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| **Изображение выглядит как текст, внешний, знак, столб  Автоматически созданное описание** | **Azərbaycan Respublikası Təhsil Nazirliyi**  **Bakı DÖvlət Universiteti**  **TƏTBİQİ RİYAZİYYAT VƏ KİBERNETİKA FAKÜLTƏSİ** |  |

**TƏSDİQ EDİRƏM**

\_\_\_\_\_\_\_\_\_\_\_\_ **dos. Mübariz Xəlillov**

**“15” fevral 2023-cü il**

**\_\_\_\_\_\_\_\_\_Tətbiqi proqramlar paketi fənninin**

**sillabusu**

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| Fakültə: | Tətbiqi riyaziyyat və kibernetika | İxtisas/  şifri: | Kompüter elmləri |  |
| Kafedra: | Proqramlaşdırma | Fənn/  şifri: | Tətbiqi proqramlar paketi |  |
| Fənn  müəllimi: | Paşazadə Mələk Telman qızı | Qrup:  kurs: | Eng-30  II kurs |  |
| Dərəcəsi,  elmi adı: | Riyaziyyat elmlər doktoru, dosent | Təhsil pilləsi: | Bakalavr |  |
| Vəzifəsi: | professor | Kredit  və saat: | 60 saat, 4 kredit |  |
| E-mail: | ashrafova.yegana@gmail.com | Fənnin  növü: | əsas |  |
| Əlaqə  telefonu: | 559406223 | Prerekvizit  fənn: |  |  |
| Linkedin  profili: |  | Təhsilalma  forması: | əyani |  |
| TRK-nın  rəsmi internet səhifəsi: | http://amc.mamedov.co/ | Tədris  dili: | ingilis |  |
| Kafedranın  e-mail: |  | Tədris ili  (semestr): | 2022-2023  (II semestr) |  |

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| Description of the subject: |
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| The purpose of the subject: |
| The purpose of teaching the subject "Application software packages" is to teach students a systematic approach to solving real practical problems, common application software and the rules of working with them. |

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| Learning outcomes of the subject: |
| to know how to work with software packages |

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| In teaching the subject, the student: |
| Must know:  - The role and importance of certain types of models in solving issues related to various specialties;  -description of concrete applied practical issues through mathematical models, boundary issues of relevant physical processes, etc. how to formulate, appropriate solution algorithms, appropriate design and use methods of report program modules;  - rules for working with software packages;  - Rules for the compilation and use of a complex structured, dynamic primary information base; |
| Must be able to:  - working with ready-made software packages, operating systems and other informative resources;  - creation of computer models on the basis of more adequate mathematical models within modern mathematical capabilities, in accordance with the concept of a systematic approach to the study of natural, anthropogenic, biophysical, ecological and other processes;  - preparation of computer software packages to solve specific problems;  - Creating tables and charts in MS Excel, organizing and filling tables. using the main functions of MS Excel;  - working with graphic editors;  - perform various types of calculations in MS Excel;  - working in the MatLab program system;  - to perform various calculations in the MatLab software system. |
| Must master:  - Ability to work with software packages;  - to create a table in MS Excel, to work with complex tables, to perform calculations related to various fields;  - to perform calculations in the MatLab program;  - to the rules for building the model, algorithm, and based on it, the compilation and use of computer employee reporting programs; |

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| Teaching and learning methods: |
| Lecture: |
| Relevant materials on the topics are prepared and applied in the audience as a discussion. This method is implemented directly under the supervision of the teacher. |
| Tasks on the topic: |
| According to this method, students are presented with appropriate tasks on topics prepared by the teacher before class time. Students are given a total of 30 minutes to solve the task. Then the answers are discussed based on the lesson. This method forms critical thinking skills in students. |
| Presentations: |
| Students prepare presentations according to predetermined lecture topics. These presentations are one of the important methods for developing presentation skills in students. This method also helps students to develop individual skills. |
| Debates: |
| By means of this method, team spirit is formed in students, they develop a more critical approach to issues, connections between all topics are established by means of counterarguments. |
| Interview method: |
| With the help of this method, recruitment and interview processes are realistically revived with the participation of two or more students. In this way, students are given advice on how to properly assess the difficulties and situations they may encounter in real practice, find a solution, etc. |

**Note:** During the lecture, the teacher may use other methods and techniques (which may change depending on the topic) taking into account innovative educational practices.

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| Tövsiyyə olunan əsas və əlavə ədəbiyyat: |
| Recommended primary and additional reading: |
| 1.Machine Learning Design Patterns: Solutions to Common Challenges in Data Preparation, Model Building, and Mlopsby [Valliappa Lakshmanan](https://www.alibris.com/search/books/author/Valliappa-Lakshmanan?aid=6703953), [Sara Robinson](https://www.alibris.com/search/books/author/Sara-Robinson?aid=4249483), [Michael Munn](https://www.alibris.com/search/books/author/Michael-Munn?aid=3524029)2. The Business Case for AI: A Leader's Guide to AI Strategies, Best Practices & Real-World Applicationsby [Kavita Ganesan](https://www.alibris.com/search/books/author/Kavita-Ganesan?aid=11404817)3. Monolith to Microservices: Evolutionary Patterns to Transform Your Monolithby [Sam Newman](https://www.alibris.com/search/books/author/Sam-Newman?aid=3629795)4.MOS Study Guide for Microsoft Excel Exam MO-200by [Joan Lambert](https://www.alibris.com/search/books/author/Joan-Lambert?aid=2840277)5.Learn Microsoft PowerApps: Build customized business applications without writing any codeby [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360)6. Excel: The most updated bible to master Microsoft Excel from scratch in less than 7 minutes a day | Discover all the features & formulas with step-by-step tutorials Paperback – April 1, 2022by [Leonard J. Ledger](https://www.amazon.com/Leonard-J-Ledger/e/B09YTQ5C8T/ref=dp_byline_cont_book_1)7. Computing handbook : computer science and software engineering  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | |  | | [Books](https://www.alibris.com/books)[Business & Economics](https://www.alibris.com/search/books/subject/Business-Economics)[E-Commerce](https://www.alibris.com/search/books/subject/Business-Economics-E_Commerce)[Internet Marketing](https://www.alibris.com/search/books/subject/Business-Economics-E_Commerce-Internet-Marketing)The Business Case for AI: A Leader's Guide to AI Strategies, Best Practices & Real-World ApplicationsThe Business Case for AI: A Leader's Guide to AI Strategies, Best Practices & Real-World Applicationsby [Kavita Ganesan](https://www.alibris.com/search/books/author/Kavita-Ganesan?aid=11404817) | | |  | | | |  | | | | |  | | | | | | | | |
| Additional literature: |
| 1.101 Most Popular Excel Formulas (101 Excel Series) by [John Michaloudis](https://www.amazon.com/John-Michaloudis/e/B085LQ7PXZ/ref=dp_byline_cont_book_1)  (Author), [Bryan Hong](https://www.amazon.com/Bryan-Hong/e/B085DJ5KKS/ref=dp_byline_cont_book_2)2. Microsoft 365: 11 Books in 1: The Ultimate All-in-One Bible to Master Excel, Word, PowerPoint, Outlook, OneNote, OneDrive, Access, Publisher, SharePoint, Teams and Visio with Step-by-Step Tutorials Paperback – December 5, 2022 **by**[**Benjamin Zeldovich**](https://www.amazon.com/Benjamin-Zeldovich/e/B0B9HLT9K3/ref=dp_byline_cont_book_1) |

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| Recommended subject-related electronic resources, articles (foreign and domestic): |
| https://www.w3schools.com/office/ |
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**The content and teaching procedure of the subject lecture**

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| Week | History  (planned) | The name of the topic | Teaching and learning method | What the student should know at the end of teaching the subject  (training results) | General and specific professional competencies | Questions about the topic | We find the house | Number of hours |
| 1 | 17.02.23 | Computer software system. Classification of application software packages according to different characteristics | Lecture | A computer software system must know how to classify application software packages according to various characteristics | A computer software system must know how to classify application software packages according to various characteristics | 1. What is computer software?  2. What is application software?  3.Classification of application software packages according to different characteristics | Conduct research on the topic | 2 |
|  | 1. Computing handbook : computer science and software engineering p.10-20.  2.Learn Microsoft PowerApps: Build customized business applications without writing any codeby [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.20-30 | | | | | | | | |
| 2 | 01.03.23 | General purpose application software packages | Lecture | General purpose application software packages. .A suite of Microsoft products such as MS Office, PowerPoint, MS Word, Excel, and Outlook. Internet browsers like Google Chrome, Safari, Firefox, etc. | To learn General purpose application software packages. .A suite of Microsoft products such as MS Office, PowerPoint, MS Word, Excel, and Outlook. Internet browsers like Google Chrome, Safari, Firefox, etc. | 1. General purpose application software  2. application software packages.  3. Microsoft products such as MS Office, PowerPoint, MS Word, Excel, and Outlook. | To work with some application software package like excel, word | 2 |
|  | 1. Computing handbook : computer science and software engineering p.21-35.  2.Learn Microsoft PowerApps: Build customized business applications without writing any codeby [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p40-50 | | | | | | | | |
| 3 | 08.03.23 | Working principle of MS Excel program and mathematical calculation operations | Lecture | Working principle of MS Excel program and mathematical calculation operations | To learn Working principle of MS Excel program and mathematical calculation operations | 1. | Working principle of MS Excel program and mathematical calculation operations | 2 |
|  | 1. Computing handbook : computer science and software engineering, p.40-60. 2. Learn Microsoft PowerApps: Build customized business applications without writing any codeby [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.60-80 | | | | | | | | |
| 4 | 15.03.23 | Economic, engineering, etc. application software packages used to solve problems | Lecture | Economic, engineering, etc. application software packages used to solve problems | Economic, engineering, etc. application software packages used to solve problems | 1.Toxunanlar (Nyuton) üsulunun alqoritmi  2. Parçanı yarıya bölmə üsulunun alqoritmi | To work with Economic, engineering, etc. application software packages used to solve problems | 2 |
|  | 1. Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360)p.64-76. 2.p.82-96 | | | | | | | | |
| 5 | 22.03.23 | Methodical application software packages | Lecture | Methodical application software packages | Methodical application software packages | Methodical application software packages | Methodical application software packages | 2 |
|  | 1. Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.78-1002. MOS Study Guide for Microsoft Excel Exam MO-200 by [Joan Lambert](https://www.alibris.com/search/books/author/Joan-Lambert?aid=2840277) p.120-140 | | | | | | | | |
| 6 | 29.03.23 | Troubleshooting and troubleshooting application software packages | Lecture | Troubleshooting and troubleshooting application software packages | Troubleshooting and troubleshooting application software packages | Troubleshooting and troubleshooting application software packages | Troubleshooting and troubleshooting application software packages | 2 |
|  | 1. Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.100-110. 2. MOS Study Guide for Microsoft Excel Exam MO-200 by [Joan Lambert](https://www.alibris.com/search/books/author/Joan-Lambert?aid=2840277) p.160-190 | | | | | | | | |
| 7 | 05.04.23 | Solving various problems in Excel | Lecture | Solving various problems in Excel | Solving various problems in Excel | Solving various problems in Excel | Solving various problems in Excel | 2 |
|  | 1. Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360)p.120-130. 2. MOS Study Guide for Microsoft Excel Exam MO-200 by [Joan Lambert](https://www.alibris.com/search/books/author/Joan-Lambert?aid=2840277) p.200-220 | | | | | | | | |
| 8 | 12.04.23 | Mathematical expressions, system variables, variables and constants in the MATLAB system | Lecture | Mathematical expressions, system variables, variables and constants in the MATLAB system | Mathematical expressions, system variables, variables and constants in the MATLAB system | Mathematical expressions, system variables, variables and constants in the MATLAB system | Mathematical expressions, system variables, variables and constants in the MATLAB system | 2 |
|  | 1. Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.130-140. 2. MOS Study Guide for Microsoft Excel Exam MO-200 by [Joan Lambert](https://www.alibris.com/search/books/author/Joan-Lambert?aid=2840277) p.230-240 | | | | | | | | |
| 9 | 19.04.23 | Constructing linear arrays of equally spaced points in MatLab | Lecture | Constructing linear arrays of equally spaced points in MatLab | Constructing linear arrays of equally spaced points in MatLab | Constructing linear arrays of equally spaced points in MatLab | Constructing linear arrays of equally spaced points in MatLab | 2 |
|  | 1. Excel: The most updated bible to master Microsoft Excel from scratch in less than 7 minutes a day | Discover all the features & formulas with step-by-step tutorials Paperback – April 1, 2022 by [Leonard J. Ledger](https://www.amazon.com/Leonard-J-Ledger/e/B09YTQ5C8T/ref=dp_byline_cont_book_1) p.150-160. 2. MOS Study Guide for Microsoft Excel Exam MO-200 by [Joan Lambert](https://www.alibris.com/search/books/author/Joan-Lambert?aid=2840277) p.240-260 | | | | | | | | |
| 10 | 26.04.23 | Constructing graphs and charts in the MatLab package | Lecture | Constructing graphs and charts in the MatLab package | Constructing graphs and charts in the MatLab package | Constructing graphs and charts in the MatLab package | Constructing graphs and charts in the MatLab package | 2 |
|  | 1.Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.150-160. 2. Excel: The most updated bible to master Microsoft Excel from scratch in less than 7 minutes a day | Discover all the features & formulas with step-by-step tutorials Paperback – April 1, 2022 by [Leonard J. Ledger](https://www.amazon.com/Leonard-J-Ledger/e/B09YTQ5C8T/ref=dp_byline_cont_book_1) p.240-260 | | | | | | | | |
| 11 | 03.05.23 | Solving linear and nonlinear system of equations (XTS) in MatLAb, numerical integration methods in MATLAB system, Trapezium method, Simpson method solution | Lecture | Solving linear and nonlinear system of equations (XTS) in MatLAb, numerical integration methods in MATLAB system, Trapezium method, Simpson method solution | Solving linear and nonlinear system of equations (XTS) in MatLAb, numerical integration methods in MATLAB system, Trapezium method, Simpson method solution | Solving linear and nonlinear system of equations (XTS) in MatLAb, numerical integration methods in MATLAB system, Trapezium method, Simpson method solution | Solving linear and nonlinear system of equations (XTS) in MatLAb, numerical integration methods in MATLAB system, Trapezium method, Simpson method solution | 2 |
|  | Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.270-290 | | | | | | | | |
| 12 | 10.05.23 | Numerical methods for solving ordinary differential equation and system of equations in MatLab | Lecture | Numerical methods for solving ordinary differential equation and system of equations in MatLab | Numerical methods for solving ordinary differential equation and system of equations in MatLab | Numerical methods for solving ordinary differential equation and system of equations in MatLab | Numerical methods for solving ordinary differential equation and system of equations in MatLab | 2 |
|  | Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.290-310 | | | | | | | | |
| 13 | 17.05.23 | Numerical methods of function interpolation in the MatLab system | Lecture | Numerical methods of function interpolation in the MatLab system | Numerical methods of function interpolation in the MatLab system | Numerical methods of function interpolation in the MatLab system | Numerical methods of function interpolation in the MatLab system | 2 |
|  | Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360) p.310-330 | | | | | | | | |
| 14 | 24.05.23 | Programming in the MATLAB system | Lecture | Programming in the MATLAB system | Programming in the MATLAB system | Programming in the MATLAB system | Programming in the MATLAB system | 2 |
|  | 1. Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360)p.190-230.  2.p.335-340 | | | | | | | | |
| 15 | 31.05.23 | Computer networking application software packages | Lecture | Computer networking application software packages | Computer networking application software packages | Computer networking application software packages | Computer networking application software packages | 2 |
|  | Learn Microsoft PowerApps: Build customized business applications without writing any code by [Matthew Weston](https://www.alibris.com/search/books/author/Matthew-Weston?aid=9992360)p.310-330 | | | | | | | | |

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| NN | The name of the topic | Delivery  date |
| 1. | Operations on data | 20.02 – 20.03 |
| 2. | Search principle in Excel |
| 3. | Subroutines in more detail. |
| 4. | Functions in Excel |
| 5. | Sorting elements in Excel and Access |
| 6. | User modules | 27.03 – 24.04 |
| 7. | Basics of application software |
| 8. | Tables |
| 9. | Objects |
| 10. | Row objects |
| 11. | Contents | 01.05 – 29.05 |
| 12. | Application packages |
| 13. | Data visualization |
| 14. | Files |
| 15. | Condition function in excel |

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| Rules: |
| The requirement for organizing a lecture class: |
| * General information about the subject should be delivered to students during lectures (electronic versions of lectures should be given to students);Fənnin mühazirəsinə aid sillabus tədris prosesinin başlamasının ilk 10 günündə tələbələrə çatdırılmalıdır; * Subject-related exam questions should be delivered to students in the first 10 days of the educational process; * The new topic should be explained with the demonstration of visual aids (PPT and video files) (the nature of the lesson and the topic should be taken into account). |
| Requirements for the organization of a workshop (seminar) class: |
| * Different teaching methods should be used in the organization of the workshop (seminar) class. These methods should promote a student-centered approach and the active role of the student in the learning process. The teaching and learning methods that can be used are reflected in the Teaching and learning section (section 4) in the Education programs of each specialty. * Before the mid-term and final exams, students' mastery levels should be checked (different methods can be used, e.g. quiz). * During the seminar sessions, the students' mastery of the previous topic should be evaluated by conducting an oral and written survey for each lesson. * At the end of the semester, the joint grade of the students for the workshop (seminar) lesson should be calculated (Activity). |
| Requirements for laboratory work: |
| * It is important to conduct individual laboratory work during the semester. (the nature of the subject should be taken into account). * A white coat should be worn in the laboratory class (the nature of the subject should be taken into account). * The results of the laboratory work should be recorded in a notebook. In each protocol, the name, principle, progress, results of the laboratory work, and the results should be checked by the teacher and evaluated by conducting an oral survey. * At the end of the semester, the grade point average should be calculated. |
| Requirements for performing freelance work (individual): |
| Subjects and submission dates of the free work (the free work can consist of a single topic, provided that the topic covers 70% of the content of the subject).  During the semester, the completion of free (individual) topics must be given by the student in the form of presentations. No more than 15 minutes should be allocated to the discussion of free work. The presentation itself (presentation) must be submitted in electronic and printed version. |
| Colloquium requirements: |
| 3 colloquiums are held during the semester. Depending on the topic, the teacher can freely choose the form of the colloquiums (oral, written, quiz, comparison table, etc.). |
| Attendance: |
| * Participation of students in all classes is important. Students must submit information about missing classes for certain reasons (illness, family situation, etc.) to the dean of the faculty. Students who miss more than 25% of classes should not be admitted to the exam. |
| Lateness to class or other class violations: |
| * A student who is more than 5 minutes late to the class will not be admitted to the class. Nevertheless, the student can be admitted to the second lesson. |
| Check work (Quiz): |
| * A student who does not participate in the examination due to the reasons given to the teacher and the dean in advance can write the examination in the following week. |
| Exams: |
| * All issues related to the student's participation in the exam or passing the exam are resolved by the faculty management. * Midterm and final exam questions should be given to students at the beginning of the semester before the exam. The questions of the midterm exam are not repeated in the final exam. |
| Violations of examination rules: |
| * Disruption of the course of the exam and transfers by the student during the midterm and final exams are prohibited. Students who do not comply with this rule will have their exam canceled and expelled from the exam. |
| Rules of conduct for students: |
| * It is forbidden to violate the teaching process and ethical rules, as well as unauthorized discussions between students and use of mobile phones during the lesson. |

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| Evaluation  (of the subjects of each ATM  considering the specificity  is carried out by purchasing) | Components | Date/deadline |
| Individual laboratory work | 7 works during the semester (from subject hour  subject to change) |
| Quiz | During the semester, depending on the nature of the subject and classroom hours, 1 or more may be held (before the midterm and final exam). |
| Freelance jobs  ( individual )  presentation | 1 time during the semester (or 10 presentations if there are 10 topics) |
| Attendance | At the beginning of each class during the semester |
| Midterm exam  (colloquium) | According to the schedule |
| Final exam | According to the schedule |
| Students who do not participate in the colloquiums and the exam for a valid reason can retake the exam during the same semester. A student who does not follow this rule is evaluated with 0 (zero) points. Avoidance of colloquiums and exams related to social activities is not allowed. | | |

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| Assessment and distribution of marks during the semester |
| The evaluation of the subject is carried out according to the multi-point system. In order to be successful, the student must score a minimum of 17 points in the end-of-semester exam, a minimum of 51 points in total.  Evaluation according to the semester result (based on the points collected before the exam and the exam):   |  |  |  | | --- | --- | --- | | 91 – 100 points | excellent | A | | 81 – 90 points | Very Good | B | | 71 – 80 points | Good | C | | 61 – 70 points | Enough | D | | 51 – 60 points | satisfactory | E | | Below 51 points | insufficient | F | |

**Müəllim: \_\_\_\_\_\_\_\_\_\_\_ Mələk Paşazadə**

**Tarix:10/02/2023**