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M. Sc. 3rd Semester Examination, 2024

GEOGRAPHY

PAPER – GEOG-301.1 & 301.2

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 – GEOG-301.1

(Environmental Engineering)

GROUP – A

Answer any two questions : 2 × 2

- 1. Why is retention time lengthened in settling tank ?**

(Turn Over)

(2)

2. What is meant by activated sludge ?
3. Mention the sources of arsenic in Bengal basin.
4. Write the difference between smoke and smog.

GROUP-B

Answer any two questions : 4 × 2

5. Briefly explain the characteristics of hazardous waste with examples.
6. How do you quantify municipal solid waste ?
7. Why H₂O is considered as a vital species in reducing the atmospheric pollution ?
8. How is the variation of O₃ connected to NO₂ cycle in the atmosphere ?

(3)

GROUP – C

Answer any **one** question : 8×1

9. Illustrate the procedures involved in primary and secondary treatment of waste water.
10. Describe the air pollution mitigation pathways in major polluted cities in India.

PAPER – GEOG-301.2

(Energy, Water and Food nexus)

GROUP – A

Answer any **two** questions : 2×2

1. What do you mean by nexus ?
2. Write a short note on Joint River Committee (JRC).

3. What is precision farming ?
4. Mention some key government schemes aimed at ensuring food security in India.

GROUP—B

Answer any **two** questions : 4 × 2

5. How is nexus governance essential to achieve SGDs ?
6. Analyze the long-term effects of the Green Revolution on India's food security ?
7. Write a note on the role of hydropower as a source of renewable energy.
8. What role does climate change play in accelerating the transition to renewable energy systems ?

(5)

GROUP—C

Answer any one question : 8 × 1

- 9. Critically analyze the geopolitics of dam-induced changes to river ecosystems in transboundary basins with suitable examples.**

- 10. How does the water-energy-food nexus influence policy-making in arid and semi-arid regions ?**

[Internal Assessment — 10 Marks]

