BABCOCK UNIVERSITY, ILISHAN REMO, OGUN STATE

MATH 101, MID – SEMESTER EXAMINATION, 2015/2016 SESSION

INSTRUCTION: ATTEMPT ALL QUESTIONS, TOTAL MARKS:15; TIME ALLOWED: 30 MINS

Question One

If $\mu = \{4,5,6, \ldots, 14,15\}$ and A,B and C are subsets of μ such that

$A = \{multiples\ of\ 2\}$, B= $\{multiples\ of\ 3\}$, C= $\{multiples\ of\ 5\}$.

v. $A \cup B$, $A \cup C$ and $B \cap C$ $(1\frac{1}{2}\ marks)$

vi. Use your result in (i) above to show that $(A \cup B) \cap (A \cup C) = A \cup (B \cap C)$ $(3\frac{1}{2}\ marks)$

Question Two

Determine the values of k in $x^2 + 3(k+3)x - \frac{9}{2}k = 0$, if it has equal roots. (5 marks)

Question Three

Find the sum of the first 6 terms of a geometric progression whose third term is 27 and sixth term is 8.

(5 marks)