(1)

- ULTIMATE MATHEMATICS -

Solution of T-2 (up to Onis 15)

BY: AJAY MITTAL

ONU 3 + 91 mm SinA = 3/5 , COIB = +2 A - I'm quad . B -> D Tyred

> Sin2A + Cas2 A = 1 (cs2 A = 1-51n2 A Ca2A = 1-9 cast 4 = 16 (CAA = + 4

51m28+ (02B= 1 51n7B= 1-cos3B Sin23 = 1- 144 Sin28= 25 169 Sing= + 5 COLA = 4 .. (A - IN quad) | Sino = -5 ... (B-2 / quad

1 tenA = SIMA = 3/5 = 3/4 ton B= 5/13 = 5/2 = 5/2

(1) Sin(A-B)= SinAcaB- COLASINB = (多)(報)-(予)(百)

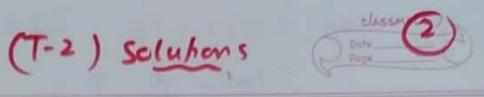
 $= -\frac{36}{65} + \frac{20}{65} = -\frac{16}{65}$ Arms...

(ii) (a/A+B) = (dA(aB-SINASINB = (7)(73) - (3)(-5)

= -48 +15 = -33 Ams.

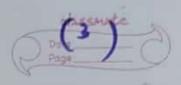
(ii) ton(A-B) = tanA - tonB 1+tanA tanB

 $= \frac{3}{4} - \frac{5}{72} = \frac{36 - 20}{98 + 15}$ 16 Aug. 1+3x5



Ons	2 -> 91un COIA = 4	, (CBB= 12 13	
	A -> 4 th quad &	B -> Yth quad	
	Sin A + Ca 2 A = 1	Sin2B+ (c82B=)	
	5n2A = 1-1032 A	Sin2B= 1- (052B	
	Sn2 A - 1-16	Gn213= 1- 144 189	
	Sin2A = 9	Sin2B= 25 189	
	51nA = ±3	SINB= ± 5	
	Sint = =3	Sin B= -5 What I3	
	SinA = -3 4mqu-d	ymqued	
(1)	$(cas(A+B) = (ca)A(cd) - SinAsh B = (\frac{4}{5})(\frac{1^2}{13}) - (-\frac{3}{5})(\frac{-5}{13})$		
	- (3) (73) (3)		
	$=\frac{48}{65}-\frac{15}{65}=\frac{33}{65}$ Any		
	65 65	65	
61.1	C. [1-1] - C. 10081	- 10	
(1)	Sin(A-B) = SinA COBB - COB ASINB		
	$= (-\frac{2}{7})(\frac{12}{13}) - (\frac{4}{7})(-\frac{5}{13})$		
	$\frac{-36}{67} + \frac{20}{67} = \frac{-16}{67} Ann$		
ON : 7 -> Ch. C. 14 // C. 0			
=	M:3+ 9run Cata = 1/2, Sec,B= -5		
	x -> 5 1400 B-> 2 94001		
	tenx = 1 = 1 9 1 1 22 2 .		
tenx = totx = 1/2 = 2 ten2 13 = 25 -1			
1+ ton 13 = Sec 2 B for 13 = 15.			
	ten2B= Sec2B-1		
		tag ± y	

(T-2) Solutions



$$= \frac{3}{1-(2)(-4/3)} = \frac{\frac{2}{3}}{\frac{3+8}{3}} = \frac{2}{11} \text{ Ams.}$$

$$51\eta^2B = 1 - 31 = 1600$$
 $1681 = 1651$

$$= 27 + 160 = 187$$
 Ans...

(T-2) Selukers



(7-2) solutions

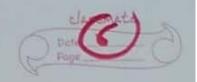


$$= \frac{5+1}{1-5} \times \frac{1+5}{1+5}$$

$$=\frac{3+1+2\sqrt{5}}{1-3}$$

$$= \frac{1 - \sqrt{3} + \sqrt{3} + 1}{2 / 2} = \frac{2}{2 / 2} = \frac{1}{\sqrt{2}} \underbrace{A_{MI}}_{2}...$$

(T-2) Solutions



$$= \frac{4+3+45+1}{2+5}$$

$$= \frac{8+45}{2+5}$$

$$= \frac{4(2+5)}{2+5}$$

$$= \frac{4}{2+5}$$

(10)
$$Sin(137) = Sin(13x 180) = Sin(195)$$

= $Sin(180+15)$

(7 elassitate (T-2) Solutions On 6+ Ltv. 51 (n+1) A. Sn (n+2) A + cos(n+1) A. cos(n+2) A compare (SinA SinB + ca, A (ais) , ca(A-B) = COS ((n+1) A - (n+2) A) = Ca (nA+A - nA -2A) = col(-A) = col A --- h: col(-0) = coloq = Ras preved an 7 + in cos(2-A)(a(2-b) -sin(2-A). sin(2-b) Compace with (COLA COLB - SINA SINB)

COS(A+B) = Ca (2-A+2-B) = (a(3 - (A+3)) = (c) (90 - (A+B)) = Sin (A+B) = Rmy Ons 8 + 1 hs Sin(Oc) + Sin(C-A) + Sin(A-B) Cablac COSC-19A CAACAB = SINBCOC-COB. SINC + SINC COLA-COC. SINA cosb (ac COSC-COLA Sin A Cab - Ca A sinb COLA-COB Separate Sinsigle - colorne + SinercyA - colornA + SinAcolo caside educa calla CAC-COLA COLACAB - CaA sing CAACAB

Schuhon (F2)

(8) Inc_

= tend - tend + tend - tend + tend - tend = 0 = Ry Proved

On 9 > 2/1/2 ten (7+x) ton(2-x)

= ten (45+x) ten (45°-X)

= ten 45 + tenx

ten(45) - tenx

1+ ten 45 for u

1-tony 1+ tonx -

= (1+tonx)2 = (1+tony) - AN

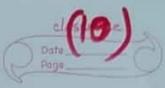
0410+ 2hs Sin(A-B) + Sin (B-C) + Sin (C-A)
Sin A sin B Sin G Sin C Sin C Sin C Sin A

MINPAINT in = SINACOB- CORASINB + SINBCOC-CORBSINC + warkshelt Sm B Sinc SINASINB

> Sm (-cal A - COSC SINA Smc SARA

Signali) = COAB + COAB

(T-2) Solutions



= LKM - COS8 - SIN8 RM pring 91 cm for $\gamma = \frac{m}{m+1}$ $\epsilon + \epsilon = \frac{1}{2m+1}$ ton/x+B) = ton x + tonB 1-tona tonB $=\frac{m}{m+1}+\frac{1}{2m+1}$ 1 - m x 1 mt1 2mt) $=\frac{2m^2+m+m+1}{(m+1)(2m+1)}$ (m+1)(2m+1) - m(m+1) (2m+1) - 2m2+2m+1 2m2 + 3m +1-m = 2m2+2m+) 2m2 +2m+1 ten (x+B) = 1 ten(x+p)= ten(45')= ten(7/4) => K-1P= 7/4/ prind 14 + Same ces On 15