

M.Sc. DEGREE END SEMESTER EXAMINATION - NOVEMBER 2024**SEMESTER 1 : ENVIRONMENTAL SCIENCE****COURSE : 24P1EVST02 : RESEARCH METHODOLOGY I***(For Regular - 2024 admission)*

Duration : Three Hours

Max. Weights: 30

PART A**Answer any 8 questions****Weight: 1**

1. What do you mean by low level languages? Give Examples. (A)
2. What is a super computer? (U)
3. What is Internet. Explain the working of Internet. (An)
4. Explain the concept of central tendency. (U)
5. List the different graphical representations of data? (U)
6. Define:
 - Online Monitoring System (U)
 - Process Control Sytem (U)
7. What is Statistical test ()
8. Two dice are thrown, find the probabily that both shows a six. (A)
9. Explain Spearman's rank correlation. ()
10. Define 'Simple linear regression'. ()

(1 x 8 = 8)**PART B****Answer any 6 questions****Weights: 2**

11. What are the various ways to enhance a slide? (A)
12. What is DBMS? Explain the tasks of DBMS. (U)
13. Write brief notes on a) Standard error b) Null hypothesis c) Type I and type II errors ()
14. Distinguish between sampling errors and non-sampling errors. (U)
15. What is the need of protocols? Which are the different types of protocols? (An)
16. Define quartile deviation. List merits and demerits of quartile deviation. Find QD for, Wages(above): 10 20 30 40 50 60 70 80 90 No. of worker: 600 , 580 , 490 , 340 , 240 , 170 , 120 , 70 , 25 ()
17. The rank of 15 students in two subjects A and B are given below: the two numbers within the brackets denoting the ranks of the same student in A and B respectively. Compute rank correlation coefficient ()
(1,10) (2,7) (3,2) (4,6) (5,4) (6,8) (7,3) (8,1) (9,11) (10,15)
(11,9) (12,5) (13,14) (14,12) (15,13)
18. Explain Crude birth rate. Add a note on Fecundity. ()

(2 x 6 = 12)

PART C
Answer any 2 questions

Weights: 5

19. a) State Bayes Theorem.
b) Assume that the chances of a person having a skin disease are 40%. Assuming that skin creams and drinking enough water reduces the risk of skin disease by 30% and prescription of a certain drug reduces its chance by 20%. At a time, a patient can choose any one of the two options with equal probabilities. It is given that after picking one of the options, the patient selected at random has the skin disease. Find the probability that the patient picked the option of skin creams and drinking enough water. (An)
20. Find the standard deviation for the following distribution (I)
- | | | | | | | | |
|---|-----|------|------|------|------|------|------|
| X | 4.5 | 14.5 | 24.5 | 34.5 | 44.5 | 54.5 | 64.5 |
| f | 1 | 5 | 12 | 22 | 17 | 9 | 4 |
21. For a random sample of 10 pigs fed on diet A, the increase in weight in pounds in a certain period were 10,6,16,17,13,12,8,14,15,9. For another random sample of 12 pigs fed on diet B the increase in the same period were 7,13,22,15,12,14,18,8,21,23,10,17. Test whether diet A & B differ significantly as regard the effect on increase in weight (or test whether the mean increase in two samples are significantly different)(table value = 2.086, for significance level $\alpha = 0.05$) (E)
22. Write a short note on various secondary storage devices. (A)
(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
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Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;