

Basic Mathematics

Lectures 1 and 2

Assignment 1 (25 Points)

Instruction

- Complete all the questions.
 - This Assignment covers lecture 1 and 2
- 1) Let the universal set $U = \{0,1,2,3,4,7,8,10,13,12,15,16,17,18,24,23,20,14, 31\}$ and its subsets A,B, and C are such that $A = \{\text{Even numbers}\}$, $B = \{\text{Prime Numbers}\}$ and $C = \{\text{Divisors of 36}\}$. List the members of the following sets;
- (i) B, C (2 Points)
 - (ii) $B \cap C^c$ (2 Points)
 - (iii) $A \cap B \cap C$ (2 Points)
 - (iv) $\neg C$ (2 Points)
 - (v) $(A \cup B) \cap C^c$ (2 Points)
 - (vi) $A \cup C$ (2 Points)
 - (vii) $A \cap C$ (2 Points)
 - (viii) $B \cap C$ (2 Points)
- 2) Represent the following non-empty sets in separate Venn diagram, by shading the appropriate region where applicable. (Use Paint© to draw the Venn diagrams).
- (i) $(P \cap Q)$ (2 Points)
 - (ii) $A \subset B$ (2 Points)
 - (iii) $M \cup N$ (2 Points)
 - (iv) $A \cap B \cap C$ (2 Points)
 - (v) $\neg \neg \neg X$ (2 Points)