

**2015**

**M.A./M.Sc.**

**1st Semester Examination**

**GEOGRAPHY**

**PAPER—GEO-102**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

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

*Illustrate the answers wherever necessary.*

**Write the answer Questions of each Unit in separate books**

**Unit—III**

*(Oceanography)*

**Group—A**

1. Answer any *one* questions from the following : 1×8

- (a) What are the major solutes in sea water ? Discuss the principal controlling factors of salinity and temperature of water masses.

*(Turn Over)*

- (b) What are coral reefs and what critical role do zooxanthellae play in the trophic dynamics of these ecosystems, and identify the critical environmental factors that limit the growth of coral reefs.

**Group—B**

2. Answer any *two* from the following questions : 2×4
- (a) Why and how do barrier islands migrate landward over time ?
  - (b) Compare the mode of origin and the flow characteristics of longshore and rip currents.
  - (c) Discuss how the beach profile changes seasonally.
  - (d) How are oil and natural gas formed, and what geologic factors make them an economically exploitable resource ?

**Group—C**

3. Answer any *two* from the following questions : 2×2
- (a) What is thermohaline circulation ?
  - (b) Identify the law of the sea.
  - (c) What is EEZ ?
  - (d) What is amphidromic point ?

**Unit-IV***(Hydrology)***Group—A**

1. Answer any *one* from the following question : 1×8
- (a) Explain the steps in estimating infiltration with constant head methods. Mention the problems of using infiltrometer. 5+3
- (b) Elucidate the techniques of estimating rainfall volume by Thiessen polygon and isohyetal methods. What is curve number ? 6+2

**Group—B**

2. Answer any *two* questions : 2×4
- (a) Briefly discuss the importance of hydrological studies in the present context of global climate change. 4
- (b) How does capillary rise of soil water depend on soil texture ? 4
- (c) Construct global annual water balance with suitable illustration considering precipitation on land as 100 unit. 4

- (d) How does shape of hydrograph depend on nature of rainfall and watershed configuration? 4

**Group—C**

3. Answer any *two* questions : 2×2
- (a) Define basin-lagtime. 2
  - (b) What is grey-water foot print? 2
  - (c) Define specific retention. 2
  - (d) Define aquitard. 2
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