

- 1
- Calculate the number of students from each year group:
Year 12: $\frac{72}{135} \times 30 = 16$
Year 13: $\frac{63}{135} \times 30 = 14$ (M1)
 - Assign a number to every student in each year group (sampling frame) (B1)
 - Use a random number generator to select 16 students from Year 12 and 14 students from Year 13 (B1)

(Total for question 1 is 3 marks)

- 2
- (a)
- There is no sampling frame (it is impossible to number/identify every fish in the lake). (B1)
- (b)
- Name the method: Quota sampling. (B1)
 - Description: Keep catching fish until the quota for each group has been met. (B1)

Note: Quotas are calculated as:

- Roach: $\frac{350}{1400} \times 120 = 30$
- Bream: 21
- Rudd: 17
- Tench: 13
- Carp: 39

(Total for question 2 is 3 marks)

- 3
- (a)
- Opportunity sampling (or Convenience sampling). (B1)
- (b)
- Quota sampling. (B1)
 - Split the population into groups (e.g., age or gender). Each group's size determines the size of the group in the sample. Then ask people until each group's quota is filled. (B1)

(Total for question 3 is 3 marks)

- 4
- Calculate the interval: $k = \frac{150}{30} = 5$. (M1)
 - Get a list of all employees and number them 1-150. (B1)
 - Pick a random number from 1 to 5 as the starting point. Then select every 5th person on the list (e.g., if 2 is picked, select 2, 7, 12, ...) until 30 employees are chosen. (B1)

(Total for question 4 is 3 marks)
