****

**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**UNIVERSITY EXAMINATION FOR THE DEGREE BACHELOR OF EDUCATION**

**1ST YEAR 2ndSEMESTER 2017/2018 ACADEMIC YEAR**

**MAIN CAMPUS**

**SCHOOL BASED**

**COURSE CODE: SCS 114**

**COURSE TITLE: INTRODUCTION TO SPREADSHEETS AND DATABASES**

**EXAM VENUE : -- STREAM: BED ARTS**

**DATE : 22/12/17 EXAM SESSION: 9.00 – 11.00 AM**

**TIME: 2.00 HOURS**

**Instructions:**

1. **Answer all questions in Section A and any other 2 questions in Section B**
2. **Candidates are advised not to write on the question paper**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

Question 1

1. Define the following terms as used in spreadsheet

i. Worksheet

ii. Workbook

(4 marks)

1. Explain the advantages of electronic spreadsheet over a manual spreadsheet (6 Marks)
2. Discuss the role of a Database Management System (4 marks)
3. Using examples define the following as used in database management systems.
4. Field
5. Record
6. Table
7. Query (8 Marks)
8. Explain the importance of the following table field properties in databases
9. Default value
10. Validation rule
11. Format
12. Lookup properties (8 marks)

Question Two

1. Describe the Excel user interface. (6 marks)
2. Use the Excel worksheet below to answer the questions that follow.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F | G | H | I |
| 1 | NAME | HOURS WORKED | HOURLY RATE | BASIC PAY | GROSS PAY | TAX DEDUCT | N.S.S.F  CONTRIBUTION | ALLOWANCE | NET PAY |
| 2 | John | 8 | 200 |  |  |  |  |  |  |
| 3 | Peter | 12 | 444 |  |  |  |  |  |  |
| 4 | Sam | 22 | 454 |  |  |  |  |  |  |
| 5 | Njogu | 3 | 567 |  |  |  |  |  |  |
| 5 | Gerald | 45 | 88 |  |  |  |  |  |  |
| 6 | Totals |  |  |  |  |  |  |  |  |

Write the formulas that would compute the following

1. BASIC PAY = HOURS WORKED \* HOURLY RATE. Less 2% of hourly rate.
2. ALLOWANCES ARE allocated at 7.5% of the BASIC PAY.
3. GROSS PAY = BASIC PAY + ALLOWANCES
4. TAX DEDUCT is calculated at 20% of the GROSS PAY.
5. NET PAY = GROSS PAY - TAX DEDUCT.
6. NSSF CONTRIBUTION = 3.82 % of the BASIC PAY.
7. The totals for each column (8 marks)
8. Excel has inbuilt tools, functions, formulae and logical manipulators to perform statistical analysis. Many a time though it not able to handle large sets of data thus hampering its performance. List and explain THREE disadvantages of using Excel in such situations.

(6 marks)

Question Three



1. State the command to format cells A1 to J1 (2 marks)
2. Explain how you would enter the values in the A6:A10 range and in an efficient manner

(3 marks)

1. State the formula for calculating the average buying price (2 marks)
2. Write a formula to calculate the total buying price (2 marks)
3. Write a formula or function to determine the most expensive item (2 marks)
4. Write a formula or function to determine the average for total purchases (2 marks)
5. Selling price is determined by setting profit for each item at 25%. With reference to cell I3 write a formula to determine the selling price for shoes (4 marks)
6. The store maintains ranking for items sold. State a function for ranking shoes (3 marks)

Question Four

1. Define the following as used in Excel or Access
   * 1. Sorting
     2. Filtering (4 marks)
2. Explain the difference between a field and a record in a database. (2 marks)
3. Describe any five data types that can be assigned to table fields in Access. Give examples of values that can be stored in them. (8 marks)
4. Using examples explain the function of the following objects in Access
   * 1. Queries
     2. Forms
     3. Reports (6 marks)

Question five

1. Explain how access prevents duplicate records. (2 marks)
2. Use the table to answer the questions that follow

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Emp\_Date | Name | Category | Rate/hr | Emp-id | Hours | Salary |
| 22/02/2001 | Joseph Peter | Junior | 1000 | E001 | 20 |  |
| 15/01/2003 | Mary James | Senior | 2000 | E002 | 50 |  |

1. Nominate the best suited field to be the primary key for the table (2 marks)
2. Design a table structure to hold the table above (8 marks)
3. Explain the differences between
4. Select Query and Action Query
5. Update query and make table query
6. Table design view and table datasheet view
7. Formulae and function
8. marks)