GOVERNMENT DEGREE COLLEGE, RAJAMPETA

(Affiliated to yogi vemana university, Kadapa)
(Re-accredited by NAAC with "B+" Grade in cycle - III)
Rajampet-516115

Class & Subject	S. No	Questions	Date	Evidence	Name of the Lecturer	Signature of the Lecturer
II B.Sc Mathematics (Major) - IV Semester- Ring Theory	1	(i) A ring R has no zero divisors iff cancellation laws hold in R. (ii) Let R be a Boolean ring then (1) $a + a = 0\ \forall a \in R$ (2) $a + b = 0 \Rightarrow a = b$ (3) R is commutative (iii) Every field is an integral domain.	21-12-2025	Click Here	Dr. M. Jayachandra Babu	M. Jayach
	2	(i) A field has no zero divisors. (ii) A finite integral domain is a field. (iii) The characteristic of an integral domain is either zero or prime. (iv) Prove that the set $Z[i] = \{a + ib\ / a, b \in Z, i^2 = -1\}$ is an integral domain with respect to addition and multiplication of numbers. Is it a field?	08-01-2026			
	3	(i) State and prove subring test. (ii) Show that the union of two ideals of a ring R is an ideal of R iff one is contained in the other. (iii) Let R be a ring and U be an ideal of R then $R/U = \{a + U/a \in R\}$ is a	11-02-2026			

		ring w.r.t cosets addition and multiplication defined as $$(a+U)+(b+U) = a+b+U$$ $$(a+U)(b+U) = ab+U$$				
	4	(i) State and prove the fundamental theorem of homomorphism of rings. (ii) Show that the ring Z of integers is a principal ideal ring. (iii) Let R be a commutative ring with unity and U be an ideal in R and $U \neq R$ then U is a maximal ideal in R iff R/U is a field.	03-03-2026			