S.R. Fatepuria College

Class Test Examination- 2020

Semester- IV, Paper- GE-T-04

Subject-Mathematics(GE)

F.M. – 10   **Time- 30 Minutes**

1) Answer any two questions :-   1x2= 2

a) Find the identity element of the group (Z,+).

b) Give an example of a group which is not commutative.

c) Is (R,.) is a group ?

2) Answer any one question :-   1x2= 2

a) If each element in a group be its own inverse prove that the group is abelian.

b) If a group (G,*) , a*b = a*c implies b = c.

3) Answer any two questions :-   3x2= 6

a) Prove that every cyclic group is abelian.

b) Let G be a cyclic group of prime order p, prove that every non-identity element of G is a generator of the group.

c) Prove that the set S = {l,-l,i,-i} is a group with respect to multiplication.