

(d) How does the standard deviation help for analysing the data in case of normal distribution? What is bimodal distribution? 4+1

(e) Calculate the Chi-square value from the following data :

No. of classes	Sample character	Observed value (O)	Expected value (E)
1	Tall plant	72	75
2	Dwarf plant	28	25

5

(f) Fit a binomial distribution to the following data :

x	0	1	2	3	4
f	28	62	46	10	4

5

Group - C

3. Answer any *one* of the following : 10×1=10

(a) Calculate the value of mean and standard deviation from the following frequency distribution :

Variable	10-25	25-40	40-55	55-70	70-85	85-100
Frequency	6	50	44	26	3	1

5+5

(b) What are the different procedures of data collection in Statistics? Mention the merits and demerits of each procedure. Write a short note on basic principles of Statistics. 10



Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

[Natural Resource Management]

Group - A

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

- (i) Which are the reasons behind energy crisis?
- (ii) Mention two major causes of soil degradation.
- (iii) What is resource accounting?
- (iv) Give full form of CBD and EIA.
- (v) What is silviculture? Where is it applied?
- (vi) Give the difference between biodiversity hotspot and warm spot.
- (vii) Name two industries based on forest produce.
- (viii) What is the difference between aquifer and ground water?

(2)

Group - B

2. Answer any *four* of the following : $5 \times 4 = 20$
- Describe various sources of energy for human utilization. 5
 - What are the NTFPs? How these NTFPs are gradually degraded today in the forest? Write any one name of participatory management of forest to conserve these NTFPs. 1+3+1
 - Discuss different management strategies to protect biodiversity. 5
 - Mention different sources of fresh water. Discuss various anthropogenic causes for the depletion of fresh water. 2+3
 - What are solid wastes? Write different scientific procedures of solid wastes managements which are applied in urban areas. 1+4
 - What are wetlands? What is their importance? 5

Group - C

3. Answer any *one* of the following : $10 \times 1 = 10$
- What are renewable and non-renewable sources of energy? Write different examples. Write a brief note on non-renewable sources of energy mentioning their uses. (3+1)+6
 - What is deforestation? Discuss various causes for deforestation. Describe different measures taken to protect forest. 2+4+4

(3)

OR

[Biostatistics]

Group - A

1. Answer any *five* of the following : $2 \times 5 = 10$
- What is regression equation?
 - Differentiate between random and non-random sampling.
 - What is standard deviation and standard error?
 - What is co-efficient of range?
 - What is meant by degree of freedom?
 - Define mean and mode.
 - Give any two properties of normal distribution.
 - Give any two applications of chi-square distribution.

Group - B

2. Answer any *four* of the following : $5 \times 4 = 20$
- Differentiate between null and alternative hypothesis. 5
 - Explain briefly various steps followed for hypothesis testing. 5
 - What are the advantages of 'Arithmetic mean' and 'mode value'? 5

P.T.O.