

Internal Assessment
Department of Science
Subject- Mathematics
Semester- 4th

Paper-SEC (Paper 2)

Full Marks-15

1) Answer the followings Questions:

- a) Use principle of induction to prove that $3^{2n} - 8n - 1$ is divisible by $64 \forall n \in N$.
- b) Use division algorithm to prove that the square of an odd integer is of the form $8k + 1$, where k is an integer.
- c) State and prove the Fundamental theorem of Arithmetic.