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UG/II/GEOG/H/III/18(New)

2018

GEOGRAPHY

(Climatology, Soil Geography and Biogeography)

[Honours]

PAPER – III

Full Marks : 90

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

Illustrate the answers wherever necessary

[NEW SYLLABUS]

GROUP—A

[Long Answer type questions]

Answer any five questions within 500 words : 10×5

(Turn Over)

(2)

1. Discuss the controlling factors affecting horizontal distribution of temperature. Illustrate the important features of vertical distribution of temperature. 6+4

Or

Discuss the driving mechanisms of Tricellular model of the Atmosphere. 10

2. Write the controlling factors of condensation. Mention the merits and demerits of Ice-crystal theory and Collision-Coalescence theory regarding the mechanism of precipitation. 4 + 6

Or

State the significance of ozone layer. Explain the factors and process leading to destruction of this layer. 4 + 6

3. What are the fundamental soil forming processes ? How do they help in the development of soil profile ? 3 + 7

(3)

Or

What are the primary and secondary sources of organic matter ? How does the organic matter influence the physical, chemical and biological properties of soil ? 2 + 8

4. Evaluate the significance of 'Bio-Geo-Chemical cycle' with special reference to phosphorus cycle. 10

Or

What is the ecological significance of energy flow ? Discuss the inter-relationship between environment and ecosystem with suitable example. 5 + 5

5. Explain the impact of climate on the distribution of plants in India. Make a classification of plants on the basis of photoperiodism. 7 + 3

Or

Define 'Red Data Book'. Describe the process of biodiversity conservation in the light of 'Ex-situ' conservation. 2 + 8

(4)

GROUP-B

[Semi long answer type questions]

Answer any five questions each within 250 words :
4 × 5

6. Briefly discuss the anthropogenic impacts on the terrestrial heat balance at global level. 4

Or

Explain the mechanism of temperate cyclone in different stages. 4

7. Establish the relation between Southern oscillation and summer monsoon rainfall in Indian subcontinent. 4

Or

Mention the importance of weather forecasting to natural hazards management. 4

8. Explain the mechanism of laterisation in South-Weastern part of West Bengal. 4

(5)

Or

What is the significance of cation exchange capacity? 4

9. Distinguish between Grazing Food-chain and Detritus food chain with the help of flow chart. 4

Or

Describe the concept of homeostasis. 4

10. What are the main causes of man-animal conflict in present day? 4

Or

State the different kinds of competition found in an ecosystem. Give examples. 4

GROUP—C

[Short answer type questions]

Answer any ten questions within 50 words : 2 × 10

11. 'Ionosphere is most active in evening' – Justify the statement.
12. Define 'Black-sky Albedo'.
13. What is 'Heat Island' ?
14. Define 'Front'.
15. What is 'dew point temperature' ?
16. Define 'Capillary Water'.
17. What are the characteristics of air mass ?
18. What is La-Nina ?
19. Define Vertisol.
20. What is wilting co-efficient ?
21. Define 'Biodiversity-Hotspot'.
22. Define climax vegetation.

23. What is 'Edge-Effect' ?
 24. Define positive anomaly of temperature.
 25. What is 'Biodiversity Heritage' ?
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