FINANCIAL MATHEMATICS 111

Review The Final Exam 2018 / 2019

CHAPTER ONE (1) " Simple Interest "		
Simple Interest		$SI = P \times i \times T$
Amount		$A = SI + P$
Simple Interest (Months)		$SI = P \times i \times \frac{T}{12}$
Simple Interest (Years & Months)		$SI = P \times i \times (Years + \frac{Months}{12})$
Simple Interest (Days)	**Exact**	$SI = P \times i \times \frac{T}{365}$
	Trade	$SI = P \times i \times \frac{T}{360}$
ملاحظة : اذا لم يحدد النوع نستخدم Trade ، إلا اذا كانت العملة £ او KD نستخدم Exact		

CHAPTER TWO (2) " Compound Interest "	
Compound Amount	$CA = P \times (1 + i)^{n}$
	$CA = CI + P$
Compound Interest	$CI = CA - P$
Principle	$P = CA \div (1 + i)^{n}$
	$P = CI \div \{ (1 + i)^{n} - 1 \}$
$\mathbf{(1 + i)^{n}}$	$(1 + i)^{n} = CA \div P$

CHAPTER THREE (3) " Discount "	
Simple ↓	**Compound ↓**
Discount	
$D = FV \times i \times T$	$D = FV - PV$
Percent Value	
$PV = FV - D$	$PV = FV \times (1 + i)^{-n}$
$Com = FV \times Com\ \%$	
$Coll = FV \times Coll\ \%$	
Total Discount " TD " = D + Com + Coll	
NPV = FV - TD	

CHAPTER FOUR (4) " Annuities "	
Ordinary , End ↓	**Due , Beginning ↓**
$Sn = R \times \overline{n}\vert i$	$Sn = R \times \overline{n}\vert i \times (1 + i)$
$CI = Sn - (R \times n)$	
* Find Annuity , How Much Deposit / Invested ? **R**	
$R = Sn \div \overline{n}\vert i$	$R = Sn \div \overline{n}\vert i \div (1 + i)$
* How long / Find Number Of Period ? **n**	
$\overline{n}\vert i = Sn \div R$	$\overline{n}\vert i = Sn \div R \div (1 + i)$
* Find Interest Rate / Interest ? **i**	
$\overline{n}\vert i = Sn \div R$	$\overline{n}\vert i = Sn \div R \div (1 + i)$

❖ **Annual and Partial interest rate**	
Annually	**i =** √ **n =** √
With Annually Compounded :	
Semi Annually (Every 6 Months , Two Time a Year)	**i =** ÷ 2 **n =** × 2
Quarterly (Every 3 Months , Four Time a Year)	**i =** ÷ 4 **n =** × 4
Thirdly (Every 4 Months , Three Time a Year)	**i =** ÷ 3 **n =** × 3
Monthly (Every Months , Twelfth Time a Year)	**i =** ÷ 12 **n =** × 12
Without Annually :	
Semi Annually (Every 6 Months , Two Time a Year)	**i =** √ **n =** × 2
Quarterly (Every 3 Months , Four Time a Year)	**i =** √ **n =** × 4
Thirdly (Every 4 Months , Three Time a Year)	**i =** √ **n =** × 3
Monthly (Every Months , Twelfth Time a Year)	**i =** √ **n =** × 12
ملاحظة : علامة " √ " تعني أنه لا يحتاج إلى تعديل	

GOOD LUCK ☺