B. Sc. SEM III (Mathematics)

M-6: Modern Algebra

Unit I

Group Theory: Definition of a Group, Some examples of Group, Some preliminary lemma, Subgroup, A counting principle.

https://www.youtube.com/watch?v=ihQyZ7bJcRE&list=PLU6SqdYcYsfKaQARA0_vnhuXbxmuOQVFF

Unit II

Normal sub-group and Quotient Group, Homomorphism, Permutation groups.

https://www.youtube.com/watch?v=ihQyZ7bJcRE&list=PLU6SqdYcYsfKaQARA0_vnhuXbxmuOQVFF

Unit-III

Ring Theory: Definition and examples of rings, Some special classes of rings, Homomorphisms, Ideals and Quotient rings, More ideals and Quotient rings.

https://www.youtube.com/watch?v=BVf5FFIbaaQ&list=PLU6SqdYcYsfLyL330UDwLrRvNvWbto7DR

Unit IV

The field of Quotients of an integral domain, Euclidean rings, A particular Euclidean ring, Polynomial rings.

https://www.youtube.com/watch?v=BVf5FFIbaaQ&list=PLU6SqdYcYsfLyL330UDwLrRvNvWbto7DR