

LITHUANIAN UNIVERSITY
OF HEALTH SCIENCES

**ENTRANCE
EXAMINATION
TEST**

Chemistry and
Biology

**Example,
2023**

INSTRUCTIONS

1. Only one option (answer) is correct.
2. Wrong answer, not answered question, marked two or more options results a failed question.
3. Mark correct answer on the answer sheet in this way:
A B C D E - D is considered as correct one.
4. In case you need to correct you answer, do it in a clear way:
 A B C D E - D was marked but now you change to A as correct one.
5. You may use a calculator. Calculators on smartphones are allowed as an exception with a condition that you declare this to officer before using it.
6. You may do any notes, marks, etc. on this textbook in any place and manner you like. None of these notes will be used for evaluation purposes.
7. Do not hesitate to address with questions university officer if you are in doubts.

Strictly not allowed:

- Copying, photocopying of this textbook, in full or single questions, pictures, etc.
- Rewriting any of questions by hand or by any other means.
- Using mobile phone during the exam. It must be turned off or in a flight mode.

Failing to obey any of restrictions above will result in an exemption from the exam without right to join it later.

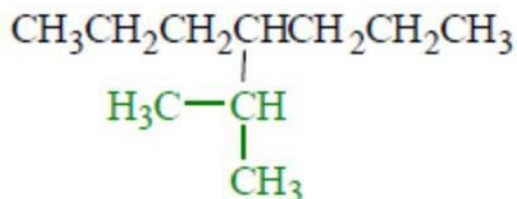
CHEMISTRY

1. What volume of 6 M HCl and 2 M HCl should be mixed to get one litre of 3 M HCl?

- A. volume of 6 M HCl required = 0.15 L and volume of 2 M HCl required = 0.85 L
- B. volume of 6 M HCl required = 0.35 L and volume of 2 M HCl required = 0.65 L
- C. volume of 6 M HCl required = 0.25 L and volume of 2 M HCl required = 0.75 L
- D. volume of 6 M HCl required = 0.55 L and volume of 2 M HCl required = 0.45 L

2. Name of the compound is

- A. 4-isopropylheptane
- B. 4-isodecane
- C. 1-di-propylbutane
- D. All names are correct



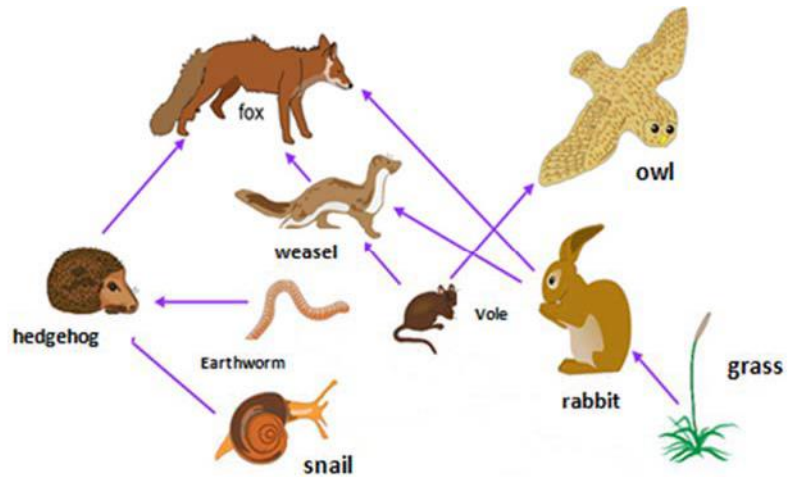
3. Which one of the following polymers is synthetic?

- A. Nucleic acids
- B. Plastic
- C. Proteins
- D. Cellulose

BIOLOGY

1. Which of the following organisms correspond to a secondary consumer according to this diagram?

- A. fox
- B. rabbit
- C. earthworm



2. The process by which changes in organisms happen over number of generations is known as:

- A. variation
- B. evolution
- C. revolution
- D. survival

3. The double helix describes the shape of:

- A. DNA
- B. chromosome
- C. gene
- D. nucleus

MATHEMATICS

4. Before mother's day the price for one rose was increased by 10%. After the holiday it was decreased by 8%. What was the price of one rose before the holiday if after it a price of one rose is 2.53 euro?
- A. 2.5;
- B. 2.7;
- C. 2.75;
- D. none of these.
5. Which expression can be written instead of ellipsis (...) $\sin \frac{x}{2} \cdot \cos \frac{x}{2} \cdot \cos x = \dots$?
- A. $\sin 2x$;
- B. $\frac{1}{2} \sin x$;
- C. $\frac{1}{2} \sin 2x$;
- D. none of these.
6. A nurse vaccinated people every day of April. Each day she vaccinated two more people than the day before. It is known that she vaccinated 10 people on April 1st. How many people has she vaccinated during April?
- A. 1170;
- B. 68;
- C. 2340;
- D. none of these.