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| Total marks | 14 |
| Time allowed | Approximately 25 minutes |
| Instructions | Answer ALL questions. Write answers in the spaces provided. |

Question 1

Ten quadrats were placed at random positions in the field. The number of daisies in each quadrat was counted.

| Quadrat number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------|----|---|----|---|----|----|---|----|----|----|
| Number of daisies | 12 | 8 | 15 | 6 | 10 | 14 | 9 | 11 | 13 | 7 |

A student uses quadrats to estimate the population of daisies in a 30 m × 20 m school field. Each quadrat is 1 m². The table shows the results.

[0 marks]

Question 2

Calculate the mean number of daisies per quadrat. Show your working.

[2 marks]

Question 3

Use your answer to estimate the total number of daisies in the whole field. Show your working.

[3 marks]

Question 4

Explain why the student should use random sampling rather than choosing where to place the quadrats.

[2 marks]

Question 5

Describe ONE way the student could use a transect to investigate how the distribution of daisies changes across the school field.

[3 marks]

Question 6

The student also measures the light intensity at each quadrat position. Explain why measuring abiotic factors is important in this investigation.

[2 marks]

END OF QUESTIONS — Total: 12 marks