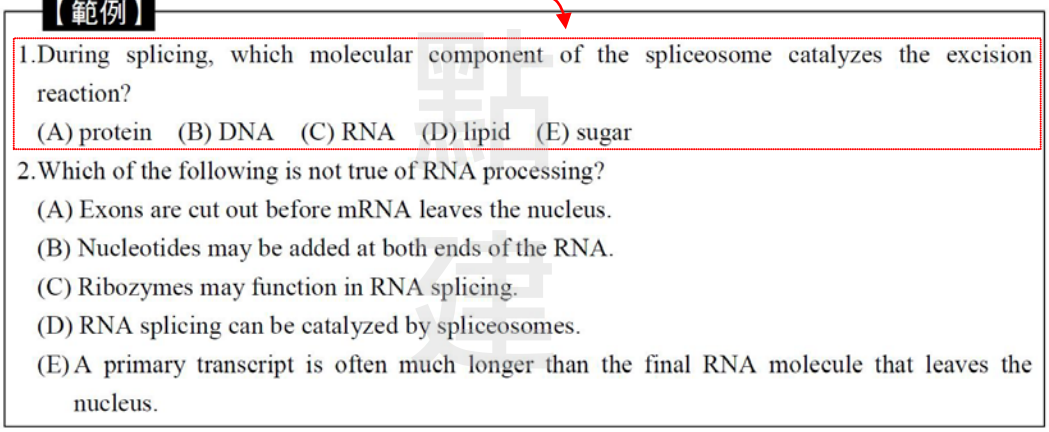
《107 普通生物學》

(C) 6. During splicing, which major molecular component of the spliceosome catalyzes the excision reaction?
(A) protein (B) DNA (C) RNA (D) lipid (E) sugar

生物講義第三回 Page 80 範例 1 完全命中



【範例】

1.During splicing, which molecular component of the spliceosome catalyzes the excision reaction?
(A) protein (B) DNA (C) RNA (D) lipid (E) sugar

2.Which of the following is not true of RNA processing?
(A) Exons are cut out before mRNA leaves the nucleus.
(B) Nucleotides may be added at both ends of the RNA.
(C) Ribozymes may function in RNA splicing.
(D) RNA splicing can be catalyzed by spliceosomes.
(E) A primary transcript is often much longer than the final RNA molecule that leaves the nucleus.

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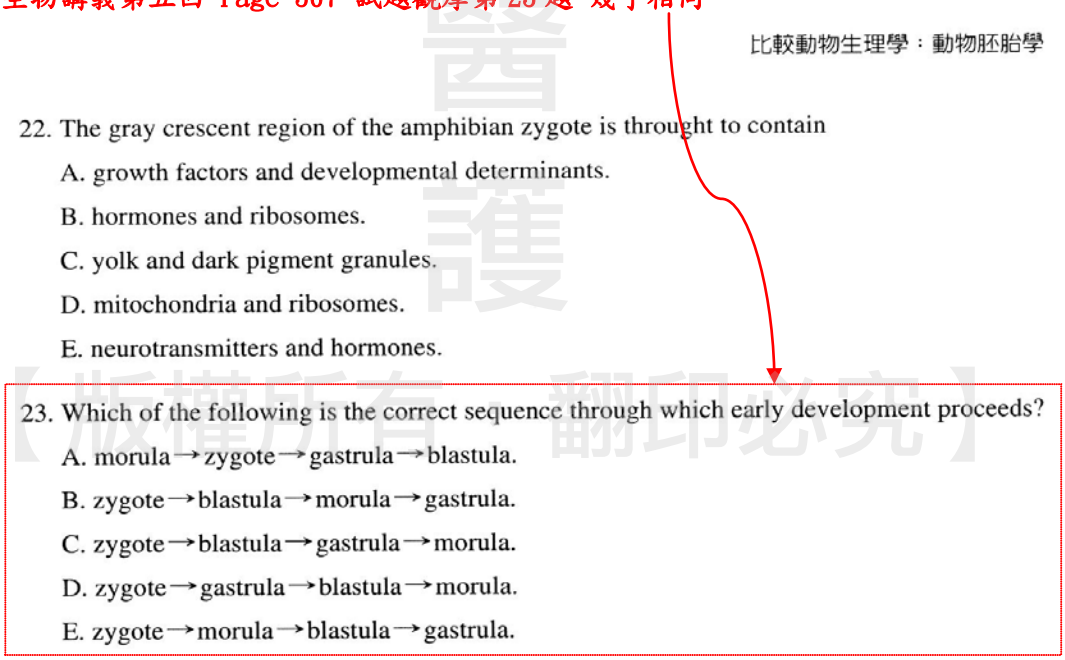
(D) 13. Which of the following orders regarding mammalian embryogenesis is **correct**?
1. cleavage 2. gastrula 3. blastula 4. cortical reaction 5. neurulation 6. acrosomal reaction
(A) 132645 (B) 231546 (C) 461523 (D) 641325 (E) 654132

生物講義第五回 Page 367 試題觀摩第 23 題 幾乎相同



比較動物生理學：動物胚胎學

22. The gray crescent region of the amphibian zygote is throught to contain
A. growth factors and developmental determinants.
B. hormones and ribosomes.
C. yolk and dark pigment granules.
D. mitochondria and ribosomes.
E. neurotransmitters and hormones.

23. Which of the following is the correct sequence through which early development proceeds?
A. morula→zygote→gastrula→blastula.
B. zygote→blastula→morula→gastrula.
C. zygote→blastula→gastrula→morula.
D. zygote→gastrula→blastula→morula.
E. zygote→morula→blastula→gastrula.

(D) 42. Which of the following about transposable elements is **correct**?
(A) occurs only in bacteria
(B) occurs only in plants
(C) moves genes between homologous regions of DNA
(D) scatters genes to a new loci in the genome
(E) plays little role in evolution

生物講義第九回 Page 110 範例 2 完全命中

【範例】

1. Which of the following statements regarding transposons is not true?
A. Transposons are genes that encode sex pili and enable plasmid transfers between bacteria.
B. Transposons are found in both prokaryotes and eukaryotes.
C. Transposons can move from a plasmid to the bacterial circular chromosome.
D. Transposons may replicate at an original site and insert a copy at another site.
E. Transposons may carry only the genes necessary for insertion.

2. Transposition differs from other mechanisms of genetic recombination because it
A. occurs only in bacteria.
B. moves genes between homologous regions of the DNA.
C. plays little or no role in evolution.
D. occurs only in eukaryotes.
E. scatters genes to new loci in the genome.

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(D) 43. The difference between pinocytosis and receptor-mediated endocytosis is that_____.

(A) pinocytosis brings only water molecules into the cell, but receptor-mediated endocytosis brings in other molecules as well

(B) pinocytosis increases the surface area of the plasma membrane whereas receptor-mediated endocytosis decreases the plasma membrane surface area

(C) pinocytosis requires cellular energy, but receptor-mediated endocytosis does not

(D) pinocytosis is nonselective in the molecules it brings into the cell, whereas receptor-mediated endocytosis offers more selectivity

(E) pinocytosis can concentrate substances from the extracellular fluid, but receptor-mediated endocytosis cannot

生物講義第一回 Page 280 範例 3 幾乎完全相同

【範例】

1.In receptor-mediated endocytosis, receptor molecules initially project to the outside of the cell. Where do they end up after endocytosis?

(A) on the outside of vesicles

(B) on the inside surface of the cell membrane

(C) on the inside surface of the vesicle

(D) on the outer surface of the nucleus

(E) on the ER

2.Familial hypercholesterolemia is characterized by which of the following?

(A) defective LDL receptors on the cell membranes

(B) poor attachment of the cholesterol to the extracellular matrix of cells

(C) a poorly formed lipid bilayer that cannot incorporate cholesterol into cell membranes

(D) inhibition of the cholesterol active transport system in red blood cells

(E) a general lack of glycolipids in the blood cell membranes

3.The difference between pinocytosis and receptor-mediated endocytosis is that

(A) pinocytosis brings only water molecules into the cell, but receptor-mediated endocytosis brings in other molecules as well.

(B) pinocytosis increases the surface area of the plasma membrane whereas receptor-mediated endocytosis decreases the plasma membrane surface area.

(C) pinocytosis is nonselective in the molecules it brings into the cell, whereas receptor-m ediated endocytosis offers more selectivity.

(D) pinocytosis requires cellular energy, but receptor-mediated endocytosis does not.

(E) pinocytosis can concentrate substances from the extracellular fluid, but receptor-mediated endocytosis cannot.

(D) 45. Which of the following traits do archaeans and bacteria share?
1. composition of the cell wall
2. presence of plasma membrane
3. lack of a nuclear envelope
4. identical rRNA sequences

(A) 1 and 2 (B) 1 and 3 (C) 1 and 4 (D) 2 and 3 (E) 2 and 4

生物講義第九回 Page 81 範例 4 完全命中

4. Which of the following traits do archaea and bacteria share?
1. composition of the cell wall
2. presence of plasma membrane
3. lack of a nulcear envelope
4. identical rRNA sequences

A. 1 only B. 3 only C. 1 and 3 D. 2 and 3 E. 2 and 4

5. Which two groups of archaea should have SSU-RRNA sequences that are most similar to each other?
1. extreme halophiles
2. cyanobacteria
3. methanogens
4. alpha proteobacteria
5. Korarchaeota

A. 1 and 2 B. 1 and 3 C. 2 and 3 D. 2 and 5 E. 3 and 5

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