2022/TDC (CBCS)/EVEN/SEM/
EESSEC–401T/104

TDC (CBCS) Even Semester Exam., 2022

ECOLOGY AND ENVIRONMENTAL SCIENCE

(4th Semester)

Course No. : EESSEC–401T

(Remote Sensing, GIS and Modelling)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

Answer any *fifteen* of the following as directed : 1×15=15

1. Name one natural satellite and one artificial satellite.

2. What is the wavelength range for visible part of electromagnetic spectrum?

(a) 0·1 μm – 0·3 μm

(b) 0·4 μm – 0·7 μm

(c) 0·8 μm – 0·9 μm

(d) 1·0 μm – 1·2 μm

(Choose the correct answer)

3. The full form of IRS is _____.
(Fill in the blank)

4. Define aerial photography.

5. Define GIS.

6. Name two components of GIS.

7. Road map is an example of spatial/non-spatial data.
(Choose the correct answer)

8. Location of hotel is a
(a) spatial data
(b) non-spatial data
(c) Both of the above
(d) None of the above
(Choose the correct answer)

9. The full form of GPS is _____.
(Fill in the blank)

10. Define landuse.

11. Name one GIS software.

12. Forest is an example of
(a) landuse
(b) landcover
(c) Both of the above
(d) None of the above
(Choose the correct answer)

13. Name one application of remote sensing and GIS.

14. Name one area in forest studies where remote sensing is used.

15. Geoscience is the study of
(a) geographic features
(b) geological features
(c) geometric features
(d) None of the above
(Choose the correct answer)

16. Give one application of remote sensing in agriculture.

17. When maximum observations have the mean value, the distribution is called
(a) skewed distribution
(b) normal distribution
(c) abnormal distribution
(d) None of the above
(Choose the correct answer)

18. Give two examples of central tendency.

19. Comparison of two related data sets is known as _____.

(Fill in the blank)

20. Define binomial distribution.

SECTION—B

Answer any *five* of the following questions : 2×5=10

21. Describe the concept of spectral signature.

22. Describe sensors. Give examples.

23. What is raster data? Give examples.

24. Give two differences between spatial data and non-spatial data.

25. Differentiate between landuse and landcover.

26. What is data import?

27. Give two examples where RS and GIS are used for atmospheric study.

28. Give two examples where RS and GIS are used in water resource management.

29. Describe analysis of variance.

30. Distinguish between parametric and non-parametric tests.

SECTION—C

Answer any *five* of the following questions : 5×5=25

31. Describe image interpretation.

32. Describe interaction of electromagnetic radiation with the earth's surface.

33. Describe the various components of GIS with examples.

34. Describe the differences between raster data and vector data. Give examples for each type of data.

35. Give an overview of any GIS software package.

36. What is GPS survey? Why is it useful?

37. Describe a case study regarding application of remote sensing and GIS in agriculture.

38. Describe in detail any two applications of remote sensing and GIS.

39. What is null hypothesis? How does it help in research?

40. What is sampling? Describe the different types of sampling.

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