BABCOCK UNIVERSITY

DEPARTMENT OF BASIC SCIENCES

FIRST SEMESTER, 2016/17

MATH 101, MID SEMESTER EXAMINATION

ANSWER **ALL** QUESTIONS. TIME : 30MINS

1. The sum of an A.P. is 40. If the first term is 16 and the common difference is 4, find the number of terms in the series.

2. The sum of the first four terms of a geometric progression is 30 and the sum of the next Subsequent four terms is 480. Find the first term of the progression

3. Prove by mathematical induction that

$$5+10+15+20+25+\ldots+5n=\frac{5n(n+1)}{2}$$

for all positive integers n.