MAKERERE UNIVERSITY BUSINESS SCHOOL
Jinja Campus
PROGRAMME: Bachelor of Business Computing
COURSE: Computing Mathematics
Assignment

Instructions: *Answer all Questions*

Submit by September 28th, 2023

Question One

a) Write the decimal number $\mathbf{394.27_{10}}$ in expanded form. *(1 Mark)*

Question Two

Convert the following binary numbers to decimal by first writing them in expanded form:

a) $\mathbf{1100101_2}$ *(2 Marks)*
b) $\mathbf{1010111.1011_2}$ *(2 Marks)*

Question Three

Convert the following numbers from decimal to binary:

a) $\mathbf{826_{10}}$ *(2 Marks)*
b) $\mathbf{0.34375_{10}}$ *(2 Marks)*
c) $\mathbf{1604.1875_{10}}$ *(2 Marks)*
d) $\mathbf{-471.25_{10}}$ *(4 Marks)*

Question Four

Convert the following numbers from decimal to binary, with 5 digits after the point: *(2 Marks)*

a) $\mathbf{0.2_{10}}$
b) $\mathbf{13.47_{10}}$

Question Five

Convert the following octal and hexadecimal numbers to decimal: *(4 Marks)*

(a) $\mathbf{4715_8}$ (b) $\mathbf{603.25_8}$

(c) $\mathbf{C6E_{16}}$ (d) $\mathbf{2FA.8_{16}}$

Question Six

Convert the following decimal numbers to hexadecimal: *(3 Marks)*

(a) $\mathbf{29803_{10}}$ (b) $\mathbf{6962.578125_{10}}$

Question Seven

Compute the following numbers in BCD: *(2 Marks)*

(a) **4567+8976** (b) **3476+7231**

Question Eight

Convert the following octal and hexadecimal numbers to binary: *(4 Marks)*

(a) **247_8** (b) **31.63_8**

(c) **$93B_{16}$** (d) **$AD.1C_{16}$**

Question Nine

Perform the following calculations in binary arithmetic: *(10 Marks)*

(a) $1101101_2 + 1011110_2$
(b) $1001101_2 + 101011_2$
(c) $1110011_2 – 101101_2$
(d) $1100010_2 – 1010111_2$
(e) $10011_2 \times 1101_2$
(f) $11010_2 \times 10101_2$
(g) $110110_2 \div 1001_2$
(h) $10110_2 \div 11_2$ (3 digits after the point)

End of Question Paper