about the definition of floods and select the correct option/options.

- A. Rapid melting of snow leading to increased river flow
- B. Temporary overflowing of water onto normally dry land

Options :

1. ✘ Only statement A is true
2. ✔ Only statement B is true
3. ✘ Both statements A and B are true
4. ✘ Neither statement A nor B is true

Question Number : 101 Question Id : 630680267777 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements for the term 'flash flood' and select the correct option.

- A. Slow and gradual rise of water levels
- B. Floodwaters lasting for several weeks
- C. Sudden and rapid onset of flooding

Options :

- 1. ✘ Only statement A is true
- 2. ✘ Only statement B is true
- 3. ✔ Only statement C is true
- 4. ✘ Only statements A and B are true

Question Number : 102 Question Id : 630680267778 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following states in increasing order with respect to the total length of rivers and canals.

- A. Madhya Pradesh
- B. Jammu and Kashmir
- C. Uttar Pradesh
- D. Tamil Nadu

Options :

- 1. ✘ A, B, C, D

2. ✘ B, C, D, A

3. ✘ C, A, D, B

4. ✔ D, A, B, C

Question Number : 103 Question Id : 630680267779 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following rivers of India in increasing order (smallest to largest catchment area).

A. Ganga

B. Mahi

C. Brahmaputra

D. Narmada

Options :

1. ✘ A, B, C, D

2. ✔ B, D, C, A

3. ✘ D, B, A, C

4. ✘ C, B, A, D

Question Number : 104 Question Id : 630680267780 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Rainfall normal refers to _____.

Options :

1. ✓ the average rainfall recorded in a specific location over a long-term period
2. ✘ unusual or extreme rainfall events
3. ✘ rainfall patterns during a specific season
4. ✘ rainfall measurements collected by a rain gauge

Question Number : 105 Question Id : 630680267781 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The purpose of calculating normal or average rainfall is to _____.

Options :

1. ✘ determine the exact amount of rainfall that will occur in the future
2. ✓ assess the long-term average rainfall patterns for a specific location
3. ✘ predict extreme weather events such as floods or droughts
4. ✘ determine the impact of rainfall on agricultural activities

Question Number : 106 Question Id : 630680267782 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which type of rainfall monitoring system uses a network of rain gauges to collect data across a region?

Options :

1. ✘ Disdrometer
2. ✘ Weather radar
3. ✘ Satellite-based
4. ✔ Ground-based

**Question Number : 107 Question Id : 630680267783 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. Operational rainfall statistics focus on short-term rainfall variability.
- B. Operational rainfall statistics are primarily used for long-term climate analysis.

Options :

1. ✘ Only statement A is true
2. ✔ Only statement B is true
3. ✘ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 108 Question Id : 630680267784 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. Rainfall monitoring involves the measurement and recording of precipitation over a specific area.
- B. Rainfall monitoring helps in understanding the water cycle and its impact on various ecosystems.
- C. Rainfall monitoring involves the measurement and recording of precipitation over whole country.

Options :

- 1. ✓ Only statements A and B are true
- 2. ✗ Only statements A and C are true
- 3. ✗ Only statements B and C are true
- 4. ✗ Only statement C is true

Question Number : 109 Question Id : 630680267785 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correctly paired devices and their respective capabilities from among the following.

- A. Disdrometer : Raindrop size and velocity
- B. Weather radar : Quality of land
- C. Satellite based estimator: Global rainfall estimate
- D. Rain Gauge : Stores rainfall

Options :

- 1. ✗ Only A and B
- 2. ✓ Only A and C

3. ✘ Only B and C

4. ✘ Only C and D

Question Number : 110 Question Id : 630680267786 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following steps in the chronological order for conducting operational rainfall statistics.

- A. Calculation of statistical measures such as mean, standard deviation and skewness
- B. Collection of rainfall data from various sources
- C. Data pre-processing and quality control
- D. Generation of operational rainfall statistics reports

Options :

1. ✘ B, D, C, A

2. ✘ D, A, B, C

3. ✘ A, B, C, D

4. ✔ B, C, A, D

Question Number : 111 Question Id : 630680267787 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following in chronological order based on the development of the concept of 'Rainfall Normal'.

- A. Systematic recording of rainfall data
- B. Introduction of the concept of 'Climatological Normal'
- C. Emergence of meteorological observatories
- D. Advancements in statistical analysis and computing

Options :

1. ✘ A, B, C, D

2. ✔ C, A, D, B

3. ✘ B, C, A, D

4. ✘ D, C, B, A

Question Number : 112 Question Id : 630680267788 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is the main purpose of statistics?

Options :

1. ✘ To collect and analyse data

2. ✘ To make predictions about the future

3. ✘ To provide accurate measurements

4. ✔ To summarise information and draw meaningful conclusions

Question Number : 113 Question Id : 630680267789 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

What is a population in statistics?

Options :

1. ✘ A subset of individuals chosen for a study
2. ✔ The entire group of individuals or objects of interest
3. ✘ A group of people who share similar characteristics
4. ✘ The individuals who respond to a survey or questionnaire

Question Number : 114 Question Id : 630680267790 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Descriptive statistics is used to _____.

Options :

1. ✘ make predictions about future events
2. ✘ test hypotheses and establish causation
3. ✔ summarise and describe data
4. ✘ calculate probabilities in statistical experiments

Question Number : 115 Question Id : 630680267791 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following is an example of a categorical variable?

Options :

1. ✘ Age in years
2. ✘ Height in inches
3. ✘ Temperature in Celsius
4. ✔ Marital status (single, married, divorced)

Question Number : 116 Question Id : 630680267792 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which measure of centre is NOT affected by extreme values or outliers?

Options :

1. ✘ Mean
2. ✔ Median
3. ✘ Mode
4. ✘ Range

Question Number : 117 Question Id : 630680267793 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Skewness is a measure of _____.

Options :

1. ✘ how spread out the data is
2. ✘ the range of the data
3. ✔ how symmetrical the data is
4. ✘ the variability of the data

Question Number : 118 Question Id : 630680267794 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. Range is a measure of spread that is affected by extreme values.
- B. A symmetrical distribution has equal values for the mean, median, and mode.

Options :

1. ✘ Only statement A is true
2. ✘ Only statement B is true
3. ✔ Both statements A and B are true
4. ✘ Neither statement A nor B is true

Question Number : 119 Question Id : 630680267795 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. Bar charts are used to display numerical data.
- B. Bar charts are used to compare categories or groups.
- C. Histograms are used to display categorical data.

Options :

- 1. ✘ Only statement A is true
- 2. ✔ Only statements A and B are true
- 3. ✘ Only statements B and C are true
- 4. ✘ Only statement C is true

Question Number : 120 Question Id : 630680267796 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following pairs related to statistical variable.

A. Categorical variable	1. A characteristic or property being measured or observed in a study or experiment
B. Continuous variable	2. Categorised into distinct groups or categories based on specific criteria
C. Qualitative variable	3. Can take any value within a certain range or interval, often measured on a continuous scale
D. Quantitative variable	4. Represents a numerical value or quantity that can be measured or counted
	5. Represents a qualitative attribute or characteristic that cannot be measured numerically

Options :

1. ✘ A-1, B-3, C-4, D-5

2. ✘ A-2, B-4, C-1, D-3

3. ✔ A-2, B-3, C-5, D-1

4. ✘ A-1, B-5, C-4, D-2

Question Number : 121 Question Id : 630680267797 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correctly paired types of graph with the what they represent, from among the following.

- A. Scatter plot : A chart that displays data points as markers or dots on a two-dimensional coordinate system
- B. Bar chart : A chart that uses rectangular bars of varying lengths to represent data values
- C. Line chart: A chart that displays data using vertical or horizontal bars to represent categories or groups
- D. Pie chart : A chart that displays data in a circular format, divided into sectors representing different categories or proportions

Options :

- 1. ✘ Only A and C
- 2. ✔ Only A, B and D
- 3. ✘ Only A, C and D
- 4. ✘ Only A and D

Question Number : 122 Question Id : 630680267798 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following statistical variables in increasing order based on their level of measurement.

- A. Ratio variable
- B. Interval variable
- C. Ordinal variable
- D. Nominal variable

Options :

- 1. ✘ A, B, C, D

2. ✘ C, A, B, D

3. ✘ B, C, A, D

4. ✔ D, C, B, A

Question Number : 123 Question Id : 630680267799 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The measure of central tendency that divides a dataset into two equal halves is the _____.

Options :

1. ✘ mean

2. ✔ median

3. ✘ mode

4. ✘ range

Question Number : 124 Question Id : 630680267800 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The standard score (z-score) is a measure of _____.

Options :

1. ✘ variability

2. ✘ central tendency

3. ✘ dispersion

4. ✔ relative position

Question Number : 125 Question Id : 630680267801 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The formula for calculating the standard score (z-score) of an observation x in a distribution is _____.

Options :

1. ✔ $z = (x - \text{mean})/\text{standard deviation}$

2. ✘ $z = (x - \text{median})/\text{range}$

3. ✘ $z = (x - \text{mode})/\text{variance}$

4. ✘ $z = (x - \text{standard deviation})/\text{mean}$

Question Number : 126 Question Id : 630680267802 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

The 50th percentile is equivalent to _____.

Options :

1. ✘ the first quartile

2. ✓ the median

3. ✘ the third quartile

4. ✘ the interquartile range

Question Number : 127 Question Id : 630680267803 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. Range is influenced by extreme values or outliers in the dataset.

B. Range is always a positive value.

Options :

1. ✘ Only statement A is true

2. ✘ Only statement B is true

3. ✓ Both statements A and B are true

4. ✘ Neither statement A nor B is true

Question Number : 128 Question Id : 630680267804 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

- A. Standard deviation is the square root of the variance.
- B. Variance is always a positive value.
- C. Standard deviation can be negative in certain cases.

Options :

- 1. ✘ Only statement A is true
- 2. ✔ Only statements A and B are true
- 3. ✘ Only statements B and C are true
- 4. ✘ Only statements A and C are true

Question Number : 129 Question Id : 630680267805 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following pairs related to statistical measurements of central tendency.

A. Mean	1. The value that appears most frequently in a dataset
B. Median	2. The average of all values in a dataset
C. Mode	3. The difference between the highest and lowest values in a dataset
D. Range	4. The middle value when the dataset is arranged in ascending or descending order
	5. The total value of dataset

Options :

- 1. ✔ A-2, B-4, C-1, D-3

2. ✘ A-2, B-5, C-1, D-3

3. ✘ A-2, B-3, C-5, D-1

4. ✘ A-4, B-1, C-2, D-3

Question Number : 130 Question Id : 630680267806 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correct pairs of measures and parts from among the following.

- A. Quartile : dataset in 5 equal parts
- B. Decile : dataset in 10 equal parts
- C. Median : dataset in 2 equal parts
- D. Percentile : dataset in 100 equal parts

Options :

1. ✘ Only A and B

2. ✘ Only A, B and C

3. ✔ Only B, C and D

4. ✘ Only C and D

Question Number : 131 Question Id : 630680267807 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following in increasing order based on the number of parts.

- A. Percentile
- B. Quartile
- C. Median
- D. Decile

Options :

- 1. ✘ A, B, C, D
- 2. ✘ C, A, B, D
- 3. ✔ C, B, D, A
- 4. ✘ D, C, B, A

Question Number : 132 Question Id : 630680267808 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following operations is used to combine two events A and B?

Options :

- 1. ✔ Union
- 2. ✘ Intersection
- 3. ✘ Complement

4. ✘ Conditional

Question Number : 133 Question Id : 630680267809 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In probability theory, a random variable is defined as _____.

Options :

1. ✘ a variable that takes on a random value
2. ✘ a variable that is determined by chance
3. ✔ a function that assigns a numerical value to each outcome of a random experiment
4. ✘ a variable that cannot be predicted

Question Number : 134 Question Id : 630680267810 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following is an example of a discrete random variable?

Options :

1. ✘ Height of individuals in a population
2. ✘ Temperature measured in degrees Celsius
3. ✔ Number of heads obtained in three coin tosses

4. ✘ Time taken to complete a task

Question Number : 135 Question Id : 630680267811 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

How is conditional probability calculated?

Options :

1. ✘ $P(A) + P(B)$

2. ✘ $P(A) - P(B)$

3. ✘ $P(A) \times P(B)$

4. ✔ $P(A|B) = P(A)/P(B)$

Question Number : 136 Question Id : 630680267812 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. The probability of an event A and its complement A' is always equal to 1.

B. The probability of an event A and its complement A' is always equal to 0.

Options :

1. ✔ Only statement A is true

2. ✘ Only statement B is true

3. ✘ Both statements A and B are true

4. ✘ Neither statement A nor B is true

Question Number : 137 Question Id : 630680267813 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Read the following statements and select the correct option.

A. Estimation involves determining the value of a population parameter based on a sample.

B. In hypothesis testing, the null hypothesis represents the claim or belief that is being tested.

C. Type I error occurs when the null hypothesis is accepted when it is actually true.

Options :

1. ✔ Only statements A and B are true

2. ✘ Only statements B and C are true

3. ✘ Only statements A and C are true

4. ✘ Only statement A is true

Question Number : 138 Question Id : 630680267814 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Match the following terms related to events and event space

A. Sample space	1. A measure of the likelihood of an event occurring, ranging from 0 to 1
B. Event	2. The set of all possible outcomes of a random experiment
C. Probability	3. The set of all outcomes in the sample space that are not part of a given event
D. Complement	4. A subset of the sample space, representing a specific outcome or a combination of outcomes
	5. Sum of all subset

Options :

1. ✘ A-1, B-2, C-3, D-4

2. ✔ A-2, B-4, C-1, D-3

3. ✘ A-2, B-3, C-5, D-1

4. ✘ A-4, B-1, C-2, D-3

Question Number : 139 Question Id : 630680267815 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correctly paired concepts and their respective descriptions from among the following.

- A. Confidence level : The level of certainty or probability associated with a confidence interval
- B. Margin of error : The range of values within which the true population parameter is estimated to fall, with a certain level of confidence
- C. Sample mean : The average value calculated from the sample data
- D. Population parameter : Difference between lowest and highest value

Options :

1. ✘ Only A and C
2. ✘ Only B, C and D
3. ✔ Only A, B and C
4. ✘ Only B and D

**Question Number : 140 Question Id : 630680267816 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 2 Wrong Marks : 0

Arrange the levels of statistical significance for hypothesis testing from most significant to least significant.

- A. $p\text{-value} \leq 0.01$
- B. $p\text{-value} \leq 0.10$
- C. $p\text{-value} \leq 0.001$
- D. $p\text{-value} \leq 0.05$

Options :

1. ✘ A, B, C, D
2. ✔ C, A, D, B
3. ✘ C, D, B, A
4. ✘ D, C, B, A

Question Number : 141 Question Id : 630680267817 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange z-value in increasing order based on their distance from the population mean.

A. z-value of 2.00

B. z-value of -1.00

C. z-value of 0.00

D. z-value of -2.00

Options :

1. ✘ A, B, C, D

2. ✘ C, A, D, B

3. ✘ C, D, B, A

4. ✔ D, B, C, A

Question Number : 142 Question Id : 630680267818 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In the context of time series analysis, a linear trend implies _____.

Options :

1. ✔ a constant or steady increase over time

2. ✘ random fluctuations with no clear direction

3. ✘ fluctuations that follow a non-linear pattern

4. ✘ no discernible pattern or trend

Question Number : 143 Question Id : 630680267819 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following principles is a fundamental concept in the stochastic process?

Options :

1. ✘ Deterministic behaviour

2. ✔ Random behaviour

3. ✘ Predictable behaviour

4. ✘ Stationary behaviour

Question Number : 144 Question Id : 630680267820 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In autocorrelation theory, autocorrelation refers to _____.

Options :

1. ✘ the correlation between two different variables in a time series

2. ✔ the correlation between consecutive observations in a time series

3. ✘ the correlation between two different time series
4. ✘ the correlation between a time series and an external factor

**Question Number : 145 Question Id : 630680267821 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 2 Wrong Marks : 0**

Autocorrelation is commonly used in which of the following applications?

Options :

1. ✔ Stock market prediction
2. ✘ Image recognition
3. ✘ Weather forecasting
4. ✘ Language translation

**Question Number : 146 Question Id : 630680267822 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 2 Wrong Marks : 0**

Read the following statements and select the correct option.

- A. Autoregressive processes are commonly used in image recognition tasks.
- B. Autoregressive processes are suitable for modelling time series data with random fluctuations.

Options :

1. ✘ Only statement A is true

2. ✓ Only statement B is true
3. ✘ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 147 Question Id : 630680267823 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 2 Wrong Marks : 0**

Read the following statements and select the correct option.

- A. In a linear trend, the relationship between the independent variable and the dependent variable can be described by a straight line.
- B. In a non-linear trend, the relationship between the independent variable and the dependent variable cannot be described by a straight line.

Options :

1. ✘ Only statement A is true
2. ✘ Only statement B is true
3. ✓ Both statements A and B are true
4. ✘ Neither statement A nor B is true

**Question Number : 148 Question Id : 630680267824 Is Question Mandatory : No Calculator :
None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 2 Wrong Marks : 0**

Read the following statements and select the correct option.

- A. ANOVA is used to compare means across two or more groups
- B. ANOVA is applicable only when the data follow a normal distribution
- C. MANOVA can be used to assess the differences in group means while controlling for the effects of covariates

Options :

- 1. ✘ Only statement A is true
- 2. ✘ Only statements A and B are true
- 3. ✘ Only statements B and C are true
- 4. ✔ Only statements A and C are true

Question Number : 149 Question Id : 630680267825 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Select the correctly paired terms related to time series analysis and their respective descriptions from among the following.

- A. Trend : Long-term pattern or direction in the data
- B. Seasonality : Regular and predictable pattern that repeats at fixed intervals
- C. Stationarity : Average value
- D. Autocorrelation : Relationship between a variable and its lagged values in the same time series

Options :

- 1. ✘ Only A and B
- 2. ✘ Only B and C

3. ✘ Only A, B and C

4. ✔ Only A, B and D

Question Number : 150 Question Id : 630680267826 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Arrange the following time series component from larger (more prominent) to smaller (less dominant) order.

A. Seasonal component

B. Cyclical component

C. Trend component

D. Irregular component

Options :

1. ✘ A, D, C, B

2. ✔ C, A, B, D

3. ✘ A, B, C, D

4. ✘ D, B, A, C