2016/ODD/11/30/ECG–104
(Gr : A/B)/(C)/397

PG Odd Semester (CBCS) Exam., December—2016

ECOLOGY AND ENVIRONMENTAL SCIENCE

(1st Semester)

Course No. : ECG–104 (C)

(Statistics and Computer Application in Ecology)

Full Marks : 75
Pass Marks : 30

Time : 3 hours

The figures in the margin indicate full marks for the questions

GROUP—A

(*Marks* : 45)

Answer **one** question from each Unit

UNIT—I

1. *(a)* Define arithmetic mean (AM) and geometric mean (GM) of grouped and ungrouped data. 5

(b) What are the chief measures of central tendency? Discuss their merits. 5

(c) Prove that standard deviation is independent of change of origin but not of scale. 5

2. *(a)* Define correlation and regression. Write down the properties of correlation coefficient. 5

(b) Explain the methods of constructing histogram and frequency polygon. 5

(c) What do you understand by skewness? How is it measured? 5

UNIT—II

3. *(a)* Define the following terms in probability : 6

(i) Trial and event

(ii) Mutually exclusive events

(iii) Independent events

(b) Define classical or mathematical definition of probability. Three coins are tossed. Find the probability of getting head and tail alternately. 4

(c) State and prove the general additive law of probability. 5

4. *(a)* Write the mathematical form of binomial distribution. Also derive the mean of binomial distribution. 5

(b) Prove that in case of Poisson distribution the mean and variance are equal. 5

(c) Write down the chief characteristics of the normal distribution and normal probability curve. 5

UNIT—III

5. *(a)* Define null hypothesis and alternative hypothesis with examples. 4

(b) What is analysis of variance? Write a note on one-way classification. 6

(c) Define type-I and type-II errors with examples. 5

6. *(a)* Write a note on one sample t-test. 5

(b) What are the principles of design of experiment? Explain them briefly. 6

(c) Write down the applications of F-test. 4

GROUP—B

(Computer Application)

(*Marks* : 30)

Answer **one** question from each Unit

UNIT—IV

7. *(a)* Discuss about the elements of computer system. 5

(b) Discuss about the generation of computer. 5

(c) Give the difference between primary and secondary memories. 5

8. *(a)* Discuss about operating system. 5

(b) How is the classification of software being done? 5

(c) Give the difference between multiuser and multitasking systems. 5

UNIT—V

9. *(a)* Discuss about different types of topologies of networking. 5

(b) Discuss about ISO-OSI model. 5

(c) Discuss about TCP/IP protocol. 5

10. *(a)* Differentiate between data and information. Discuss metadata. 5

(b) What are the advantages of database over file system? 5

(c) Discuss the components of DBMS. 5

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