

COM 201

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OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

UNIVERSITY EXAMINATIONS

2017 /2018 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER REGULAR EXAMINATION

**FOR THE DEGREE OF BACHELOR OF SCIENCE
IN APPLIED STATISTICS**

COURSE CODE: COM 201

COURSE TITLE: COMPUTER APPLICATION II

DATE: 10TH NOVEMBER, 2018

TIME: 2.00PM – 5.00 PM

INSTRUCTION TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 5 PRINTED PAGES

PLEASE TURN OVER

**INSTRUCTIONS TO CANDIDATES**

- i. Answer **ALL** Questions from section A and any other **THREE** questions.
- ii. Maps and diagrams should be used whenever they serve to illustrate the answer
- iii. Do not write on the question paper

SECTION A (24 MARKS) COMPULSORY**QUESTION ONE (12 Marks)**

- (a) Explain two categories of electronic circuits. [2 marks]
- (b) Distinguish between binary number system and hexadecimal number system. [4 marks]
- (c) Explain any three logic gates. [6 marks]

QUESTION TWO (12 Marks)

- (d) Convert 126.75^{10} to binary. [3marks]
- (e) Implement the logic expression $A+AD+BC$ using logic gates. [3marks]
- (f) Prove that $A+A\bar{B} = A+B$. [2 marks]
- (g) Any Demorgan's theorem on the expression $ABC+DEF$. [2 marks]
- (h) Distinguish between a K-Map and a Multiplexer. [2marks]

SECTION B (36 MARKS)**QUESTION THREE (12 Marks)**

- a. Distinguish between copying and moving text (2 marks)
- b. A company has decided to computerize their operations. They have decided to purchase packages instead of developing their own programs. Give four advantages and four disadvantages of their approach (8 marks)

- c. An agrovet company wants to analyze its employee's personal details using Microsoft Excel. The company has five employees; Mary Anne, Francis Kihara, Lena Achieng, Hellen Wanjiku and Mwangi Peter. Their ages are 20, 45, 90, 45, and 34 years respectively. Mary is in research department, Mwangi Peter in finance department, Francis Kihara in personnel department, Hellen Wanjiku in computer department and Lena Achieng computer department. Mary Anne and Hellen Wanjiku are single whereas Francis Kihara, Lena Achieng and Mwangi Peter are married. Construct a worksheet showing the above information. Use 1 appropriate column headings (2 marks)

QUESTION FOUR (12 Marks)

- a) State and explain five functions of operating systems (5 marks)
- b) Explain the following terms as used in word processing (3 marks)
- i) Indenting
 - ii) Alignment
 - iii) Word wrap
- c) State four requirements of internet connectivity (4 marks)

QUESTION FIVE (12 Marks)

- b) A student presented a budget in the form of a worksheet as follows;

	A	B	C
1	Item	amount	
2	Fare	200	
3	Stationary	50	
4	Bread	300	
5	Miscellaneous	150	
6	Total		

i) Given that the value 0.5 is typed in cell B9, write the shortest formula that would be typed in cell C2 and then copied down the column to obtain the values in column B

(6 marks)

ii) Write a formula and a function that can be typed to obtain the total in cell B6 and then copied to cell C6 (6 marks)

QUESTION SIX (12 Marks)

- (a) Draw the logic symbol of the NAND gate and explain its universality. [2 marks]
- (b) Convert $2E E^{16}$ to binary. [4 marks]
- (c) Using logic gates to show that the association law of addition $A+(B+C) = (A+B) + C$ is true. [2 marks]
- (d) Explain any three application areas of digital circuits. [4 marks]



QUESTION SEVEN (12 Marks)

(a) Simplify the expression $AB+A(B+C)+b(B+C)$ using Boolean algebra rules and laws.
[3 marks]

(b) Draw a truth table for a 3 input OR gate. [3 marks]

(c) Draw half adder logic circuit. [3 marks]

(d) Convert 100111011.011_2 to hexadecimal. [3 marks]
