

2018
GEOGRAPHY
GGY-102
CLIMATOLOGY

Full Mark: 80

Time: 3 hours

The figures in the margin indicates full marks for the questions

- 1. Multiple choice questions (Answer all)** 1X 10=10
- i. The process by which water vapour converted to ice crystal is called ____
(a) Evaporation (b) Condensation
(c) Sublimation (d) conduction
 - ii. The additional pressure exerted by air due to presence of moisture in it is called ____
(a) Saturated air pressure (b) Air Pressure
(c) Low pressure cell (d) Vapour pressure
 - iii. The blue colour of the sky is due to the presence of ____
(a) Gases (b) Water Vapor (c) Particulate matters
(d) Smog
 - iv. Which of the following layer of atmosphere is known as life supporting layer?
(a) Troposphere (b) Lithosphere
(c) Ozonosphere (d) Stratosphere
 - v. Which of the following atmospheric gas is considered as causal factor of Ozone layer depletion?
(a) Nitrogen (b) Carbon-di-oxide
(c) Methane (d) Chloro-floro-carbon

- vi. The term perihelion means _____
 (a) Nearest distance between earth and sun (b) Highest distance between earth and sun (c) A Latitude (d) A Longitude
- vii. In an anticyclone the wind flow is _____ direction in southern hemisphere.
 (a) Clockwise (b) Anticlockwise
 (c) At the Centre (d) None of the above
- viii. Equatorial low pressure belt is also known as _____
 (a) Horse latitude (b) Belt of subsidence
 (c) Doldrum (d) Dynamic belt
- ix. Alto-cumulus clouds are _____
 (a) High clouds (b) Middle Clouds
 (c) Low Clouds (d) Crystal less cloud
- x. Who gave the thermodynamic theory of origin of monsoon wind?
 (a) E. Halley (b) E. Hadly
 (c) H. Fohn (d) None of the above

2. Answer in brief (any four)

2X4=8

- What is Coriolis Force?
- Write the factors which helps in air drainage phenomena in deep valley areas.
- What do you mean by inversion of temperature?
- What is meant by the term pressure gradient?
- What do you mean by line of discontinuity?
- What do you mean by relative humidity?

3. Answer in brief (any four)

5X4=20

- What do you mean by adiabatic and non-adiabatic process of cooling?
- Write the characteristics of tropical cyclone.
- What is the process by which earth's atmosphere is heated?
- Write the importance of tropospheric layer for human life.
- What are the factors controlling spatial variation of temperature?

- vi. Write three differences between cirro-cumulus cloud and cumulus cloud.

4. Answer in detail (any Two)

9x2=18

- What do you mean by heat budget and balance? Explain the process of heat balance maintained over the globe with the help of diagrammatic representation. 3+6=9
- What do you mean by global climate change? State how climate change can impact on biodiversity and human health. 3+6=9
- What do you mean by insolation? How different factors influence the insolation process? 2+7=9
- Explain with diagram the ice crystal theory of Bergeron. 9

5. Answer in Detail (Any two)

12x2=24

- Define the term climatology. Explain the field of climatology as a branch of atmospheric science. 2+10=12
- Explain the genesis of Monsoon with reference to Indian sub-continent? 6+6=12
- What is wind? What factors control the wind movement? Explain the chief characteristics of trade wind system. 2+5+5=12
- Define the term air mass. Mention the characteristics of an air mass which controls the weather condition of an area and also explain the process by which air mass got modified. 2+4+6=12
