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**M. Sc. (Second Semester)  
EXAMINATION, MAY-JUNE, 2022  
ENVIRONMENTAL SCIENCE  
Paper First  
(Meteorology Climatology)**

*Time : Three Hours]*

*[Maximum Marks : 80*

**Note: Attempt all sections as directed.**

**Section-A  
(Objective/Multiple Choice Questions)**

**(1 mark each)**

**Note : Attempt all questions. Choose the correct answer.**

1. Who is related with the classification of climate?
  - (A) De Condole
  - (B) Koppen
  - (C) Troll
  - (D) All of the above

2. Barometer is used to measure:
  - (A) Wind pressure
  - (B) Air Flow
  - (C) Rainfall
  - (D) Atmospheric Pressure
3. The medium range weather forecasting is applicable for
  - (A) 3-10 days
  - (B) 10-15 days
  - (C) 15-20 days
  - (D) 20-30 days
4. The word Monsoon origin from:
  - (A) Indian Origin
  - (B) Latin America
  - (C) Arabic
  - (D) Indo-Malayan
5. The date of onset of Monsoon in India is
  - (A) 1<sup>st</sup> June
  - (B) 1<sup>st</sup> July
  - (C) 1<sup>st</sup> August
  - (D) 15<sup>th</sup> July

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6. Which is a type of high cloud?
- (A) Alto
  - (B) Nimbus
  - (C) Cirrus
  - (D) Stratus
7. The parent organization of IMD is-
- (A) Ministry of Forest
  - (B) Ministry of Agriculture
  - (C) Ministry of Earth Science
  - (D) None of the above
8. Isobar represents
- (A) Equal Pressure
  - (B) Equal Rainfall
  - (C) Equal Temperature
  - (D) Equal humidity
9. Instrument 'Wind Vane' is used for
- (A) Wind speed
  - (B) Wind Pressure
  - (C) Wind Direction
  - (D) All of the above

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10. The mean pressure at sea level is
- (A) 1001.25
  - (B) 1013.25
  - (C) 1111.25
  - (D) 1310.25
11. The headquarter of the world meteorological organization is situated at-
- (A) Capetown
  - (B) Geneva
  - (C) Cordoba
  - (D) Trinidad
12. The meteorological day is celebrated on-
- (A) 20 March
  - (B) 21 March
  - (C) 22 March
  - (D) 23 March
13. A low pressure of the area indicates-
- (A) Low chance of Rain
  - (B) Higher Chance of Rain
  - (C) Medium Rain Chance
  - (D) No Rain

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14. The Indian summer Monsoon typically last from
- (A) July-September
  - (B) June-October
  - (C) July-August
  - (D) June-September
15. The red color warning of National Weather forecasting indicates
- (A) Red Alert
  - (B) Take Action
  - (C) Disaster
  - (D) Bad Weather
16. The first headquarter of IMD was at
- (A) Chennai
  - (B) Kolkata
  - (C) Delhi
  - (D) Hyderabad
17. The Indian meteorological department was established in a year
- (A) 1871
  - (B) 1873
  - (C) 1874
  - (D) 1875

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18. Oktas term is used for-
- (A) Cloud height
  - (B) Cloud Cover
  - (C) Cloud Density
  - (D) Cloud layer
19. The unit of Wind Speed Measurement is-
- (A) km/h
  - (B) m/minute
  - (C) m/mm
  - (D) None of the above
20. Which GHGs is a major contributor of global warming
- (A) Carbon dioxide
  - (B) Methane
  - (C) Chlorofluro Carbon
  - (D) Sulfur

### Section- B

(2 marks each)

### (Very Short Answer Type Questions)

**Note:- Attempt any *eight* questions.**

1. Define Meteorology.
2. What is stratosphere?
3. Define Albedo.

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4. Define Latitude.
5. Define absolute humidity.
6. Define clouds.
7. What is long wave radiation?
8. Define permafrost.
9. Describe El-Nino.
10. What is Cyclone?
11. Define synoptic chart.

**Section - C**

**(3 marks each)**

**(Short Answer Type Questions)**

**Note:- Attempt any *eight* questions.**

1. Define atmosphere. Give a composition of atmosphere.
2. Differentiate between weather & climate.
3. Describe vertical distribution of temperature.
4. Distinguish between mountain breeze and land breeze.
5. Classify the cloud types.
6. Define climate change and its impact on plant life.
7. Define Green House Gas Effect.
8. How glaciers are known as a pollutant recorder?
9. What is orographic precipitation?
10. Write about layered structure of ocean.

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**Section - D**

**(Long Answer type questions)**

**(5 marks each)**

**Note : Attempt any *four* questions.**

1. Stratify the layers of atmosphere with suitable diagram. Write the temperature variation in different layers of atmosphere.
2. Define Rainfall. Describe the rainfall patterns in India.
3. How you correlate the population pressure on the climate change indicators. Describe in detail.
4. Prepare diagram of weather Monitoring instruments-
  - (a) Barometer
  - (b) Rain Gauge
  - (c) Wine Vane
  - (d) Light Recorder
5. Define insolation input and insolation losses in the atmosphere.
6. What are the applications of Micrometeorology to forest and vegetation?
7. Define ocean currents. What is a global pattern of ocean currents?