

Burdwan Raj College
Department of Mathematics
Internal Assessment: Home Assignment

(To be Submitted to designated email id mentioned below by 15 November 2020)

Semester: IV

Subject: Mathematics (Gen)

Paper: GE4 & CC1D

Send your assignments to (email id): roojpr@gmail.com

Internal Assessment, 2020
Semester - IV (Pass) Mathematics
Paper: - BM C4 CC-1D (Algebra) FH=10
Send to this mail id: -
Roojpr@gmail.com
Answer any five questions:

- (1) If each element in a group be its own inverse, show that the group is abelian.
- (2) Every cyclic group is abelian. Show this. Is the converse true? Justify.
- (3) Let $(G, 0)$ be an abelian group and n be a fixed +ve integer. Let $H = \{a^n : a \in G\}$. Show that $(H, 0)$ is a subgroup of $(G, 0)$.
- (4) Show that all proper subgroups of order 8 are commutative.
- (5) Give an example of a ring which is not an integral domain.
- (6) Show that in S_3 , number of even permutations = number of odd permutations.
- (7) Find all subrings of the ring \mathbb{Z}_{15} .

Procedure of Appearing in the Internal Examination:

- 1. Download the question paper from the “online examination” section of the College portal: www.burdwanrajcollege.ac.in**
- 2. Write your assignment on blank white A4 size papers.**
- 3. The assignment must carry the following details of the student:**
 - a. Name of the Student
 - b. University Roll Number
 - c. University Registration Number
 - d. Name of the Paper
 - e. Mobile Number of the Student
- 4. Examinees will have to submit their own hand-written answer scripts electronically to the mail id specified by the College in a single pdf file.**
- 5. On the subject-line of the mail write your Name and University Roll No.**