

BOWEN UNIVERSITY, IWO
COLLEGE OF MANAGEMENT AND SOCIAL SCIENCES
ECONOMICS PROGRAMME

2022/2023 B.Sc. FIRST SEMESTER EXAMINATION

COURSE TITLE: Introduction to Mathematical Techniques for Economists I

COURSE CODE: ECN 103

CREDIT: 3

TIME ALLOWED: $2\frac{1}{2}$ hours

DATE: February 2023

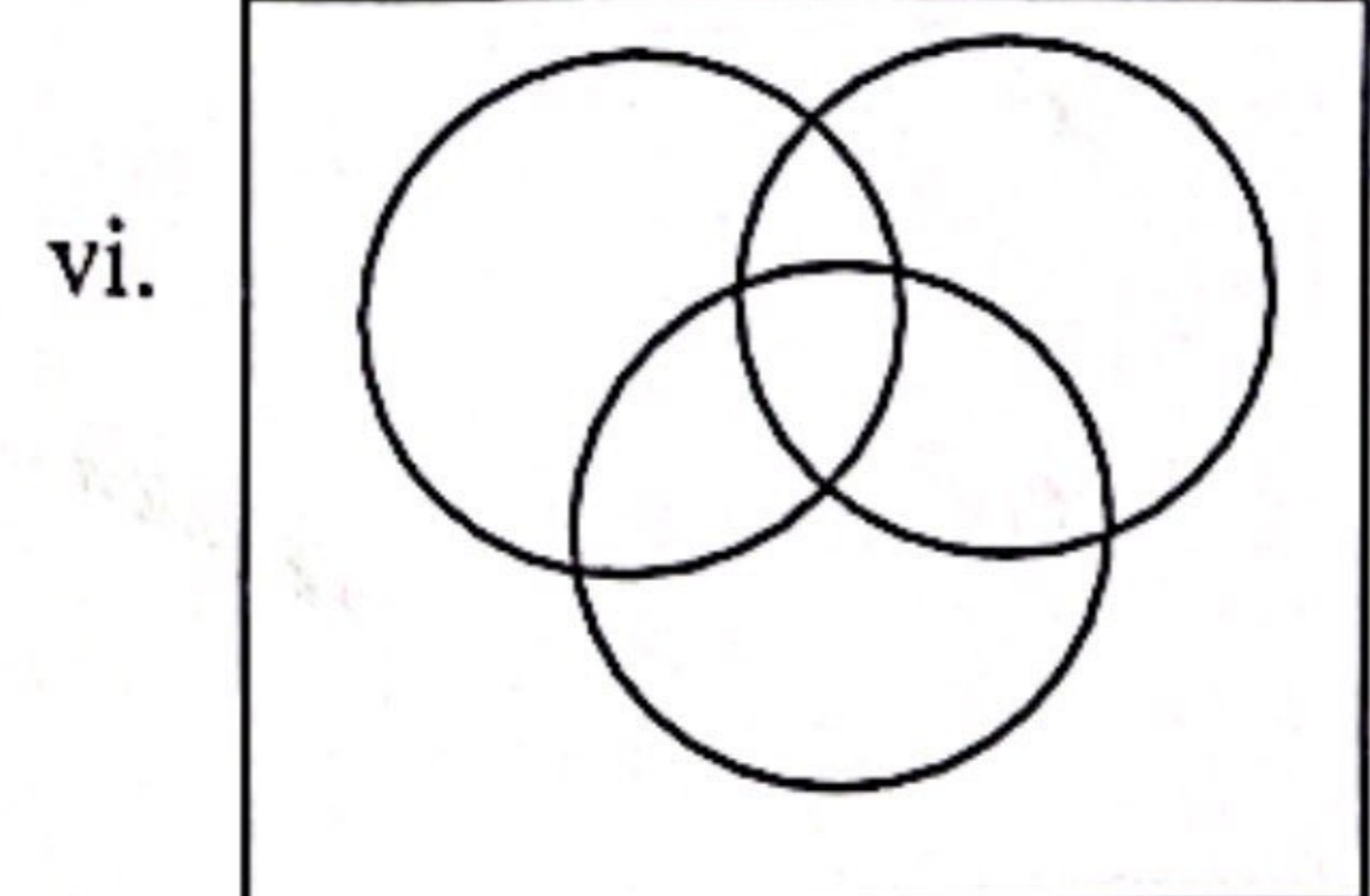
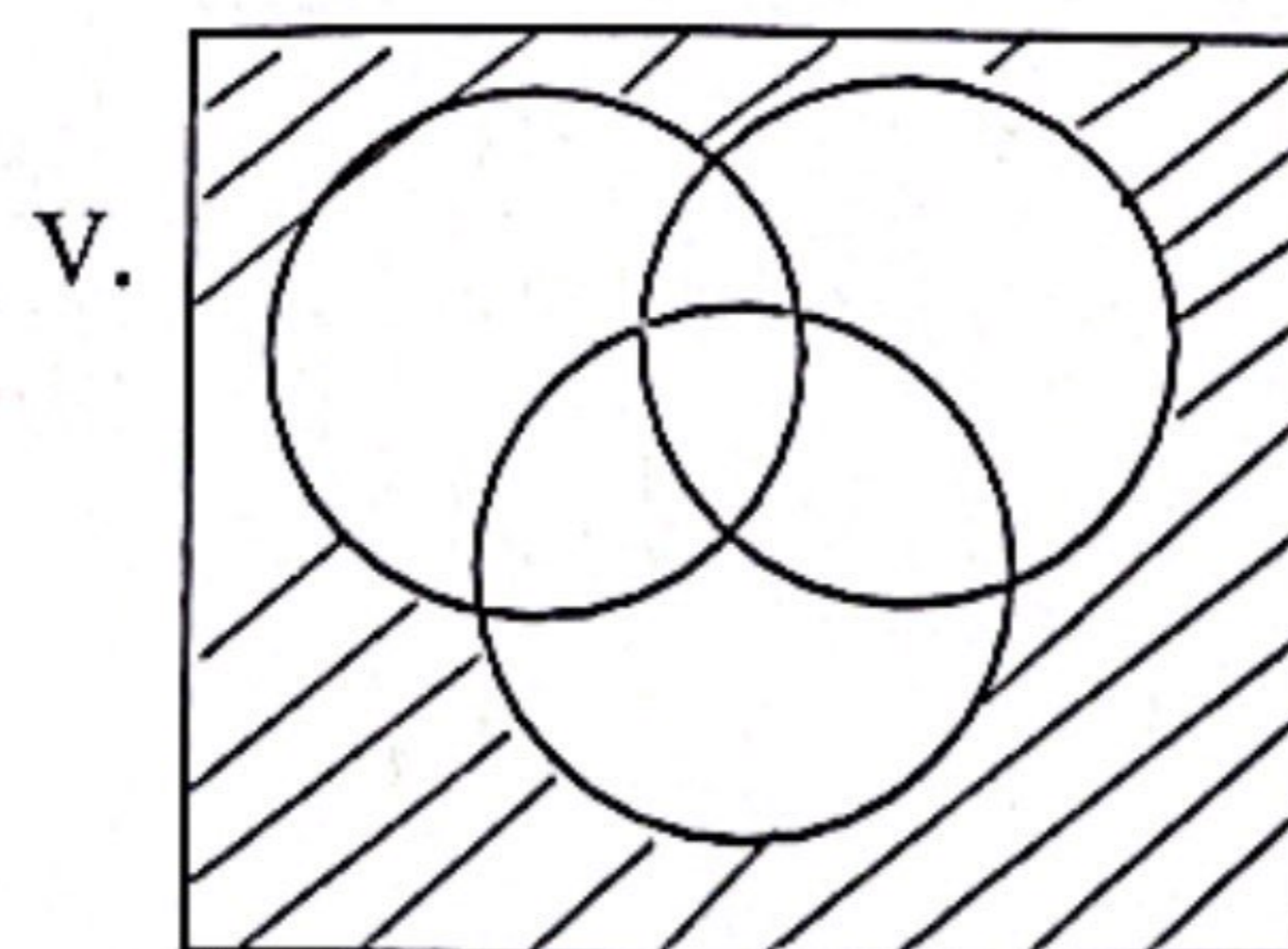
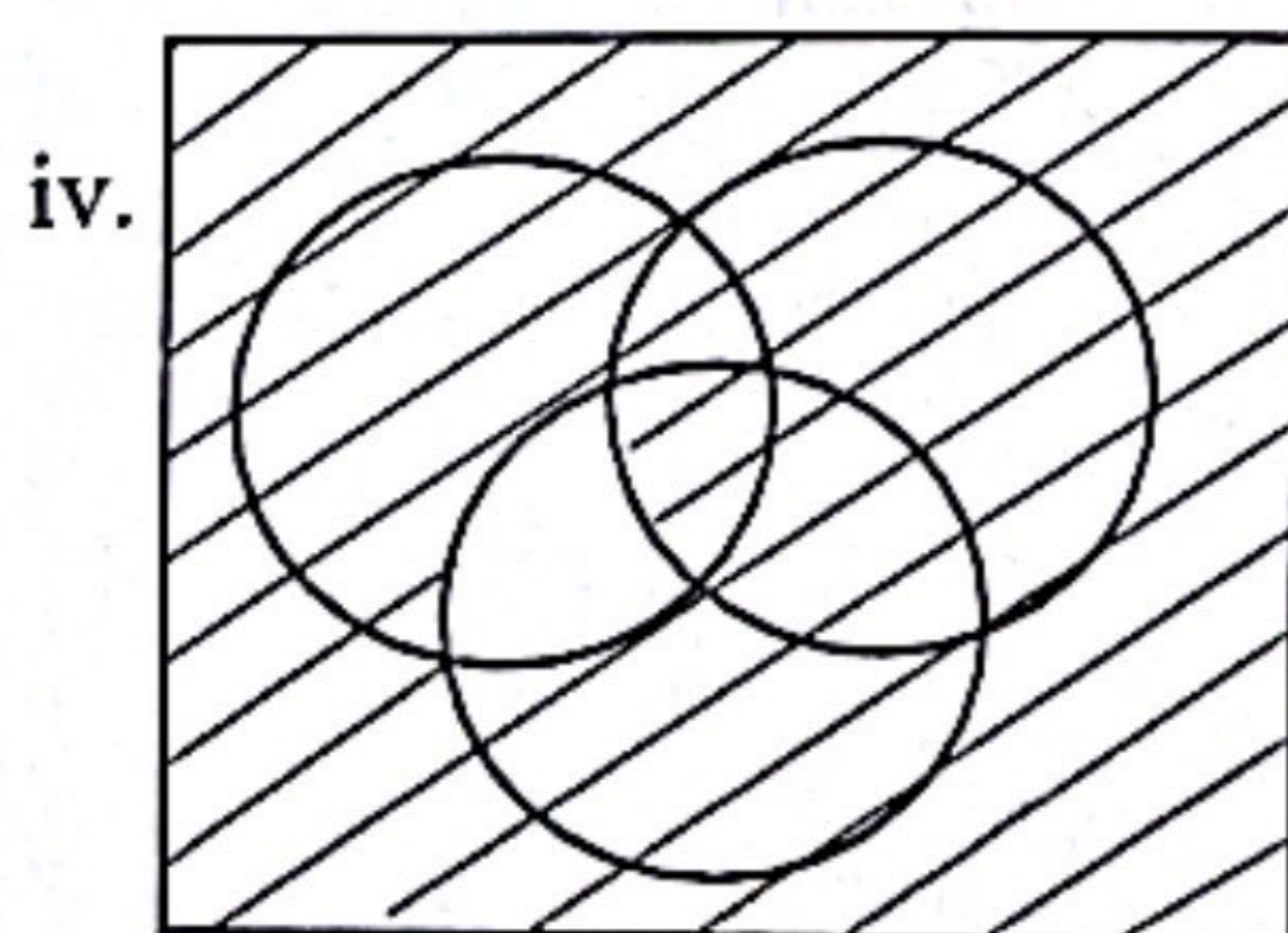
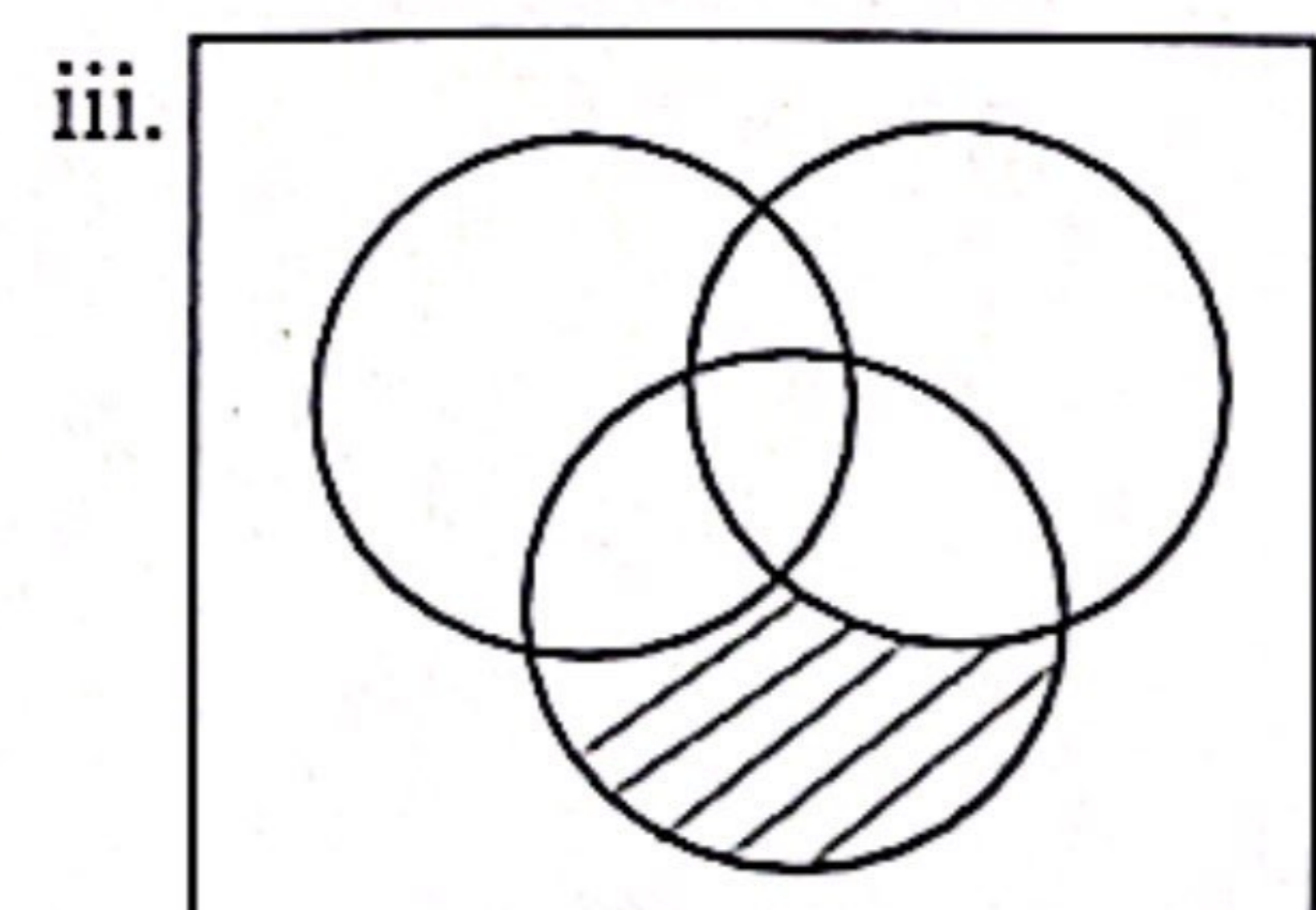
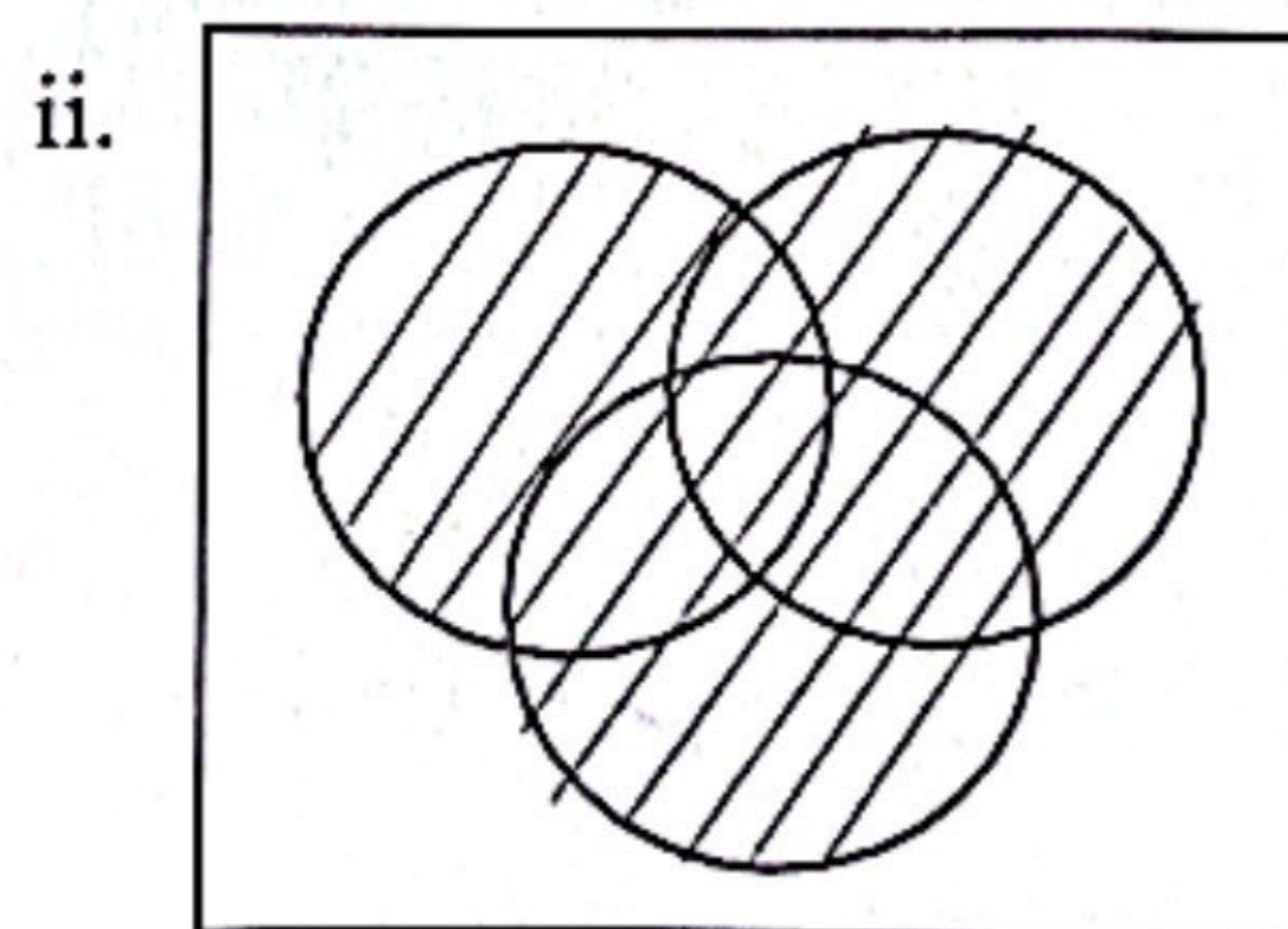
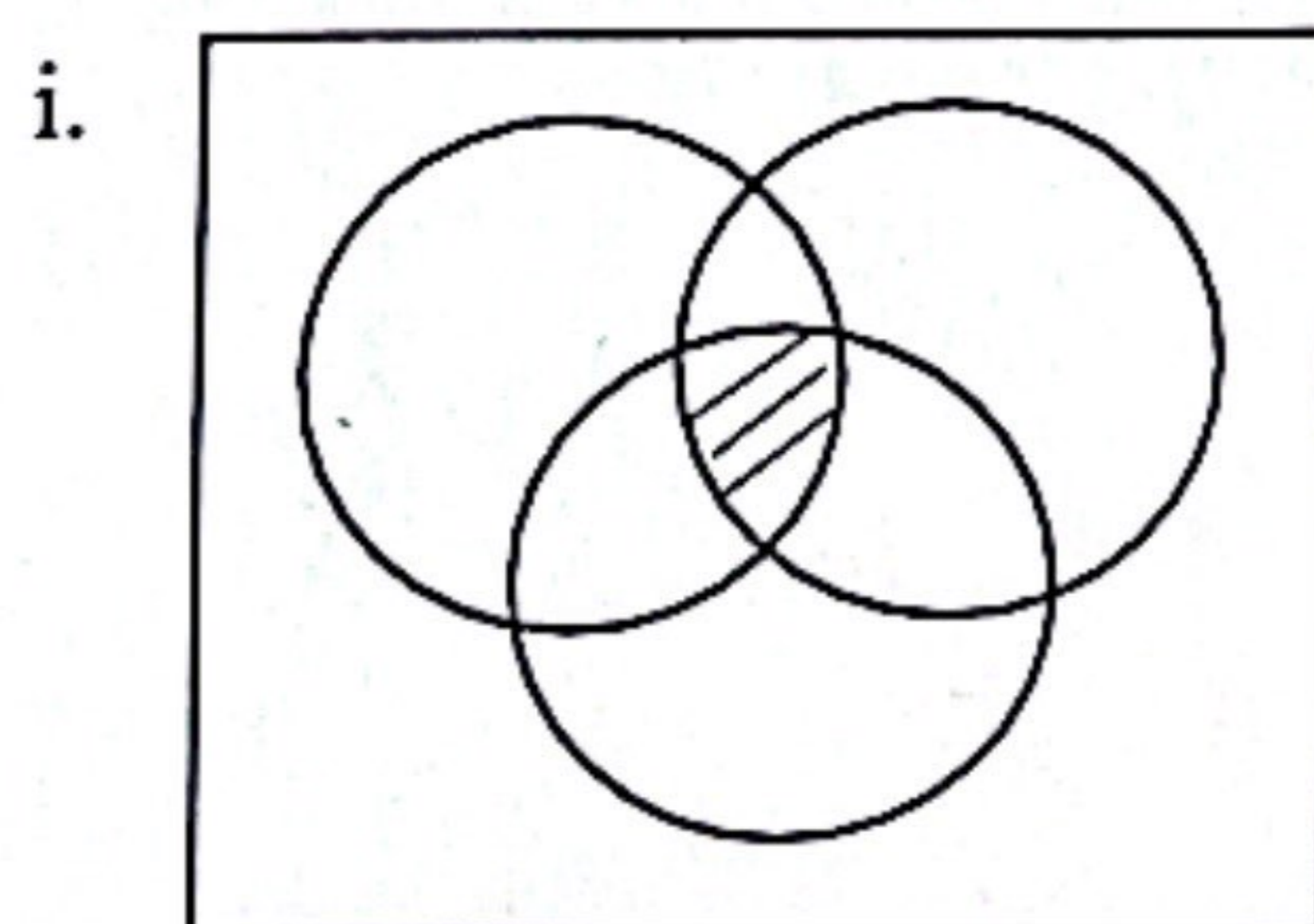
INSTRUCTIONS: Answer question 1 and any other 3 questions.

1. a. Write short notes on the following
- i. Operations of sets
 - ii. Uses of mathematics in social sciences
 - iii. Limitations of mathematics in social sciences
- b. Define functions and write short notes on any 4 types of functions.
- 25 Marks**

2. a. The sum of 8 terms of an AP is 12 and the sum of 16 terms is 56. Find the AP
- b. Find 3 terms in a GP whose sum is 13 and whose product is -64.
- 15 Marks**

3. a. Redefine each of the following sets by enumeration
- i. $S_1 = \{x | x \text{ is an even integer less than } 31\}$
 - ii. $S_2 = \{y | y \text{ is the name of the days of the week}\}$
 - iii. $S_3 = \{z | z \text{ is a vowel in the english language alphabet}\}$

b. Using any letter of your choice, label the portion of the following figure that illustrates each of the sets relationship listed below.



15 Marks