

BSK COLLEGE , MAITHON , DHANBAD

COURSE OUT COME

DEPARTMENT OF MATHEMATICS

Undergraduates who have finished the necessities will:

- Realize the foundations of mathematics
- Describe several diverse examples of mathematics not in secondary school mathematics,
- Be able to perform basic computations in higher mathematics
- Explain why mathematical thinking is valuable in daily life.
- Be able to read and understand middle-level proofs
- Be able to write and understand basic proofs
- Develop and maintain problem-solving skills
- Use mathematical ideas to model real-world problems
- Be able to communicate mathematical ideas with others
- Have experience using technology to address mathematical ideas
- Solve problems using mathematics in unfamiliar settings.
- Discuss the development of the axiomatic view of set theory in the early 20th century,
- Identify the axioms of a system of set theory, for example the Zermelo-Fraenkel axioms, including the Axiom of Choice,
- Define cardinality, discuss and prove Cantor's Theorem and discuss the status of the Continuum Hypothesis,
- Explain basic concepts and prove basic facts about ordinals and well-ordered sets,
- Use transfinite induction to prove a selection of theorems relating to ordinals and cardinals.
- Define the set theoretic universe V and discuss its structure.