2023/TDC(CBCS)/ODD/SEM/
EESSEC-301T(A/B)/395

TDC (CBCS) Odd Semester Exam., 2023

ECOLOGY AND ENVIRONMENTAL SCIENCE

(3rd Semester)

Course No. : EESSEC-301T

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

Candidates have to answer *either* from Option—A *or* Option—B

OPTION—A

Course No. : EESSEC-301T (A)

(Remote Sensing, Geographic Information System Modelling)

SECTION—A

Answer *fifteen* questions, selecting any *three* from each Unit : 1×15=15

Unit—I

1. What is electromagnetic spectrum?

2. What is passive remote sensing?

3. Define sensors.

4. What is spectral signature?

Unit—II

5. Which kind of data, GIS deals with?

6. What is metadata?

7. What is geocoordinate?

8. What is vector data?

Unit—III

9. Define database administrator.

10. Define data model.

11. Define GPS survey.

12. Define data dictionary.

Unit—IV

13. Define soil.

14. What is marine water?

15. Define land-use planning.

16. Define forest.

Unit—V

17. What is parametric test?

18. What is ANOVA?

19. What is mean?

20. What is correlation?

SECTION—B

Answer *five* questions, selecting *one* from each Unit : 2×5=10

Unit—I

21. What are the important uses of remote sensing?

22. What is meant by RADAR?

Unit—II

23. What are the major GIS functions?

24. What are the main components of GIS?

Unit—III

25. What is database management system?

26. What is land-cover mapping?

Unit—IV

27. Give two applications of GIS in geosciences.

28. Give two applications of remote sensing in agriculture.

Unit—V

29. Why is hypothesis testing important?

30. Differentiate between parametric and non-parametric tests.

SECTION—C

Answer *five* questions, selecting *one* from each Unit : 5×5=25

Unit—I

31. What is remote sensing? What are the principles of remote sensing? 1+4=5

32. What is aerial photography? Why is image interpretation important? What are the challenges of image interpretation? 1+4=5

Unit—II

33. Describe the importance of raster and vector data.

34. Describe the role of GIS in environmental management.

Unit—III

35. What is GPS and how does it work?

36. Describe the importance of land-use/ land-cover mapping for natural resource management.

Unit—IV

37. Describe the role of remote sensing and GIS in land-use planning.

38. Describe the role of remote sensing in forest resource management.

Unit—V

39. Describe the usefulness of measuring central tendency and dispersion.

40. What is data distribution in statistics? Describe normal and binomial data distributions.

OPTION—B

Course No. : EESSEC-301T (B)

(Bamboo Cultivation Utilization Management)

SECTION—A

Answer *fifteen* questions, selecting any *three* from each Unit : 1×15=15

Unit—I

1. "Bamboo is a grass." Is the statement correct?

2. What is monopodial bamboo?

3. What is culm?

4. What is the botanical name of Muli bamboo?

Unit—II

5. Name two paper industries that used to exist in Assam.

6. Name the raw materials other than bamboo that are used in papermaking.

7. What are bamboo cut pieces used for?

8. Name one State from North-East India that's very famous for bamboo-based value-added craft.

Unit—III

9. What is greenhouse?

10. Define tissue culture.

11. What is branch cutting?

12. What is layering?

Unit—IV

13. Name one traditional bamboo recipe.

14. Name one traditional fermented product made from bamboo.

15. Name one raw bamboo dish.

16. What is processing technology?

Unit—V

17. Define silviculture.

18. What is forest bamboo?

19. Name two bamboo discourses.

20. What is bamboo plantation?

SECTION—B

Answer *five* questions, selecting *one* from each Unit : 2×5=10

Unit—I

21. Which factor favours the distribution of bamboo in an area?

22. Write briefly culm emergence in bamboo.

Unit—II

23. What is capacity building?

24. Highlight the prospect of bamboo for the development of musical instrument.

Unit—III

25. Write a note on culm cutting.

26. Highlight on the nursery bed preparation.

Unit—IV

27. Write about the medicinal properties of bamboo.

28. What is bamboo pickle?

Unit—V

29. Write a note on the nursery management of bamboo species for commercial purposes.

30. Write on the scientific pest management technique of bamboo.

SECTION—C

Answer *five* questions, selecting *one* from each Unit : 5×5=25

Unit—I

31. Give a detailed account on the branching patterns in bamboo.

32. Describe culm production of tropical bamboo.

Unit—II

33. Describe the scope of bamboo resources in incense stick industry.

34. Give an account on the traditional utilization of bamboo resources.

Unit—III

35. Describe the process of vegetative propagation in bamboo.

36. Describe briefly on the management of bamboo nursery.

Unit—IV

37. Describe the laboratory fermentation technique of bamboo shoot.

38. Describe the different techniques used to increase the shelf life of bamboo shoot.

Unit—V

39. Describe the management strategies opted for bamboo species after an event of gregarious flowering.

40. Describe the nutrient management for commercial bamboo production.

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