

UNEB UACE BIOLOGY PAPER 2 2017

SECTION A

1. Figures 1 and 2 show growth patterns of organs in humans and the mean growth rate in the different sexes respectively. Figure 1 represents the size attained by the human body organs from birth, expressed as a percentage of the total post natal growth. Figure 2 represents the mean growth rate changes in centimeters per year, in boys and girls, from birth to maturity. Study the figures and answer the questions that follow.

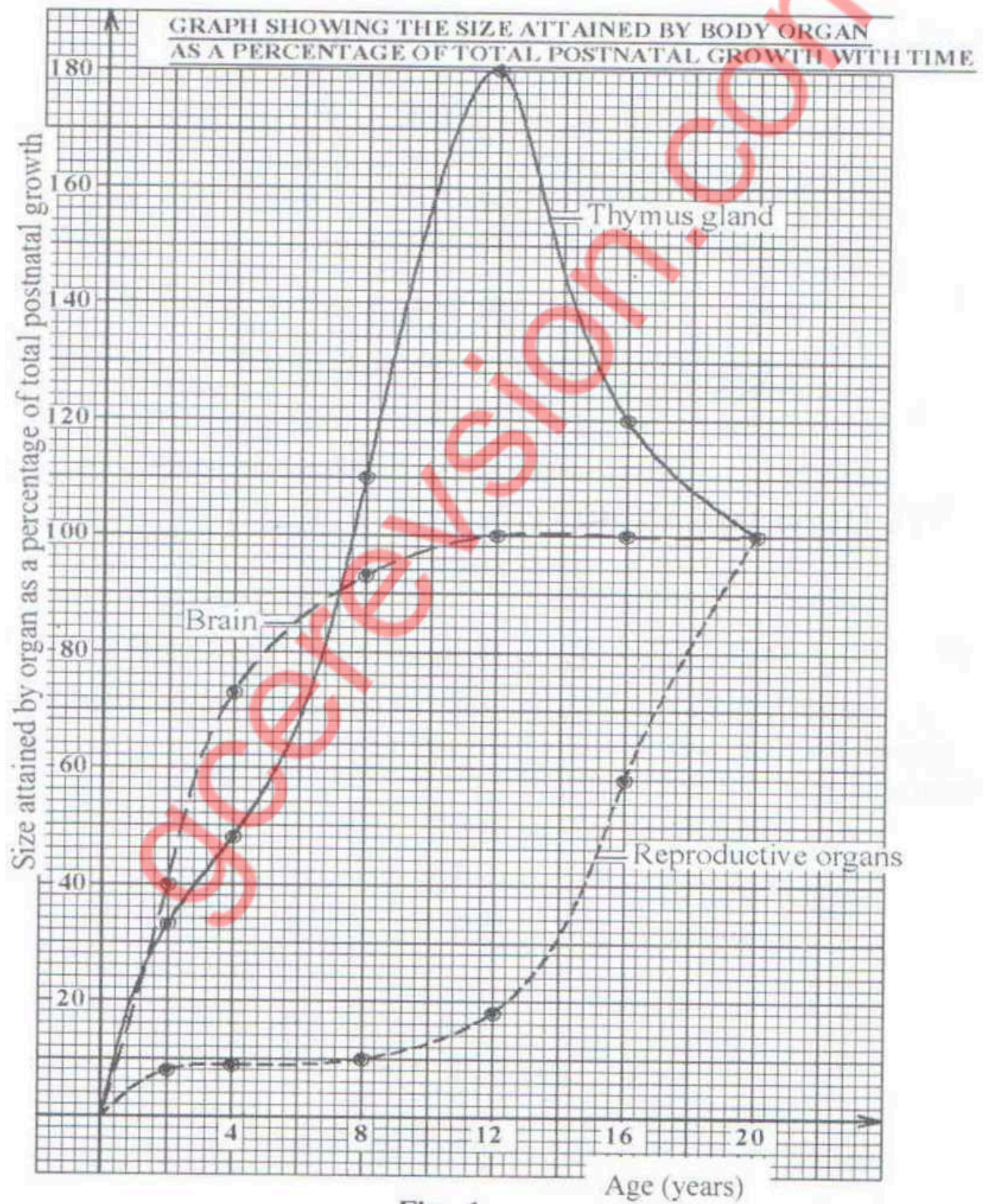


Fig. 1

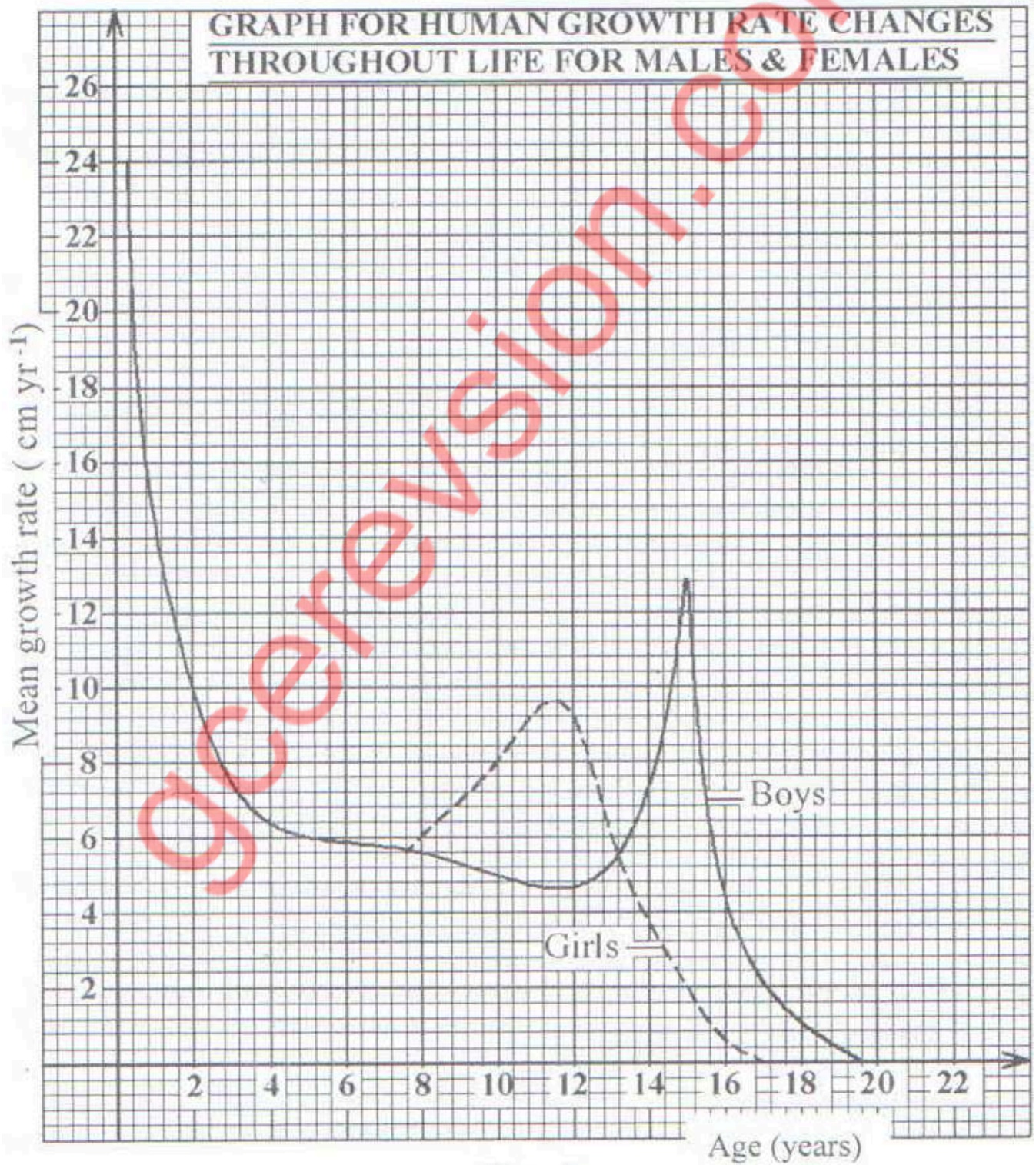


Fig. 2

- a) Describe the growth pattern shown by the
i) thymus

- ii) brain
- iii) reproductive organs
- b) Explain the growth pattern shown by the
 - i) thymus gland
 - ii) brain
 - iii) reproductive organs
- c) Compare the mean growth rate in boys and girls
- d) Explain the relationship between the size attained by reproductive organs and the mean growth rate between 11-20 years.

SECTION B

Answer three questions from this section.

- 2. a) Distinguish between tropic and reflex responses.
- b) Explain how tropisms in roots and shoots occur in relation to auxin concentration.
- c) Describe the role of hormones in plants.
- 3. a) What is meant by
 - i) green house effect?
 - ii) eutrophication?
- b) Explain how human activities have contributed to the increased greenhouse effect.
- c) Suggest practical remedies to the green house problem.
- 4. a) How is sex determined in humans?
- b) A woman has four sons, one of whom is a haemophiliac and the other three are normal.
 - i) What are the possible genotypes of the woman and her husband?
 - ii) Is it possible for the couple to have a haemophiliac daughter? Explain your answer.
- 5. a) Differentiate between learned and instinctive behavior.
- b) What is the importance of each of the following forms of behavior in animals?
 - i) Imprinting
 - ii) Habituation
 - iii) Associative learning
- 6. a) Classify enzymes basing on the type of reactions they catalyze.
- b) Explain how competitive and non-competitive inhibitions of enzymes occur.
- c) What is the importance of enzyme inhibition in enzyme –catalyzed reactions?

END