Q.1) Consider the following statements with reference to the structure of the atmosphere:

1. The air temperature increases with height in the mesosphere.
2. Radio waves get reflected back to the earth in the mesosphere.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

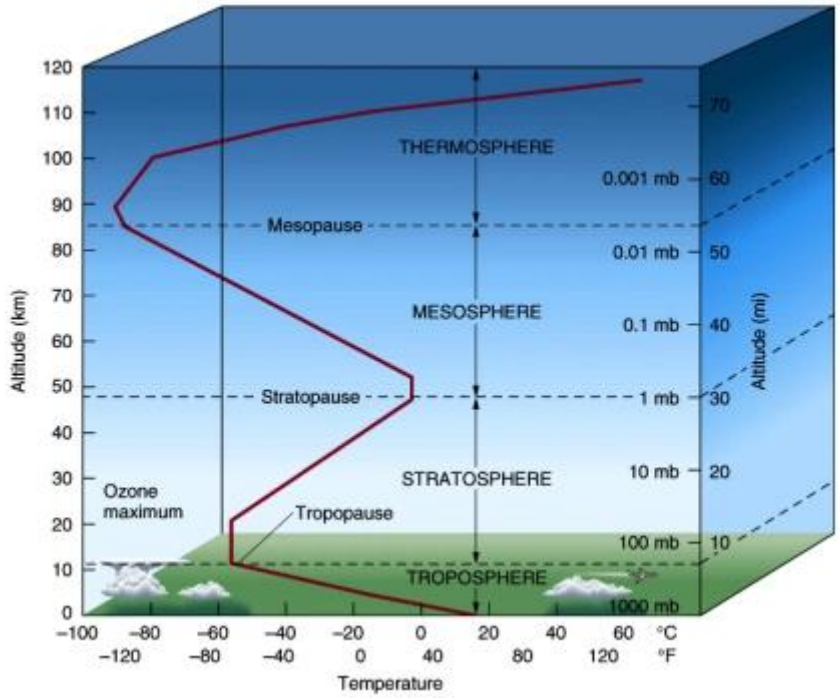
Q.1) Solution (d)

Basic Information:

Structure of the Atmosphere:

The atmosphere can be divided into five layers according to the diversity of temperature and density.

1. Troposphere
2. Stratosphere
3. Mesosphere
4. Thermosphere (Ionosphere)
5. Exosphere.



Troposphere:

- It is the lowermost layer of the atmosphere.
- The height of this layer is about 18 km on the equator and 8 km on the poles.
- The thickness of the troposphere is greatest at the equator because heat is transported to great heights by strong convection currents.
- Troposphere contains dust particles and water vapour.
- All kinds of weather changes take place only in this layer.
- The environmental temperature decreases with increasing height of the atmosphere. It decreases at the rate of 1 degree Celsius for every 165 m of height. This is called Normal Lapse Rate.
- The zone separating the troposphere from the stratosphere is known as tropopause.
- The air temperature at the tropopause is about – 80 degree Celsius over the equator and about – 45 degree Celsius over the poles. The temperature here is nearly constant, and hence, it is called tropopause.

Stratosphere:

- It extends up to a height of 50 km.
- The temperature remains almost the same in the lower part of this layer up to the height of 20 km. After this, the temperature increases slowly with the increase in the height. The temperature increases due to the presence of ozone gas in the upper part of this layer.
- The air blows horizontally here. Therefore this layer is considered ideal for flying aircraft.
- The upper limit of the stratosphere is known as stratopause.

Mesosphere:

- It extends up to a height of 80 km.
- In this layer, the temperature starts decreasing with increasing altitude and reaches up to – 100 degree Celsius at the height of 80 km.
- Meteors or falling stars occur in this layer.
- The upper limit of the mesosphere is known as mesopause.

Thermosphere:

- This layer is located between 80 and 400 km above the mesopause.

- It contains electrically charged particles known as ions, and hence, it is known as the ionosphere.
- Radio waves transmitted from the earth are reflected back to the earth by this layer and due to this, radio broadcasting has become possible.
- The temperature here starts increasing with heights.

Exosphere:

- The exosphere is the uppermost layer of the atmosphere.
- Gases are very sparse in this sphere due to the lack of gravitational force. Therefore, the density of air is very less here.

Statement Analysis:

Statement 1	Statement 2
Incorrect	**Incorrect**
In the mesosphere, temperature decreases with increasing height.	Radio waves are reflected back to earth in the Ionosphere which is a part of Thermosphere.

Q.2) Which of the following is the reason for jets to fly in the stratosphere?

a) Ozone present in the stratosphere can be used as fuel in jets.

b) Stability of the stratosphere.

c) The minus degree temperature in the troposphere makes it impossible for jets to fly.

d) In stratosphere jets go undetected due to density variations.

Q.2) Solution (b)

Explanation:

Commercial jet aircraft fly in the lower stratosphere to avoid the turbulence which is common in the troposphere below. The stratosphere is very dry. Air here contains little water vapour. Because of this, few clouds are found in this layer. Almost all clouds occur in the lower, more humid troposphere. Hence, the stratosphere is relatively stable.

Q.3) With respect to the dust particles found in the atmosphere, consider the following statements.

1. Higher concentration of dust particles are found in subtropical and temperate regions.
2. Dust particles are found only in the lower stratosphere.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.3) Solution (a)

Basic Information:

- Small solid particles like sea salts, fine soil, smoke-soot, ash, pollen etc constitute the dust particles in the atmosphere.
- Dust particles act as hygroscopic nuclei around which water vapour condenses to produce clouds.

Statement Analysis:

Statement 1	Statement 2
Correct	**Incorrect**
The higher concentration of dust particles is found in the sub-tropical and temperate regions due to the dry winds in comparison to the equatorial and polar regions.	Usually, dust particles are found in the lower atmosphere. But sometimes the conventional currents carry them to higher levels.

Q.4) Consider the following statements.

1. The insolation received by the earth is in long wave forms and the earth radiates energy to the atmosphere in the short wave form.
2. 'Loo' in northern India is the result of an advection process.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.4) Solution (b)

Basic Information:

Insolation:

1. The energy received by the earth is known as incoming solar radiation or 'Insolation'.
2. Insolation is determined by various factors like

- The rotation of earth on its axis.
- The angle of inclination of the Sun's rays.
- The length of the day.
- The transparency of the atmosphere.
- The configuration of the land in terms of its aspects.

3. The first three factors have a larger influence than the last two.

Advection:

There are different ways of heating and cooling of the atmosphere.

Conduction: It takes place when two bodies of unequal temperature are in contact with one another. Heat transfer takes place from warmer body to cooler body.

Convection: The process of vertical heating of the atmosphere is known as convection. The air in contact with the earth rises vertically on heating in the form of currents and further transmits the heat to the atmosphere by convection.

Advection: The transfer of heat through horizontal movement of the air is called advection. In middle latitudes most of the diurnal (day and night) variation in daily weather are caused by advection alone.

Statement Analysis:

Statement 1	Statement 2

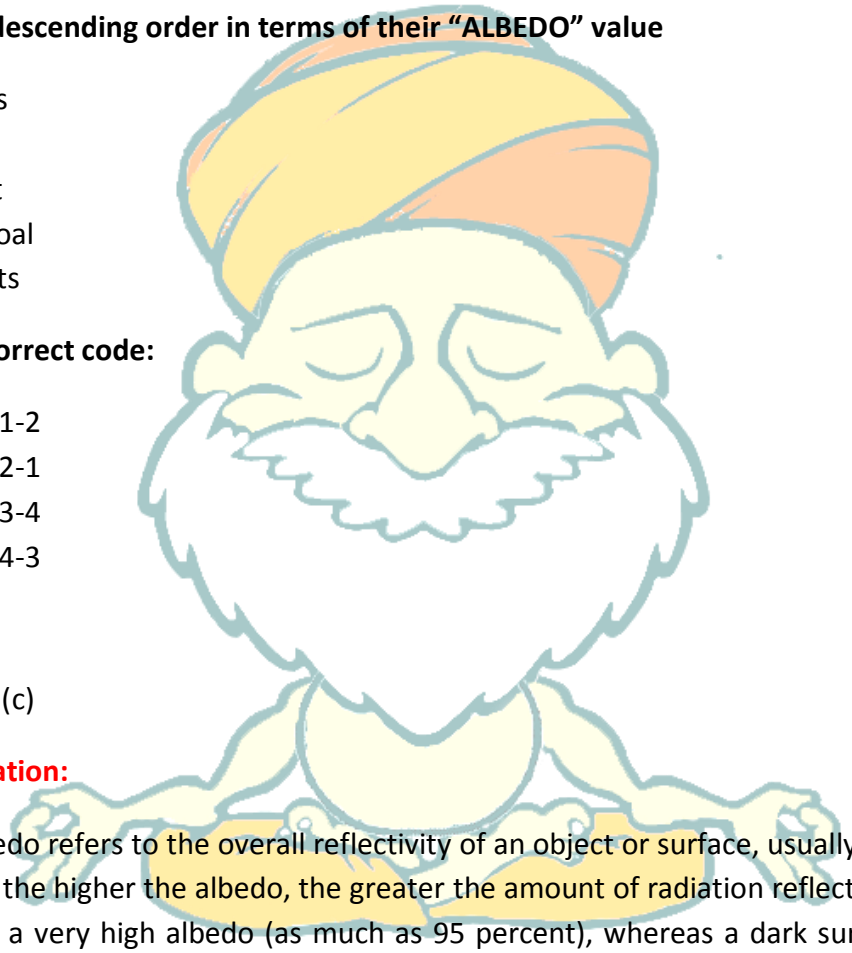
Incorrect	Correct
Earth receives heat from the Sun in the form of short wave radiations. It emits the terrestrial radiations in the form of long wave radiations.	In Tropical regions particularly in Northern India during summer, local winds called 'loo' are the result of an advection process.

Q.5) 'Albedo' refers to the overall reflectivity of an object or surface. Arrange the following in descending order in terms of their "ALBEDO" value

1. Clouds
2. Snow
3. Forest
4. Charcoal
5. Deserts

Choose the correct code:

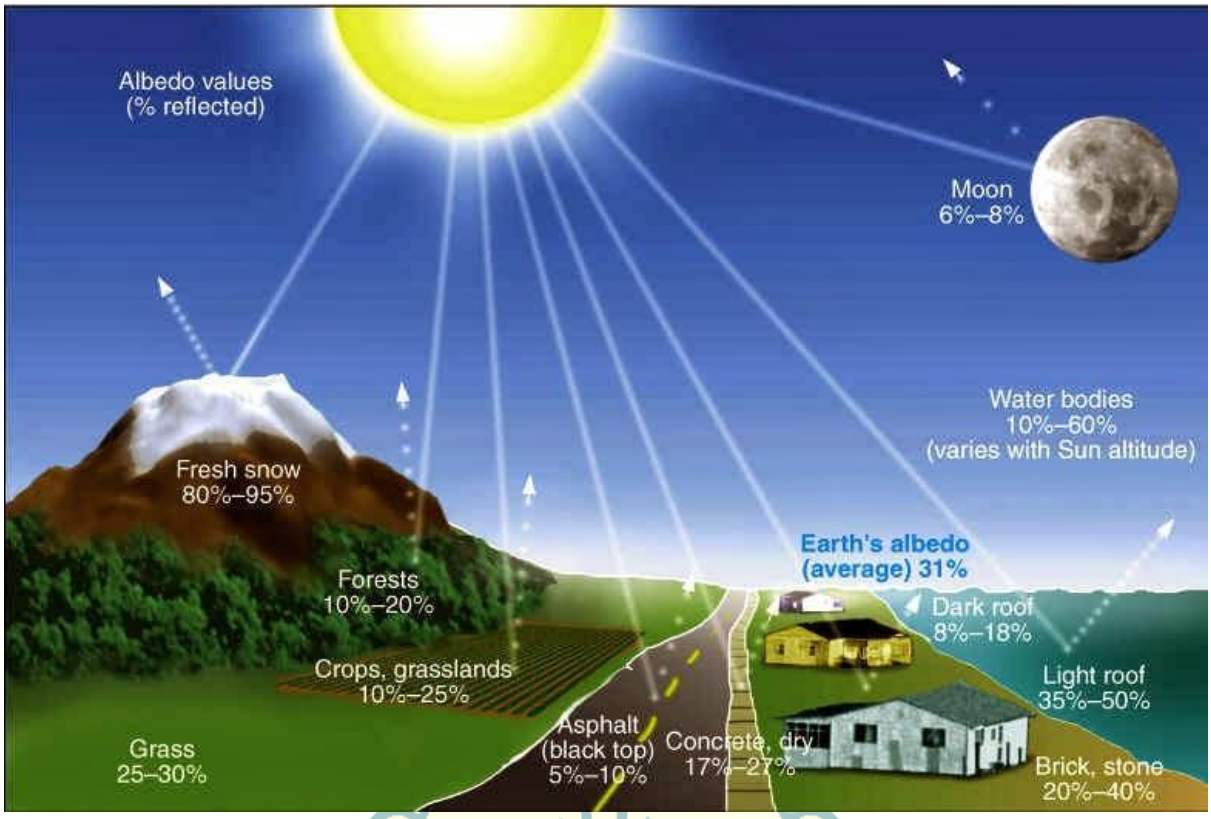
a) 4-3-5-1-2
b) 4-3-5-2-1
c) 2-1-5-3-4
d) 2-1-5-4-3



Q.5) Solution (c)

Basic Information:

The term albedo refers to the overall reflectivity of an object or surface, usually described as a percentage the higher the albedo, the greater the amount of radiation reflected. Snow, for example, has a very high albedo (as much as 95 percent), whereas a dark surface, such as dense forest cover, can have an albedo as low as 14 percent.



Q.6) With respect to the Coriolis Force, consider the following statements.

1. Coriolis force is maximum at the equator and minimum at the poles.
2. The speed of an object increases due to the coriolis force effect.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.6) Solution (d)

Basic Information:

Coriolis effect: It is a deflecting force experienced due to rotation of earth. Because of coriolis the air appears to turn towards its right in the northern hemisphere and towards its left in the southern hemisphere. The coriolis always acts in the perpendicular direction of the motion of air. It is zero at the equator and increases towards the poles.

The following are four basic points to remember about the Coriolis effect:

1. Regardless of the initial direction of motion, any freely moving object appears to deflect to the right in the Northern Hemisphere and to the left in the Southern Hemisphere.
2. The apparent deflection is strongest at the poles and decreases progressively toward the equator, where the deflection is zero.
3. The Coriolis effect is proportional to the speed of the object, and so a fast-moving object is deflected more than a slower one.
4. The Coriolis effect influences direction of movement only; it does not change the speed of an object.

Statement Analysis:

Statement 1	Statement 2
Incorrect	**Incorrect**
Coriolis force effect is minimum at equator and increases towards the pole	Coriolis affects only the direction of movement of an object but not its speed.

Q.7) What does the term 'Geostrophic Wind" refers to?

a) It is the wind blowing parallel to the isobar due to the balance between the pressure gradient force and the coriolis force.

b) It is the wind blowing perpendicular to the isobars due to the balance between the pressure gradient force and the coriolis force.

c) It is the wind blowing in higher altitudes of the equator.

d) It is the wind blowing in the higher altitudes of the sub-tropical regions.

Q.7) Solution (a)

Basic Information:

- The geostrophic wind is the theoretical wind that would result from an exact balance between the Coriolis force and the pressure gradient force.
- The winds in the upper atmosphere, 2 - 3 km above the surface, are free from the frictional effect of the surface and are controlled mainly by the pressure gradient and the Coriolis force. When isobars are straight and when there is no friction, the pressure gradient force is balanced by the Coriolis force and the resultant wind blows parallel to the isobar. This wind is known as the geostrophic wind.

Q.8) With respect to the local winds which among the following are correctly matched?

	Local Winds	Country/region
1.	Chinook	America
2.	Khamsin	Libya
3.	Foehn	Spain
4.	Loo	India

Choose the correct option.

a) 1 and 2
b) 1 and 3
c) 1 and 4
d) All of the above

8. Solution (c)

Basic Information:

List of local winds:

Local Wind	Country/Region
Chinook	America
Foehn	Switzerland
Loo	India
HArmattan	Sahara desert
Shamal	Mesopotamia
Norwester	New-Zealand
Khamsin	Egypt
Gibli	Libya
Chilli	Tunisia
Mistral	Spain and France
Bora	Adriatic sea

Blizzard	Canada

Q.9) Which of the following clouds are considered as high altitude clouds?

1. Cirrostratus
2. Altostratus
3. Cirrocumulus.
4. Stratocumulus
5. Cirrus.

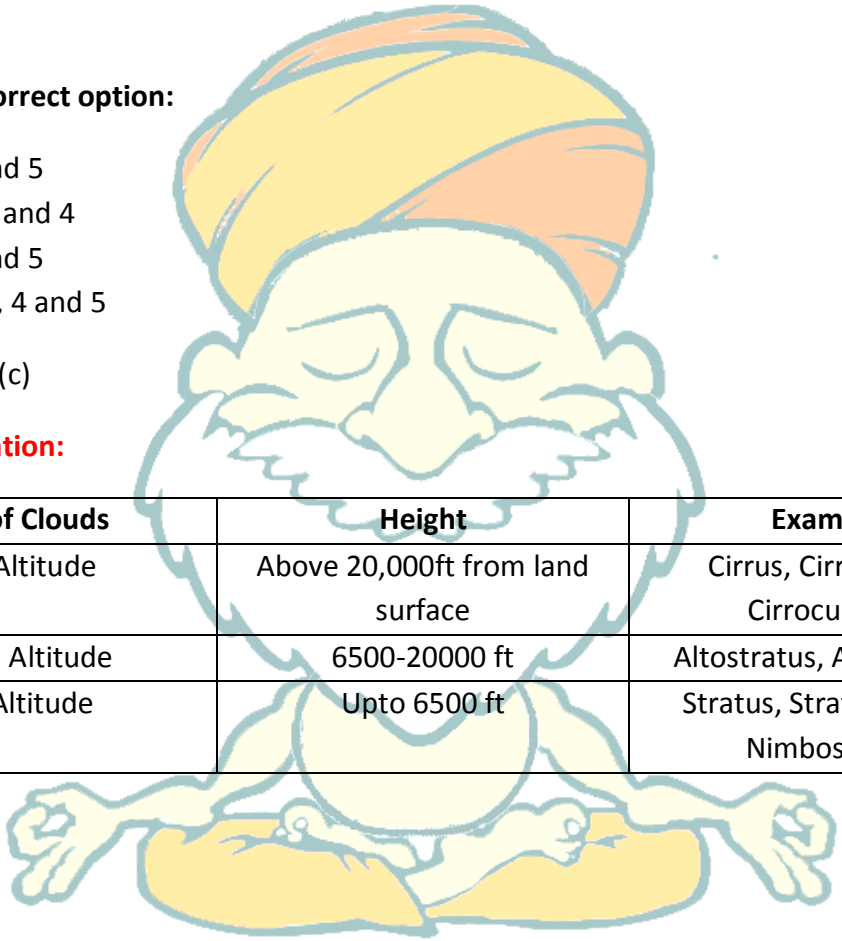
Choose the correct option:

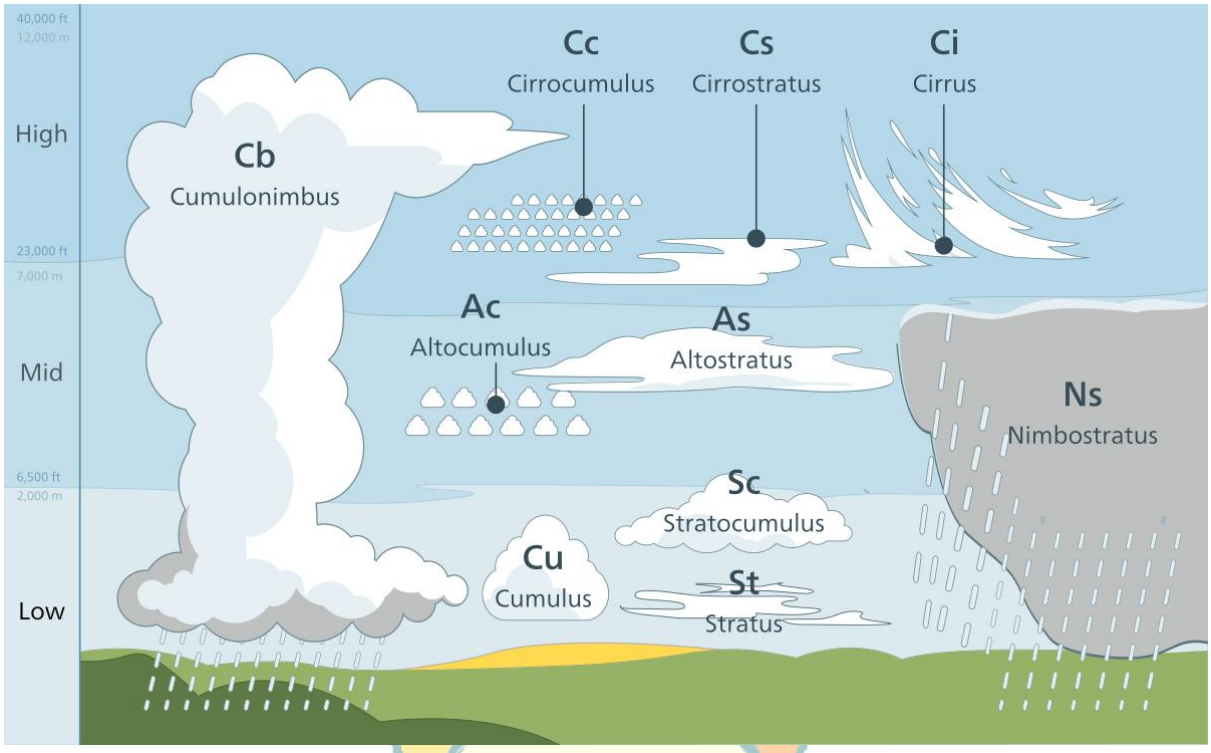
a) 1, 4 and 5
b) 1, 2, 3 and 4
c) 1, 3 and 5
d) 1, 2, 3, 4 and 5

Q.9) Solution (c)

Basic Information:

Type of Clouds	Height	Examples
High Altitude	Above 20,000ft from land surface	Cirrus, Cirrostratus, Cirrocumulus
Middle Altitude	6500-20000 ft	Altostratus, Altocumulus
Low Altitude	Upto 6500 ft	Stratus, Stratocumulus, Nimbostratus





Q.10) With respect to the extra-tropical cyclones and tropical cyclones, consider the following statements.

1. The extra tropical cyclones move from west to east but the tropical cyclones move from east to west.
2. The extra tropical cyclones form over both land and sea whereas tropical cyclones form only over sea.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.10) Solution (c)

Basic Information:

- The systems developing in the mid and high latitudes beyond tropics are called the extra tropical cyclones.
- Tropical cyclones are violent storms that originate over oceans in tropical areas and move over to the coastal areas.

- Major differences between the extra tropical cyclone and the tropical cyclone include
    1. The extra tropical cyclones have a clear frontal system which is not present in the tropical cyclones.
    2. The extra tropical cyclones cover a large area and can originate over the land and sea. Whereas the tropical cyclones originate only over the seas and on reaching the land they dissipate.
    3. The extra tropical cyclones move from west to east but tropical cyclones move from east to west.

Statement Analysis:

Statement 1	Statement 2
Correct	**Correct**
Extratropical cyclones move from west to east and tropical cyclones from east to west.	Tropical cyclones form over seas only while extra tropical cyclones can originate both over land and sea.

Q.11) Consider the following conditions.

1. Their climate has a concentration of rainfall in winter with onshore westerlies.
2. They have bright sunny weather with hot dry summers and wet mild winters.
3. Their climate assists orchard farming.

Which type of climate is described above?

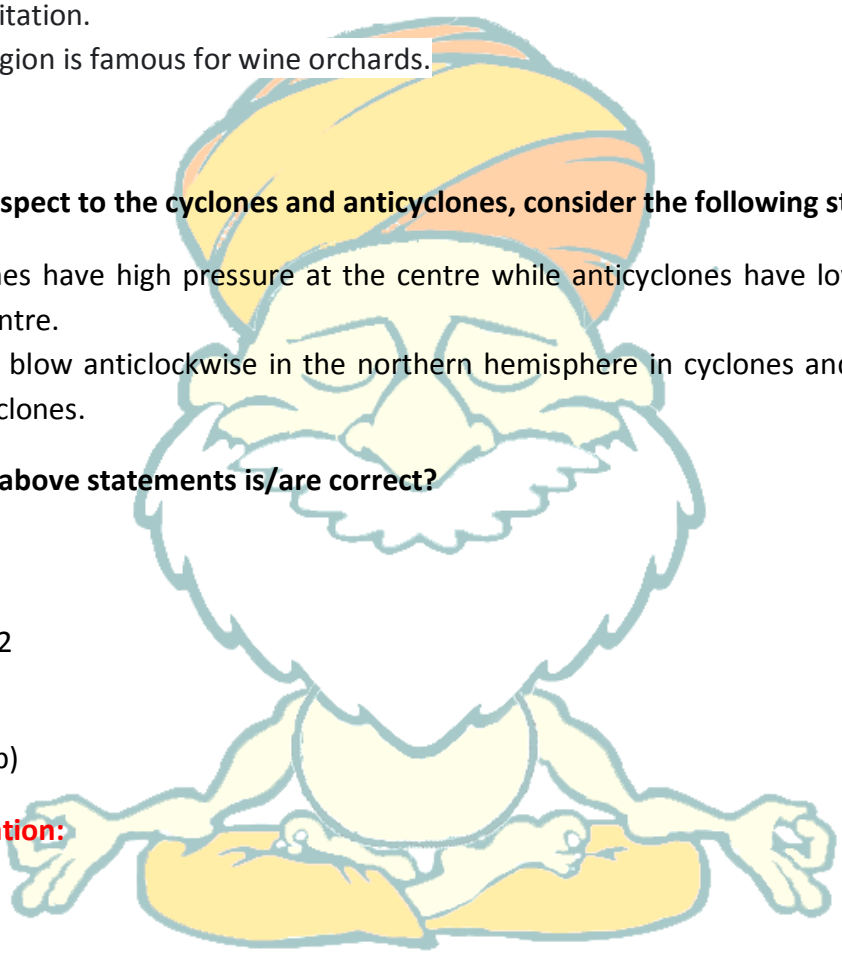
a) Steppe climate.
b) Sudan climate.
c) Laurentian climate
d) Mediterranean climate.

Q.11) Solution (d)

Basic Information:

- Mediterranean climate is a very pleasant climate with warm, dry summers and cool, mild winters.
- Mediterranean climate is found between the 30 degrees and 45 degree latitudes. This climate is often found on the western sides of continents.

- The majority of the regions with Mediterranean climates have relatively mild winters and very warm summers. However winter and summer temperatures can vary greatly between different regions with a Mediterranean climate.
- During summer, regions of Mediterranean climate are strongly influenced by the subtropical ridge which keeps atmospheric conditions very dry with minimal cloud coverage.
- In winter, the subtropical ridge migrates towards the equator, making rainfall much more likely. As a result, areas with this climate receive almost all of their precipitation during their winter and spring seasons, and may go anywhere from 3 to 6 months during the summer and early fall without having any significant precipitation.
- The region is famous for wine orchards.



Q.12) With respect to the cyclones and anticyclones, consider the following statements.

1. Cyclones have high pressure at the centre while anticyclones have low pressure at the centre.
2. Winds blow anticlockwise in the northern hemisphere in cyclones and clockwise in anticyclones.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) None

12. Solution (b)

Basic Information:

Cyclones:

- Cyclones are violent storms that originate over oceans in tropical areas and move over to the coastal areas. Cyclones are areas of low pressure.
- In Cyclones, air moves from areas of high pressure to low pressure that produce a convergence at the surface. This converging air is forced upwards into the atmosphere, creating a divergence aloft. As warm, moist air is sucked into the low and forced aloft, it produces an unstable atmosphere. This warm, moist air cools, condenses and forms storm clouds.

Anti-cyclones:

- Anticyclones are areas of high pressure. In anticyclones, the sinking air spreads out when it reaches the ground producing a divergence at the surface. Aloft, air rushes in to fill the void, creating a convergence aloft.
- Anticyclones produce a stable atmosphere.
- Anticyclones, or highs, are also referred to as blocking highs because they tend to force areas of low pressure to travel around them.

Statement Analysis:

Statement 1	Statement 2
Incorrect	**Correct**
The major difference between the cyclones and anticyclones is that the cyclones are low pressure systems. WInds blow from outside towards inside i.e, from high pressure outside to low pressure at the centre. While this is opposite in the anticyclones.	Winds blow anti-clockwise in the Northern hemisphere and clockwise in the southern hemisphere in cyclones due to coriolis force. While in anticyclones winds blow clockwise in the northern hemisphere and anti-clockwise in southern hemisphere.

Q.13) With respect to the westerlies, consider the following statements.

1. They are much stronger in the Northern hemisphere than in the southern hemisphere.
2. They bring much precipitation to the western coasts of the continents.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.13) Solution (b)

Basic Information:

Westerlies:

- The westerlies are the winds blowing from the sub-tropical high pressure belts towards the sub polar low pressure belts.

- They blow from south-west to north-east in the northern hemisphere and north-west to south-east in the southern hemisphere.
- The westerlies are best developed between 40 degree South and 60 degree South latitudes. These latitudes are often called Roaring Forties, Furious Fifties, and Shrieking or stormy Sixties.
- The poleward boundary of the westerlies is highly fluctuating. There are many seasonal and short-term fluctuations. These winds produce wet spells and variability in weather.

Statement Analysis:

Statement 1	Statement 2
Incorrect	**Correct**
The westerlies of the southern hemisphere are stronger and persistent due to the vast expanse of water, while those of the northern hemisphere are irregular because of uneven relief of vast land-masses.	Since they blow from southwest to North-east in the Northern hemisphere and north-west to south east in the southern hemisphere, they bring much precipitation to the western coasts. The eastern coasts remain dry since winds are offshore.

Q.14) Consider the following statements with respect to tornados

1. Tornadoes are the manifestations of the atmosphere's adjustment to varying energy distribution.
2. Tornadoes only occur in the equatorial regions due to convectional rains.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.14) Solution (a)

Basic Information:

- Tornadoes are vertical funnels of rapidly spinning air.

- Their winds may top 250 miles an hour and can clear a pathway a mile wide and 50 miles long.
- Tornadoes are born in thunderstorms and are often accompanied by hail.
- Thunderstorms are caused by intense convection on moist hot days. A thunderstorm is a well-grown cumulonimbus cloud producing thunder and lightning.

Statement Analysis:

Statement 1	Statement 2
Correct	**Incorrect**
The severe storms like thunderstorms and tornadoes are manifestations of the natures adjustment to energy distributions.	Tornadoes can occur anywhere in the world. But they are usually found in the middle latitudes.

Q.15) Consider the following statements with respect to Climates of the world.

1. In the tropical climates, the mean monthly temperature throughout the year is over 18 degree centigrade.
2. In the warm temperate climates, the mean temperature of the coldest month is between 18 degree centigrade to minus 3 degree centigrade.

Choose the correct option:

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.15) Solution (c)

Basic Information:

The Various features of the climate of the world include.

- Tropical climates, where the mean monthly temperature throughout the year is over 18°C.
- Dry climates, where precipitation is very low in comparison to temperature, and hence, dry. If dryness is less, it is semi- arid (S); if it is more, the climate is arid(W).
- Warm temperate climates, where the mean temperature of the coldest month is between 18°C and minus 3°C.

- Cool temperate climates, where the mean temperature of the warmest month is over 10°C, and the mean temperature of the coldest month is under minus 3°C.
- Ice climates/Cold Climates, where the mean temperature of the warmest month is under 10°C.

Statement Analysis:

Statement 1	Statement 2
Correct	**Correct**
Mean Monthly temperature in tropical areas is above 18 degree centigrade throughout the year.	The coldest month in the warm temperate climate have temperatures between 18 degree and minus 3 degree centigrades.

Q.16) What does the term 'Water Spouts' in meteorology refer to?

a) Tornadoes over the land surfaces.

b) Tornadoes over the sea surfaces.

c) Tornadoes over the tropical regions.

d) Tornadoes over the temperate regions.

Q.16) Solution (b)

Explanation:

- Tornadoes are vertical funnels of rapidly spinning air.
- Their winds may top 250 miles an hour and can clear a pathway a mile wide and 50 miles long.
- Tornadoes are born in thunderstorms and are often accompanied by hail.
- Tornadoes over the sea surfaces are called "Water Spouts".

Q.17) Higher temperature is experienced in the sub-tropical areas than the equatorial areas due to which of the following reasons?

a) Sub-tropics have high pressure.

b) Sub-tropics experience more influence of warm ocean currents than the equatorial regions.
c) Sub-tropical areas have less cloud cover than the equatorial regions.
d) Sub-tropics have more off-shore winds than the equatorial regions.

Q.17) Solution (c)

Explanation:

Equatorial areas have rainfall almost everyday. The cloud cover is more in these regions. But the subtropical areas have lesser cloud cover and lesser rainfall than the equatorial areas. Hence the temperature is higher in subtropics than the equatorial regions.

Q. 18) Stratocumulus clouds are responsible for many meteorological events. Consider the following statements with respect to the stratocumulus clouds.

1. Stratocumulus clouds keep the oceans warm during the night time.
2. Stratocumulus clouds are usually formed due to the evaporation of the sea water.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

Q.18) Solution (c)

Basic Information:

- Stratocumulus clouds are low-level clumps or patches of cloud varying in colour from bright white to dark grey.
- They are the most common clouds on earth recognised by their well-defined bases, with some parts often darker than others.
- Marine stratocumulus clouds cover about 20 percent of the earth's surface and reflect about 30 percent of the sun's radiation.

Statement Analysis:

Statement 1	Statement 2

Correct	Correct
Clouds deflect the radiation of the earth back into the earth. Hence, the oceans below the vast expanse of stratocumulus clouds remain warm during night time.	They are usually found above the sea surfaces and formed due to the evaporation of the sea water.

Q.19) Consider the following statements with respect to the location of the hot deserts.

1. Hot deserts are the results of the offshore trade winds in the western margin of the continents.
2. Majority of the hot deserts are formed between 15 and 30 degree latitudes in both the hemispheres.

Which of the above statements is/are correct?

a) 1 only
b) 2 only
c) 1 and 2
d) Neither 1 nor 2

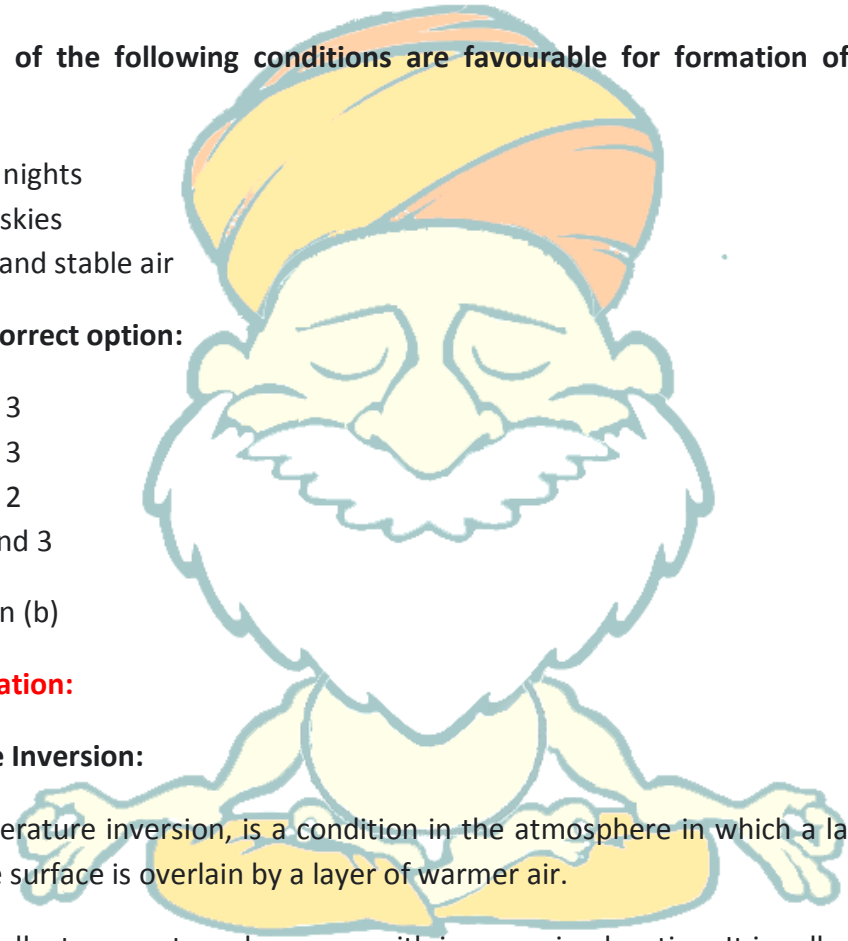
Q.19) Solution (c)

Basic Information:

- Hot deserts are hot arid areas with little rainfall, extreme temperature and sparse vegetation.
- Generally, the deserts that are found in the tropical and subtropical regions between the 15 degrees and 30 degrees north and south of the equator are hot deserts.
- The annual rainfall in a hot desert is less than 250 mm that makes them very dry.
- Most of the hot deserts tend to lose water continuously as they are located on the path of trade winds. Their aridity is mainly due to the off-shore trade winds, so they are also known as Trade Wind Deserts.
- They are also devoid of cover of clouds due to the strong winds.
- The maximum temperature in a hot desert generally remains over 40 degree centigrade.

Statement Analysis:

Statement 1	Statement 2
Correct	**Correct**
Most of the hot deserts are located below the subtropical high pressure belts between 15 degree and 30 degree latitudes in both the hemispheres.	Hot deserts are created in the western margins of the continents where the trade winds are offshore. Hence they receive little rainfall.



Q.20) Which of the following conditions are favourable for formation of temperature inversion?

1. Short nights
2. Clear skies
3. Calm and stable air

Choose the correct option:

a) 1 and 3
b) 2 and 3
c) 1 and 2
d) 1, 2 and 3

Q.20) Solution (b)

Basic Information:

Temperature Inversion:

- Temperature inversion, is a condition in the atmosphere in which a layer of cool air at the surface is overlain by a layer of warmer air.
- Normally, temperature decreases with increase in elevation. It is called normal lapse rate. At times, the situation is reversed and the normal lapse rate is inverted resulting in the Inversion of temperature.
- Inversion is usually of short duration.
- A long winter night with clear skies and still air is an ideal situation for inversion.

Q.21) Consider the following statements about Eight Core Industries:

1. These are main industries which has a multiplier effect on the economy.
2. These industries comprise of more than 50% of the weight of items included in Index of Industrial Production (IIP).
3. Among these industries, refinery products have highest weightage in IIP Index.

Which of the statements given above is/are correct?

a) 1 and 2 only
b) 1 only
c) 2 and 3 only
d) 1 and 3 only

Q.21) Solution (d)

Statement 1	**Statement 2**	**Statement 3**
Correct	**Incorrect**	**Correct**
Core industry can be defined as the main industry which has a multiplier effect on the economy.	**Eight Core Industries comprise 40.27% of the weight** of items included in the Index of Industrial Production (IIP).	The 8 Core Industries in decreasing order of their weightage: **Refinery Products > Electricity > Steel > Coal > Crude Oil > Natural Gas > Cement > Fertilizers.**

Q.22) In which of the following states, Govind Wildlife Sanctuary is located?

a) Madhya Pradesh
b) West Bengal
c) Assam
d) Uttarakhand

Q.22) Solution (d)

- **Govind Pashu Vihar National Park and Wildlife Sanctuary** is located in Uttarakhand.
- The park lies in the higher reaches of the Garhwal Himalayas.
- The **Snow Leopard Project** started by the Government of India is being managed at this sanctuary.

Q.23) With reference to Non-Aligned-Movement (NAM), consider the following statements:

1. It was founded in the Asia-Africa Conference held in Bandung, Indonesia in 1955.
2. Its recent Summit was held in Venezuela.

Which of the statements given above is/are incorrect?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.23) Solution (c)

Statement 1	**Statement 2**
Incorrect	**Incorrect**
The Movement has its origin in the Asia-Africa Conference held in Bandung, Indonesia in 1955. "Ten Principles of Bandung", were proclaimed at that Conference was guiding principles of NAM. Six years after Bandung, the Movement of Non-Aligned Countries was **founded at the First Summit Conference of Belgrade**, which was held on September 1-6, **1961** under the leadership of India, Yugoslavia, Egypt, Ghana, and Indonesia.	Vice President of India attended the **18th NAM Summit in 2019 held in Baku, Azerbaijan.** NAM has 120 members comprising 53 countries from Africa, 39 from Asia, 26 from Latin America and the Caribbean and 2 from Europe (Belarus, Azerbaijan). There are 17 countries and 10 international organizations that are Observers at NAM.

Q.24) Recently seen in news, MOSAiC Mission is an international research expedition to study

a) Outermost part of the Sun's Atmosphere
b) Arctic Climate
c) Submarine Hydrothermal Vents
d) Potentially Habitable Exoplanets

Q.24) Solution (b)

- **MOSAiC (The Multidisciplinary Drifting Observatory for the Study of Arctic Climate)** is an international research expedition to study the physical, chemical, and biological processes that coupled the Arctic atmosphere, sea ice, ocean, and ecosystem.
- It is the largest ever Arctic expedition in history.

- MOSAiC is the first year-round expedition into the central Arctic exploring the Arctic climate system.
- Project has been designed by an international consortium of leading polar research institutions, under the umbrella of the International Arctic Science Committee (IASC).

Q.25) Section 124A of IPC (Indian Penal Code) often seen in news lays down punishment for

a) Defamation
b) Election offences
c) Sedition
d) Blasphemy

Q.25) Solution (c)

- The Indian Penal Code defines **sedition** (**Section 124A**) as an offence committed when "any person by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards the government established by law in India"
- The word 'disaffection' in this section includes disloyalty and feelings of enmity.
- Sedition is a non-bailable offence. Punishment under the Section 124A ranges from imprisonment up to three years to a life term, to which fine may be added.

Q.26) Which of the following statement is/are correct regarding GOAL (Going Online as Leaders) Programme?

1. It is a digital skill training programme for women members of local governing bodies.
2. It is a joint initiative of Ministry of Panchayat Raj and Ministry of Electronics and Information Technology.

Select the correct answer using the code given below:

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.26) Solution (d)

Statement 1	Statement 2
Incorrect	**Incorrect**
GOAL - Going Online as Leaders is **a Digital Skill Training Programme for Tribal Women.** The program is aimed at closing the digital gender gap by enabling more women to get online and access digital services. The program will include weekly one-to-one mentoring sessions, focused on a range of skills such as digital literacy, entrepreneurship and online safety. Facebook Messenger and WhatsApp will be part of the training.	**Ministry of Tribal Affairs along with Niti Aayog and Facebook are running GOAL.** Launched in March 2019, GOAL connects underprivileged young tribal women with senior expert mentors in the areas of business, fashion and arts to learn digital and life skills.

Q.27) World Economic Outlook Report is released by which of the following?

a) World Bank
b) World Economic Forum (WEF)
c) International Monetary Fund (IMF)
d) None of the above

Q.27) Solution (c)

- **World Economic Outlook (WEO) 2019** is released by the **International Monetary Fund (IMF).**
- It is published twice a year.
- The global economy is projected to grow at 3 percent in 2019 and 3.5 percent in 2020.

Q.28) Consider the following statements about Guru Ravidas:

1. He was a Dalit-poet saint from the Bhakti movement era.
2. He was a Saguna saint.
3. Muktabai was a disciple of Guru Ravidas.

Which of the statements given above is/are correct?

a) 1 only
b) 1 and 3 only
c) 1 and 2 only
d) 2 and 3 only

Q.28) Solution (a)

Statement 1	Statement 2	Statement 3
Correct	**Incorrect**	**Incorrect**
Guru Ravidas was a Dalit-poet saint from the Bhakti movement era in northern India during the 15th to 16th Century. He belonged to a community whose profession involved processing dead animals and their skins.	The 41 hymns of Guru Ravidas have been included in the Guru Granth Sahib. The famous saint poetess, **Mirabai was a disciple of Guru Ravidas.** Muktabai or Mukta was a saint in the Varkari tradition in 13th centuary.	He emphasized on universal brotherhood and tolerance. **He abandoned Saguna** (with attributes, image) forms of supreme beings, and **focussed on the Nirguna** (without attributes, abstract) form of worship.

Q.29) Recently seen in news, Cape Town Agreement is related with which of the following?

a) Safety of fishing vessels
b) Wreck removal and Ship recycling
c) Marine plastic removal
d) Oil spills prevention measures

Q.29) Solution (a)

- The **Cape Town Agreement** was adopted by the International Maritime Organization (IMO) in 2012 to help combat illegal, unregulated and unreported (IUU) fishing.
- The agreement is **aimed at facilitating better control of fishing vessel safety by flag, port and coastal states.**
- India is yet to ratify the Cape Town Agreement for safety of fishing vessels.

Q.30) In which of the following emerging computer technologies the data is analysed locally, closer to where it is stored, in real-time without latency, rather than sending it far away to a centralised data centre?

a) Cloud Computing
b) Cluster Computing
c) Edge Computing
d) Quantum Computing

Q.30) Solution (c)

- **Edge computing** enables data to be analysed, processed, and transferred at the edge of a network. Meaning, the data is analysed locally, closer to where it is stored, in real-time without latency.
- The basic difference between edge computing and cloud computing lies in where the data processing takes place i.e. cloud computing means storing and accessing data and programs over the Internet instead of computer's hard drive.
- Edge computing, on the other hand, manages the massive amounts of data generated by Internet of Things (IoT) devices by storing and processing data locally.