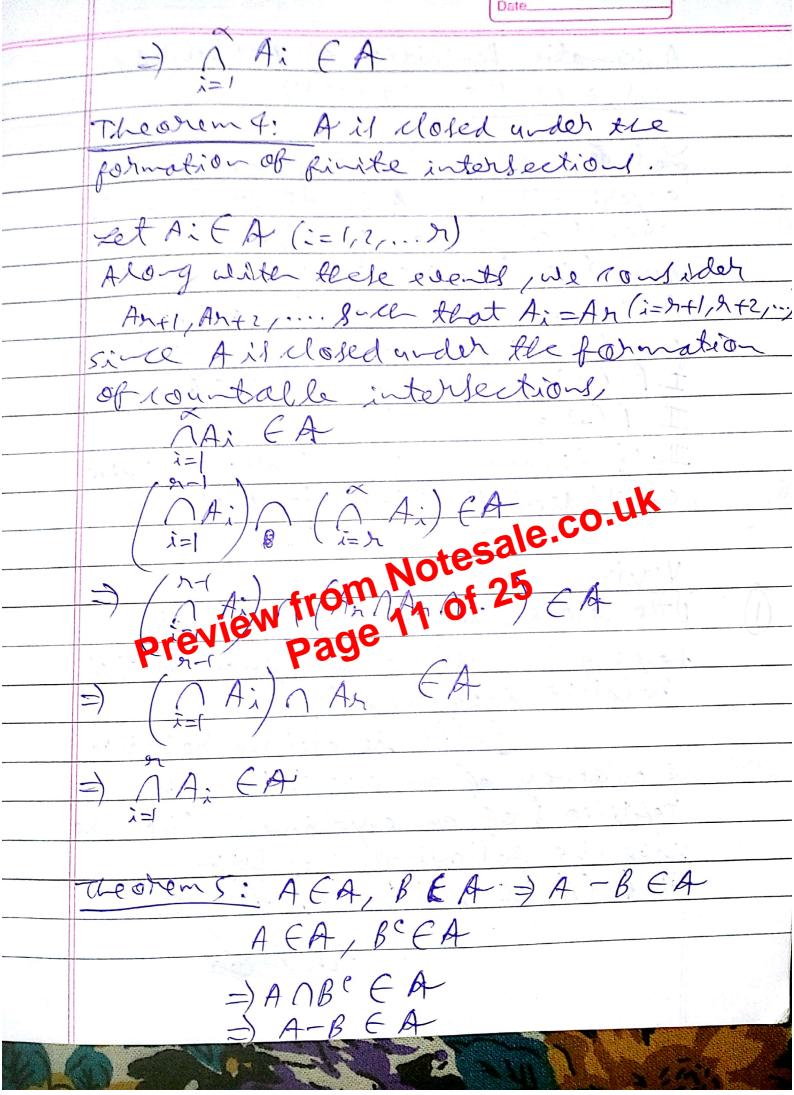
Anionatic offroach to Probability Theory Two important definitions: I class of events: Just as an event is a collection of elementary events forms a class of events is a collection of events saving some property (s) in common. Colen: StA, B, C are ese M, teen SABICS is a class of events. 2) o-field of the events: 9x it of UKonenfly class of exestalence is closed under the formation of countails anionied comballs ents. It is denoted by A on a safety and the safety of t A is non empty in the sende that there is at least one esent A with respect to the random experiment under consideration sich that His closed under the formation of countable unions wears that if



Prime Merit limitation of classical definition Finite sample space: classical definition not le offied if the sample Hace It. w. r. t. a supple randon enf. il not finite. For ey classical def. faill in erg. like talling of coin until a head offears, where the lample space is countably infinite Equally likely o-tromes: Even if the Sample Space is finite classical definition cannot be applied whetly if the outcomes of a dresale of equally orally. The 15the field of existion of timited only to such elidial experiments like tolling of a coin, holling of a die etc., where ove assumed that the roin or the die is unliated circularity: There is an inherent wholaty in the elassical def. for it is a def- of probability

	Page No. Date
	Verification:
	Since fis are non-vegatise real nos, so
1 2 2	eleir fun or the sum of anumber of
	fis will le a von-negative real vo.
	: P(A) >0 for any AEA
101	$P(-2) = \sum_{\lambda : \omega_{\lambda} \in \mathcal{L}} \lambda = \sum_{\lambda = 1} \lambda_{\lambda} = 1$
	$P(-2) = \sum_{i} f_{i} = \sum_{i} f_{i} = \int_{\mathbb{R}^{2}} dx f(x) dx$
	$\lambda: \omega_{\lambda} \in \mathbb{Z}$ $\lambda=1$
	Let Aj(j=1,2,) (A le notally enclosie
	events, then P (VA;) = Eleco.
	i=Lotes & E [UAj
	Let $Aj(j=1,2,) \in A$ le notally and lier events, then $P(UAj) = \sum_{j=1}^{n} CO$. Preview from $23 = 052j$ $+ 54i$ $+$ Preview page $23 = 052j$ $+ 54i$ $+$ $23 = 052j$ $+ 54i$ $+$
/	preview page 23 21 Wi (A) 21 Wi Az
	$= P(A_1) + P(A_2) + \cdots$
	$= \tilde{\epsilon} p(A_i)$
1.7	hullis seen to le te von-vegation
6	orned and countally additive
A	Runction. Thus Pifa probability function
	defined on A
	(= (PAVA)A A