Science College, Kokrajhar

Assignments of B.Sc 2nd Semester Maths (G)

 Paper-E201

Abstract Algebra and Matrices

Full marks:30

Last date of submission:12/10/21

 Submit to email:mamonidhar@rediffmail.com

Answer any five from the following questions: $5×6=30$

(a)Prove that if G is a finite group and and H is a subgroup of G then o(H) divides o(G).

(b)Show that a subgroup of a cyclic group is cyclic.

(c) Write the definition of ring. Show that sum of two rings is again a ring.

(d)If A is an ideal of a ring R with unity such that $1\in A$ then show that A=R.

(e)Let R be an integral domain with unity such that R has finite number of ideals. Show that R is a field.

(f)Find the adjoint of the matrix

$$A=\left[\begin{matrix}-1&-2&3\\-2&1&1\\4&-5&2\end{matrix}\right]$$

(g)Solve system of linear equations, using matrix method.

$$5x+2y=4$$

$$7x+3y=5$$