 PG/IS/GEO/102.1 & 102.2/23

M.A/M.Sc. 1st Semester Examination, 2023

GEOGRAPHY

PAPER – GEO-102

Full Marks : 50

Time : 2 hours

Answer **all** questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

PAPER – GEO-102.1

(*Ocean Science*)

GROUP–A

Answer any **two** questions from the following : 2×2

1. What is the significance of algal blooms ?

2. Identify the reason for seawater salinity.

3. What is the process of sea floor spreading and where does it predominantly occur ?

4. What are the effects of temperatures in seawater ?

GROUP – B

Answer any **two** questions from the following : 4×2

5. Briefly explain the origin of ocean basins.

6. Why is the TS diagram important in ocean science ?

7. What is the role of dissolved salts in seawater density ?

8. Discuss how coastal geography and ocean temperatures influence the intensity and impact of tropical cyclones.

GROUP–C

Answer any **one** question : 8×1

9. Explore how changes in climate patterns influence the frequency and intensity of upwelling events associated to El Nino and La Nina and their ecological effects.

10. Discuss the features of the coral reef ecosystem as a sensitive marine habitat in India.

PAPER – GEO-102.2

(*Hydrology*)

GROUP–A

Answer any **two** questions : 2×2

1. Briefly write the relation between soil grain size and capillary rise.

2. Define hydraulic gradient.

3. Define potential evapotranspiration.

4. What is recurrence probability ?

GROUP – B

Answer any **two** questions : 4×2

5. Explain the challenges of water management with special reference to global climate change.

6. Why double mass curve is considered an effective measure for detecting change points in time series data ?

7. Illustrate the role of soil moisture and temperture in infiltration.

8. Describe how unit hydrograph can be used to predict the runoff from storms.

GROUP – C

Answer any **one** question : 8×1

9. What's the fundamental physics behind evaporation ? Describe the energy balance method for measuring the evaporation.

10. Critically discuss the thiessen polygon method to estimate the average depth of precipitation over a watershed.

[Internal Assessment – 10 Marks]
