



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DEGREE

1ST YEAR 1st SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: SCS 114

COURSE TITLE: INTRODUCTION TO SPREADSHEETS AND DATABASES

EXAM VENUE: LAB 15

STREAM: e - LEARNING

DATE: 15/12/16

EXAM SESSION: 9.00 – 11.00 AM

TIME: 2 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**

SECTION A

Question 1

- a) Define the following terms as used in spreadsheet
i. Worksheet
ii. Workbook
(4 marks)
- b) Explain the advantages of electronic spreadsheet over a manual spreadsheet (6 Marks)
- c) Discuss the role of a Database Management System (4 marks)
- d) Using examples define the following as used in database management systems.
i. Field
ii. Record
iii. Table
iv. Query (8 Marks)
- e) Explain the importance of the following table field properties in databases
i. Default value
ii. Validation rule
iii. Format
iv. Lookup properties (8 marks)

SECTION B

Question Two

- a) Describe the Excel user interface. (6 marks)
- b) Use the Excel worksheet below to answer the questions that follow.

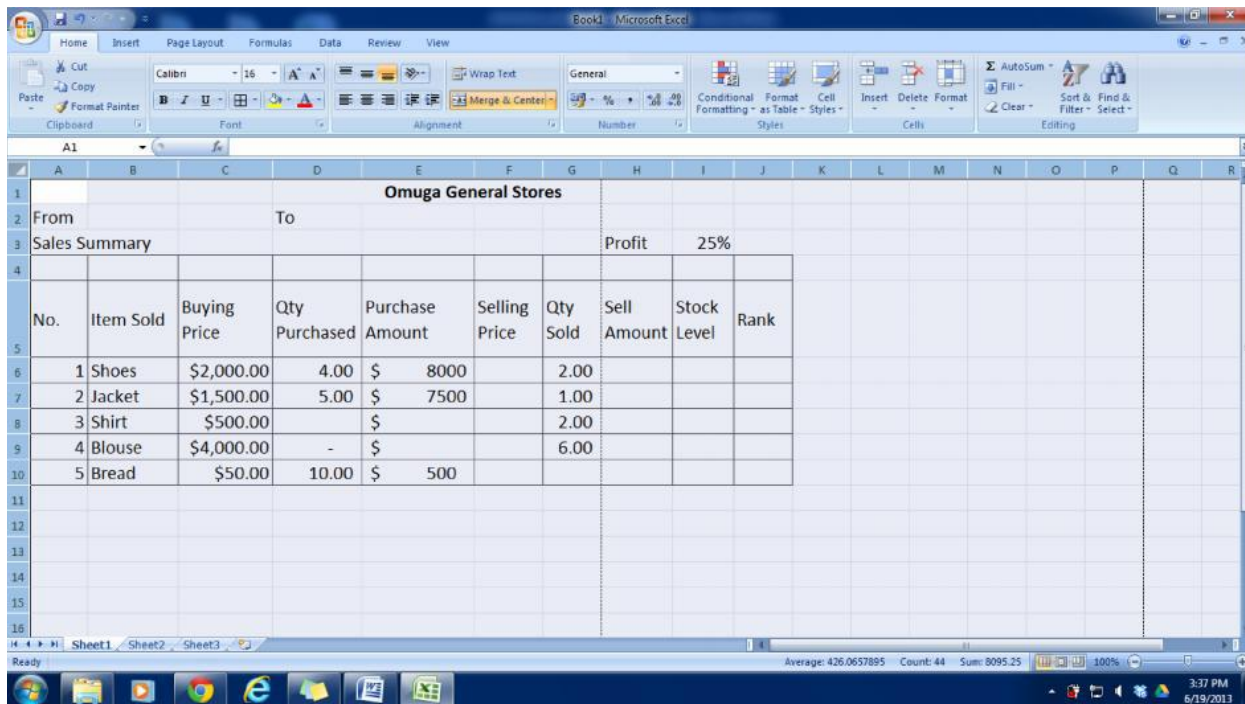
	A	B	C	D	E	F	G	H	I
1	NAME	HOURS WORKE D	HOURL Y RATE	BASI C PAY	GROS S PAY	TAX DEDU CT	N.S.S.F CONTRIB UTION	ALLOWA NCE	NET PAY
2	John	8	200						
3	Peter	12	444						
4	Sam	22	454						
5	Njogu	3	567						
5	Gerald	45	88						
6	Totals								

Write the formulas that would compute the following

- i. BASIC PAY = HOURS WORKED * HOURLY RATE. Less 2% of hourly rate.
- ii. ALLOWANCES ARE allocated at 7.5% of the BASIC PAY.
- iii. GROSS PAY = BASIC PAY + ALLOWANCES
- iv. TAX DEDUCT is calculated at 20% of the GROSS PAY.
- v. NET PAY = GROSS PAY - TAX DEDUCT.
- vi. NSSF CONTRIBUTION = 3.82 % of the BASIC PAY.
- vii. The totals for each column (8 marks)

- c) 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



- a) State the command to format cells A1 to J1 (2 marks)
- b) Explain how you would enter the values in the A3:A5 range and in an efficient manner (3 marks)
- c) State the formula for calculating the average buying price (2 marks)
- d) Write a formula to calculate the total buying price (2 marks)
- e) Write a formula or function to determine the most expensive item (2 marks)

- f) Write a formula or function to determine the average for total purchases (2 marks)
- g) 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)
- h) The store maintains ranking for items sold. State a function for ranking shoes (3 marks)

Question Four

- a) Define the following as used in Excel or Access
 - i. Sorting
 - ii. Filtering (4 marks)
- b) Explain the difference between a field and a record in a database. (2 marks)
- c) 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)
- d) Using examples explain the function of the following objects in Access
 - i. Queries
 - ii. Forms
 - iii. Reports (6 marks)

Question five

- a) Explain how access prevents duplicate records. (2 marks)
- b) 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	

- i. Nominate the best suited field to be the primary key for the table (2 marks)
 - ii. Design a table structure to hold the table above (8 marks)
- a) Explain the differences between
 - i. Select Query and Action Query
 - ii. Update query and make table query
 - iii. Table design view and table datasheet view
 - iv. Formulae and function

(8 marks)