

2020
GEOGRAPHY
[HONOURS]
Paper : IV
[OLD SYLLABUS]
[SUPPLEMENTARY]

Full Marks : 75

Time : 4 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

GROUP-A
(Climatology)
(Marks : 50)

1. Answer any **two** questions: 1×2=2
- a) What do you mean by 'Eckman Spiral'?
 - b) What is meant by 'Potential Evapotranspiration'?
 - c) What is 'Mesopause'?
 - d) Define 'Airmass'.

[Turn over]

2. Answer any **five** questions: 2×5=10
- a) Write about the basis of the Koppen's classification of world climate.
 - b) Distinguish between tropical and temperate cyclones.
 - c) How does terrestrial heat balance take place?
 - d) How does adiabatic cooling help in the process of condensation?
 - e) Describe thermodynamic modification of air mass.
 - f) Mention the tricellular model in atmospheric circulation.
 - g) State the conditions for the development of inversion of temperature.
3. Answer any **three** questions: 6×3=18
- a) Explain the major features of collision coalescence theory.
 - b) Describe the ice-crystal theory of precipitation.
 - c) Highlight the forms and processes of condensation.
 - d) Discuss the impact of jet stream on weather phenomena.

- e) Enumerate the major causes of variation of temperature on the earth's surface.
4. Answer any **two** questions: $10 \times 2 = 20$
- a) Describe with sketches the different stages of tropical cyclone and explain its impact on society.
- b) Give a short description of Thornthwaite's scheme of classification of world climate.
- c) Classify air masses and describe their characteristics in brief.
- d) Discuss in brief the different theories of genesis of monsoon.

GROUP-B

(Hydrology)

(Marks : 25)

5. Answer any **three** questions: $1 \times 3 = 3$
- a) What do you mean by 'ground water table'?
- b) What is 'aquifer'?
- c) Define 'runoff coefficient'.
- d) What is meant by 'infiltration'?
- e) Define 'hydrosphere'.

6. Answer any **three** questions: $2 \times 3 = 6$
- a) What is ground water budget?
- b) What is the role of evaporation in hydrological cycle?
- c) What are the sources of ground water?
- d) Bring out the factors responsible for surface runoff.
- e) Mention the components of hydrosphere.
7. Answer any **one** question: $6 \times 1 = 6$
- a) Highlight the different types of aquifers with the help of diagrams.
- b) How does climate change affect global hydrological cycle?
8. Answer any **one** question: $10 \times 1 = 10$
- a) Give a detailed account in respect of the different modes of occurrence of water.
- b) Discuss the runoff cycle in a drainage basin.