Question Bank of Climate Change

Q1/ Explain (5) of the following:

1. Changing the biosphere.
2. Ways for individuals to reduce their carbon footprint.
3. Effects of UVB on marine ecosystems.
4. Extremophiles.
5. Climate change is affecting the chemistry of seawater.
6. Relates solar radiation with global warming.

Q2/ Choose the best answer for each of the following:

1. The sector that generates the largest share of greenhouse gas emissions:
   Agriculture Industry Transportation Land use
2. CO_2 is the greenhouse gas which traps:
   UVB IR RW UVA
3. Svante Arrhenius noticed which gas that was especially good at trapping heat radiation?
   CFC CO_2 N_2O CH_4
4. Defines climate change as a broad range of global phenomena created by burning fossil fuels.
   UNCCD NASA IPCC US EPA
5. It is a terrestrial biome:
   Coral reef Estuaries Taiga Marshes

Q3/ Fill the following blanks with suitable word(s):

1. Modern climate classification methods can broadly divided into: ---------- and ---------- .
2. Ozone layer depletion causes ---------- and ---------- in human.
3. Global shifts in temperature and the frequency of extreme weather events has impacted plant and animal populations that resulting in ----------, ---------- and ---------- .
4. Causes of global warming are: ----------, ----------, ----------, ---------- and ---------- .
5. A description of a climate includes information on: ----------, ---------- and ---------- .
6. The major causes of land degradation include: ---------, ---------, ---------, --------- and ---------- .

Q4/ Define (5) of the following:

1. Solar cycle.
2. Nitrous oxide (N_2O).
3. Biosphere.
4. Peat bog.
5. Land degradation.
6. Ozone layer.

Q5/ Count the following:

1. Examples of soil degradation. (*5 marks*)
2. Health and environmental effects of ozone layer depletion. (*5 marks*)
3. Causes of global warming. (*5 marks*)

Q6/ Write true (T) or false (F) for the following statements:

1. The classical period used for describing a climate is 30 years.
2. The biosphere impacts the atmosphere because the biological pump stores vast amounts of O_2 in the oceans, decreasing atmospheric CO_2 levels.
3. Climate change poses a dual threat for sea levels: land-based polar ice melts and water warms.
4. Indirect changes on plants caused by UVB include secondary metabolism and changes in plant form.
5. CH_4 is over 300 times more harmful than carbon dioxide, so reducing output of this gas is particularly important.
6. Our orbital distance from the sun and unique atmosphere, gives Earth the right temperature to have water as a liquid.
7. A consequence of global warming is spreading of some diseases like mosquito-borne malaria.
8. The biosphere distinguishes Earth from other planets in the solar system.
9. Adding the volatile organic compounds (VOCs) to regional and global climate models will significantly improve the predictions of global climate change.
10. Global warming is the term used to describe a gradual increase in the overall temperature.
11. Digging up and burning of coal are disrupting the natural carbon dioxide cycle.
12. The story of climate change began with the discovery of the 'greenhouse effect' by Joseph Fourier in 1824.
13. The two most abundant gases in the atmosphere, nitrogen (comprising 87% of the dry atmosphere) and oxygen (comprising 21%), exert almost no greenhouse effect.
14. Greenhouse gas emissions from industry primarily come from burning fossil fuels for energy.
15. Overfishing and pollution threatened the lands to degrade.

Q7/ Talk about the following:

1. Land degradation.
2. Solar radiation and climate change hypotheses.
3. Effects of UVB on materials.
4. Higher temperatures are bad for fish - and for us.

Q8/ Differentiate between the following pairs:

1. Weather versus Climate.
2. Ozone creation versus ozone depletion.

Q9/ Give an example for each of the following:

1. Terrestrial biome.
2. A greenhouse gas sourced from arable farming methods.
3. Extremophiles.
4. Land degradation.
5. C_4 plant.

Q10/ How climate change have economic and socio-political effects?

Q11/ Graphically, distinguish between *natural* and *enhanced* greenhouse effect.

Q12/ How can you estimate climate sensitivity?