

## TAKING THE FINAL EXAM IN COMPUTER APPLICATIONS TO ENGINEERING

*Check yourself*

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The total score for the two assignments is 40.

Don't just solve this problem; create your own problems according to the same models.

For the first time, this semester the final exam of Introduction to Computer Science and Computer Application to Engineering Subjects will be given via Moodle, and this may cause some disagreements among students and teachers. Students may lose points if they solve exercises in the right way but choose incorrect answers because of mechanical mistakes. The main advantage of taking an online exam is getting results instantly. In comparison with a tradition exam, it saves approximately two weeks of time. Although the new way is easier to teachers to check the results of exams, they often disagree with its methodology. Firstly, some students can get results by guessing randomly. The main disadvantage is restriction from showing the solution method. This includes organizing and presentation of the implementation of tasks like setting up Excel charts and Access reports. Considering these factors, fulfillment of the task is recommended for checking the level of assimilation of the course. Hopefully, the majority of students will check themselves. Use your logic and basic knowledge to check your practice job results. For example: years of occupation couldn't be more than a quarter of a century. It is possible to check density with numbers according to Azerbaijan's statistics.

There is also a small sample test included. According to our experience, students get better results from the test part rather than the practice part. Please check your results according to each section. Please share your results and opinions about the tasks and the methods of taking the exam.

We express our gratitude to bachelor student Yasemen Askari and alumni of the university of London Royal Holloway, Elnur Rzazade, for preparation of the article.

**PS.** We are pleased to know the fact that have surpassed some US and UK universities for taking of an exam via an online test

### Assignment in Excel

- |                                                                                                                                                                                                                                                                                                                                                                         |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 1 Input initial tables. Fill To <b>T1 Country</b> = Fill gaps in Azerbaijan column of <b>T1</b> table.                                                                                                                                                                                                                                                                  | <b>1</b> |
| 2 Add column <b>years</b> to <b>T-2</b> and Calculate: Duration of occupied years.                                                                                                                                                                                                                                                                                      | <b>1</b> |
| Find Area ( <b>km<sup>2</sup></b> ) for Zangilan, if <b>Average</b> of <b>Area km<sup>2</sup></b> is decreased by 300 then.                                                                                                                                                                                                                                             | <b>3</b> |
| Add "Formula" column = $\sqrt{(\text{years} * \lg(\text{Area})) : (\text{amount of letters of city names})! - \text{Pi}   + \text{Cos}89^0 - \log_{12}(\text{Population})   : \text{Sin}89^0$ for each row.                                                                                                                                                             | <b>3</b> |
| 3 Add " <b>IF</b> " column in T2 table = if $\text{Area km}^2 < \text{Average}$ then   If area more than average then calculate total of animal production for occupied period else total plant production for the same period. Consider that it is possible to obtain 45000USD from 1km <sup>2</sup> for animal production and 30000USD for plant production per year. | <b>3</b> |
| 4 Add 4 Rows and calculate <b>Average</b> for <b>area (km<sup>2</sup>)</b> , <b>population</b> , <b>years</b>                                                                                                                                                                                                                                                           |          |
| 5 Calculate <b>PRODUCT/ SUM</b> of <b>Area km<sup>2</sup></b> , <b>Population</b> , <b>years</b>                                                                                                                                                                                                                                                                        | <b>3</b> |

- 6 Calculate **SUM - (MIN+MAX):2** of **Area km<sup>2</sup>, Population, years**  
 7. Calculate **SUM** and **AVERAGE** of **Area km<sup>2</sup>, Population, years** column separately for **Area km<sup>2</sup> > 1000**

**3**

**Assignment in Access**

1. Create new database named with your department name  
**1**
  2. IMPORT initial tables  
**3**
  3. Use simply query and set fields **Heroes, Villages, Memorials** from **T-1** and **Cities, Area, Population** from **T-2** tables. **3**
  4. Sort result query table by **Cities** (ascending) and save by name **“qvar1-1”**. **1**
  5. Filter the result table by condition **Area > 1000**. **1**
  6. Add new counting fields: **Density = Population/ Area;**  
**Counting2=( Density - Memorials)/10.** **3**  
Save by name **“qvar1-2”**
  7. Filter the result table only by condition field **Villages < 80** or **Memorials >70**. **1**  
Save by name **“qvar1-3”**
  8. Calculate *average* for fields **Heroes, Villages, Memorials sum** for fields **Area, Population,** field2.  
Save by name **“ qvar1-4”** **3**
  9. Calculate max, min for every fields. Save by name **“qvar1-5”**. **3**
- Copy 2 Excel and 5 Access tables to **result** sheet.  
 Create **column chart** on qvar1-2 for **Cities & Dist** **2**  
 Find correlation between **counting 2** and **area** columns. **2**

Country	Cities	Heroes	Villages	Memorials	T-1
Azerbaijan	Agdam	17	119	27	
	Agdere	0	10	0	
	Eskeran	1	53	1	
	Fuzuli	6	71	15	
	Hadrut	2	41	2	
	Kelbedjer	2	122	87	

Cities	Dates of occupation	Area km <sup>2</sup>	Population	1000years	IF	T-2
Zangilan	30-oct-93	707	35.8			
Shusha	08-may-92	289	24.9			
Qubadli	31-avg-93	802	33.8			
Lachin	12-may-92	1835	60			
Khodjaven	02-oct-92	1458	9.011			
Khodjali	26-fev-92	970	11.567			
Kelbedjer	04-apr-93	1936	55			
Hadrut	24-avg-93	679	25			
Fuzuli	23-avg-93	1386	95.94			
Eskeran	19-avg-93	920	25			
Agdere	18-avg-93	1050	70			
Agdam	23-jul-93	1094	158			

Average  
Product/ Sum  
SUM - (MIN-MAX):2  
SUM >1000  
Average >1000

### TESTS (mark one answer per question)

1) Convert to decimal  $0000101_2 =$

A) 8 B) 5 C) 10 D) 256 E) 101

2) How can you replace formulas in a worksheet the formula's calculated values?

A) Copy the formulas to the Clipboard and select Edit, Paste Special from Excel's menus. Then choose the "Values" option.

B) Choose Tools, Options from Excel's menus, select the "View" tab, and choose the "Formulas" option.

C) Hit the F9 key.

3) Excel includes the logical functions AND, OR, and NOT. What's the result of this function: =AND((1<5,12>24,15<30),OR(12>12))

a. TRUE

b. The function is invalid and should be written =AND ((1<5)AND(12<24)AND(15<30))

c. The function is invalid and should be written =AND ((1<5),(12<24),(15<30))

d. NOT TRUE e. FALSE

4) You would use which of the following from the toolbar to copy a file from your disk into Excel's spreadsheet area?

a) The Copy button b) The Open button c) The New button d) The Retrieve button

5) In Excel, the "+", "-", "\*", and "/" are known as?

a) Arithmetic additions b) Arithmetic symbols c) Arithmetic operators d) Arithmetic things

6) By default, Excel places how many worksheets within a workbook?

a) 255 c) 3 b) 5 d) 10 e) 1024

7) First step for Advanced Filter is:

a) Consolidation b) Sort c) Select source d) Pivot table e) Criteria range

8) Which of the following is an example of a good formula?

a) =GG5:G9 b) = A1+^ B222 c) +G5/G6 d) =Z4-\$\$A8 e) = \$X1+EEE2222

9) What Excel operator would you use in a formula to join the words "Khazar" and "University" into "Khazar University"?

A) The at sign: =" Khazar "\$"University" B) The ampersand: =" Khazar "&"University"

C) The plus sign: =" Khazar "+"University" D) The Power sign: =" Khazar "^"University"

10) Which of the following is NOT a data type allowed for a field in Access?

a) Number c) Text b) Address d) Date E) Memo

11) Which of the following IS NOT a type of database object available in Access?

a) Report c) Message d) Query e) Form

12) Which of the following IS TRUE about the difference between Sort and Filter?

a) Filter can be done on only one column, Sort on multiple columns.

b) Sort can be done Ascending, Filter either ascending or descending.

c) Sort will show all records, while Filter will show selected records based on the Filter criteria.

13) Application suite is:

a) Suite for office work, a spreadsheet, a database management program, and a presentations program;

b) Equipment used to create, store, process, or communicate

c) Filenames including a period followed by one to three characters;

d) Software that provides you with a computerized mailbox that collects or receives electronically;

e) information in a business environment;

**14) Amount of cells on one Excel sheet is:**

- a.  $1.72E+11$  .      b. Not one.  
c. 17179869184.      d. 1048576      e.  $19384^2$ .

**15) How to keep Power Point file as executable slide show:**

- a) File, Save As, type of file PPDx; c) Set extension - PPSx; b) File, setup, slide show. d) Office Button , page setup, mirror margins;

**16) What is Form in Access?**

- a) Form is a visible way for input table B) Form is a visible way for output table C) Form is a no visible way for input table

**17) SQL is:**

- A) System Questions Language B) Structured Query Language  
C) Semantic Questions Language

**18) Which type of object is correct in Access?**

- A) Query B) Format C) Report D) Table E) Message

**19) Maximum how many letters can we use in Access "text" format?**

- A) 8 B) 2 C) 256 D) 1024

**20) How are related table displayed in the relationship or query window?**

- a. Row b. Row Width c. Related fields are in boldface.  
d. Related fields are aligned next to each other.  
e. Column width f. Number g. Related fields are connected by a line.

**21) How can you turn on Excel's auditing tools to trace precedences and dependencies in a worksheet?**

Düsturun dəyişənlərini oxlarla göstərmək üçün: a. Choose the menu commands Tools, Auditing, Show Auditing Toolbar.

b. Choose the Ribbon - Formulas then group of Formula Auditing...

c. Choose the Ribbon DATA then group of Formula Auditing...

d. Use the keyboard shortcut ALT+ (holds down the ALT key and tap the "a" key).

e. Choose the menu commands View, Toolbars to see a list of toolbars. Toggle on the Auditing toolbar.

**22) Too add formula in Access query? Query düstur əlavə etmək üçün?**

a. Insert, builder      b. Design, builder c. Design add formula

d. Column, add formula      e. Create, formula

**23) In 1 Bit you can locate:**

A) 0 or 1 B) 256 or 8 C) 65 536 bits D) You name

**24)  $a_1 = \lg 11$ ,  $a_2 = \log 22.5$ ,  $a_3 = \log 2.52$**

Chose correct result of nested IF function:

$=IF(A\$1>A1,IF(A\$1=A\$1,"All Right",TRUE),IF(A2<\$A3,ABS(SQRT(PI()^LOG(\$A1,5))),"$ All Right"&SQRT(PI())))

a. VALUE b. #####      c. All Right 1.77245385090552

d. ERROR e. TRUE f. All Right g. DIV/0! h. FALSE

Question 28