**The final exam program on the discipline “Python programming”**

**of 2020 – 2021 academic year**

Faculty: Information technologies.

Department: Information systems.

Code and name of the educational program: 6B06102 – Information systems.

Name of the discipline: Python programming.

Course: 3.

Teacher: Vladislav Karyukin

The form of the final control of the academic discipline – offline written exam.

Platform: Univer.

**The control of the exam** – offline proctoring.

Proctoring technology (English “proctor” – to control the exam course). In the classrooms, proctors make sure that the examinees pass the test honestly; they complete the assignments on their own and do not use additional materials. Each student must be sure to familiarize himself / herself with the rules of the exam.

***Exam duration*** – 120 minutes.

***The number of test questions***: 3

**EXAM REGULATIONS**

The exam is held on schedule. Therefore, all students must come to the exam in advance.

**The topics of the exam**

1. Introduction to Python
2. Python programming
3. Variables, expressions and statements
4. Conditional expressions
5. Functions
6. Loops and iterations
7. Strings
8. Reading files
9. Lists
10. Dictionaries
11. Tuples
12. Regular expressions
13. Python objects
14. Relational databases and SQL Lite
15. Matplotlib

**Literature**

# Python for Everybody: Exploring Data in Python 3 by Dr. Charles Russell Severance, Sue Blumenberg, Elliott Hauser, Aimee Andrion, 2016

# Python Cookbook: Recipes for Mastering Python 3 3rd Edition, Kindle Edition by David Beazley, Brian K. Jones, 2013

# Advanced Python Development: Using Powerful Language Features in Real-World Applications 1st ed. Edition by Matthew Wilkes, 2021

1. Natural Language Processing with Python and spaCy: A Practical Introduction, Yuli Vasiliev, 2021
2. Learning Scientific Programming with Python, Christian Hill, 2021

**Grade scale:**

|  |  |  |  |
| --- | --- | --- | --- |
| «excellent» - | А | 4,0 | 95-100 |
| А- | 3,67 | 90-94 |
| «good» - | В+ | 3,33 | 85-89 |
| В | 3,0 | 80-84 |
| В- | 2,67 | 75-79 |
| С+ | 2,33 | 70-74 |
| «satisfied» - | С | 2,0 | 65-69 |
| С- | 1,67 | 60-64 |
| D+ | 1,33 | 55-59 |
| D- | 1,0 | 50-54 |
| «unsatisfied» - | FX | 0,5 | 25-49 |
| F | 0 | 0-24 |