

海洋生物学 (1 / 1)

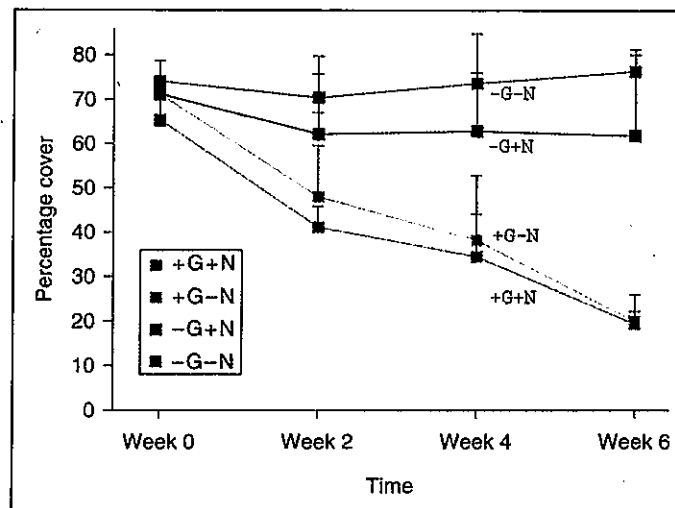
(注意) 全ての問題を 1 枚の答案用紙に解答すること。

(解答は英語・日本語のどちらでもよい(英語/ラテン語と指示してある場合以外)。文法などの間違いは採点に影響しない)

[1] Choose TWO topics from the following five and discuss. (total: 20 points)

- (1) Ecological functions of seagrass beds
- (2) Importance of body sizes in planktonic organisms
- (3) Burrowing capacity of infaunal organisms in estuarine habitats
- (4) Roles of physical disturbance on hard substrates
- (5) Phytoplankton production in relation to depth

[2] The figure below shows the result of a field study in which variation in crustose coralline cover (mean \pm s.d.) was measured in four experimental treatments, with (+) or without (-) sea urchin grazing (G) and nitrogen enrichment (N). Answer the questions that follow. (total: 50 points)



- (1) Name the phylum to which corallines belong. (in Latin, 5 points)
- (2) Name the phylum to which sea urchins belong. (in Latin, 5 points)
- (3) Discuss the results in the figure. (20 points)
- (4) Based on this result, you are asked to conduct more experiment to gain further understanding of this system. Plan and explain an experiment to test a hypothesis of your choice. (20 points)

[3] The figure shows the relationship between the number of fish species and the values of habitat complexity index estimated for four different types of shallow marine habitats. (total: 30 points)

- (1) Explain what is 'Algae' in this graph. (5 points)
- (2) Consider the definition of 'habitat complexity index'. Discuss what it is. (10 points)
- (3) Explain and interpret the results shown here. (15 points)

