

2018학년도 2학기

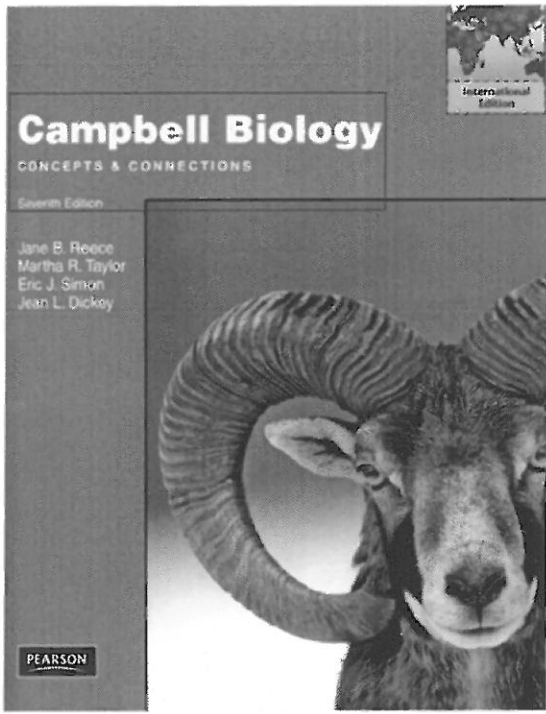
기초자연과학영역 학점취득특별시험 안내

I. 생명과학2

1. 교재 : Campbell Biology Concepts & Connections

(제7판, 저자: Jane B. Reece, Martha R. Taylor, Eric J. Simon, Jean L. Dickey)

2. 시험 범위 : 20장 ~ 28장, 31장 ~ 33장, 36장 ~ 38장

교재	범위
	20. Unifying concepts of animal structure and function 21. Nutrition and digestion 22. Gas exchange 23. Circulation 24. The immune system 25. Control of the internal environment 26. Chemical regulation 27. Reproduction and embryonic development 28. Nervous system 31. Plant structure, reproduction and development 32. Plant nutrition and transport 33. Control system in plants 36. Population dynamics 37. Communities and ecosystems 38. Conservation biology

3. 출제경향 : 대학 1학년 과정 2학기에 수강하는 생명과학2는 기초 자연과학영역 (BSM, basic science mathematics) 과목으로서 강의가 영어로 진행되며, 시험도 영어로 출제됨. 따라서 생명과학2 정규 과목을 이수한 학생에 해당하는 학문 지식을 가지고 있는지 평가하기 위하여 생명과학2 정규 과목과 마찬가지로 아래 예시와 같이 객관식 영어 지문으로 문제가 출제됨. 시험문제는 70 문제가 출제될 예정임.

4. 기출 문제 및 모범 답안

1. Extinction is a natural phenomenon. It is estimated that 99% of all species that ever lived are now extinct. Why then do we say that we are now in a biodiversity crisis?

- A) Humans are ethically responsible for protecting endangered species.
- B) Scientists have finally identified most of the species on Earth and are thus able to quantify the number of species becoming extinct.
- contact the adjoining cells and they stop dividing.
- C) The current rate of extinction is high and human activities threaten biodiversity at all levels.
- D) Humans have greater medical needs than at any other time in history, and many potential medicinal compounds are being lost as plant species become extinct.
- E) Most biodiversity hot spots have been destroyed by recent ecological disasters.

ans. C)

11. Which of the following statements is consistent with the principle of competitive exclusion?

- A) Bird species generally do not compete for nesting sites.
- B) The density of one competing species will have a positive impact on the population growth of the other competing species.
- C) Two species with the same fundamental niche will exclude other competing species.
- D) Even a slight reproductive advantage will eventually lead to the elimination of the less well adapted of two competing species.
- E) Evolution tends to increase competition between related species.

ans. D)

23. Which of the following is a good example of sensory adaptation?

- A) olfactory receptors ceasing to produce receptor potentials when triggered by the smell of the second batch of cookies you are baking
- B) hair cells in the organ of Corti not responding to high-pitched sounds after you have worked on the same construction job for 30 years
- C) cones in the human eye failing to respond to light in the infrared range
- D) hair cells in the utricle and saccule responding to a change in orientation when you bend your neck forward after you have been reading a book
- E) rods in the human eye responding to mechanical stimulation from a blow to the back of the head so that a flash of light is perceived

ans. A)

30. A toxin that binds specifically to voltage-gated sodium channels in axons would be expected to

- A) prevent the hyperpolarization phase of the action potential.
- B) prevent the depolarization phase of the action potential.
- C) prevent graded potentials.
- D) increase the release of neurotransmitter molecules.
- E) have most of its effects on the dendritic region of a neuron.

ans. B)

45. If a newborn were accidentally given a drug that destroyed the thymus, what would most likely happen?

- A) His cells would lack class I MHC molecules on their surface.
- B) His humoral immunity would be missing.
- C) Genetic rearrangement of antigen receptors would not occur.
- D) His T cells would not mature and differentiate appropriately.
- E) His B cells would be reduced in number and antibodies would not form.

ans. D)