CTDUCTURE :			ADMINISTR	II DINO					
STRUCTURE :									
ITEM :			S5						
Longer clear span		=		600	00 mm				
Sorter clear span		=		5000 mm					
Sorter clear spair									
TI: 1 (0) 1				20	0				
Thickness of Slab		=		20	0 mm				
Total UDL.		=		1.4	Ton/m2				
Support Condition		=		Interio	or Panel				
oupport containon				men	or ranci				
A. DESIGN FORCES				0000	ammi mi	0.00			
Longer clear span Sorter clear span				6000 5000	<mm; m=""> <mm; m=""></mm;></mm;>	6.00 5.00			
Co.to. Glodi opali				3000	,	5.00			
Assumed thickness of sl		(By trial	& error till OK for various	200 mm	<mm; m=""></mm;>	0.200			
Clear cover to main reinf	!			30	mm				
Maximum diameter of ba	ır			10	mm				
Facor of safety		Reinf		1.5	mm				
minimum slab thkness				110	mm				
Permissible Mu/bd2				2.76					
	OK,More than the min. as per tender.								
				rations as detailed hereunder.					
The least effective depth	in shorter /		K from deflection consideration = 200-30 -10/2 =	ons as cnecke 165	<pre>a nereunder. <mm; cm=""></mm;></pre>	16.5			
The least effective depth	III SHORELY	longer	200 00 10/2 =	103	Cirini, Oiriz	10.0			
Total design UDL				1.40	t/m²				
1			Say	1.40	t/m²				
					VIII				
Longer effective span	L _Y		= 6000+165 =	6165	<mm; m=""></mm;>	6.17			
Sorter effective span	L _x		= 5000+165 =	5165	<mm; m=""></mm;>	5.17			
		L _y /L _x	= 6165/5165 =	1.19					
		y. ^							
Shorter of the two spans	(for use in	L bendina mome	nt calculations)	5165	<mm; m=""></mm;>	5.17			
	(101 000 111	T			,				
Refering IS-456, Table-	22. P91	CASE 1	Interior Panel						
-ve support moment at		0.042	= 0.042*1.4*5.17^2 =	1.58	tm				
continuous edge across	y	5.5.2	= = -						
long span									
+ve moment at mid	+M _y	0.032	= 0.032*1.4*5.17^2 =	1.18	tm				
span across long span									
-ve support moment at	-M _x	0.032	= 0.032*1.4*5.17^2 =	1.20	tm				
continuous edge across	.*·x	0.302		0					
short span									
	+Mx	0.024	= 0.024*1.4*5.17^2 =	0.90	tm				
+ve moment at mid	1								
span across short span			i I						
span across short span									
span across short span B. REINFORCEMENTS		= 1 F	5*1 58*10000/165^2 =	0.87	N/mm²				
span across short span B. REINFORCEMENTS -ve Mu/bd2 at support ac	ross long		5*1.58*10000/165^2 = 5*1.18*10000/165^2 =	0.87 0.65	N/mm ²				
B. REINFORCEMENTS -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span	cross long across	= 1.5	5*1.18*10000/165^2 =	0.65	N/mm ²				
B. REINFORCEMENTS -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span -ve Mu/bd2 at support ac	across short	= 1.5 = 1.	5*1.18*10000/165^2 = 5*1.2*10000/165^2 =		N/mm ² N/mm ²				
B. REINFORCEMENTS -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span	across short	= 1.5 = 1.	5*1.18*10000/165^2 =	0.65 0.66	N/mm ²				
B. REINFORCEMENTS -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span +ve Mu/bd2 at mid span	across short	= 1.5 = 1.	5*1.18*10000/165^2 = 5*1.2*10000/165^2 = 5*0.9*10000/165^2 =	0.65 0.66 0.49	N/mm ² N/mm ² N/mm ²				
B. REINFORCEMENTS -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span +ve Mu/bd2 at mid span Max. Mu/bd2	cross long across cross short across	= 1.5 = 1. = 1.	5*1.18*10000/165^2 = 5*1.2*10000/165^2 = 5*0.9*10000/165^2 = Max. of (0.87:0.49)	0.65 0.66	N/mm ² N/mm ²				
B. REINFORCEMENTS -ve Mu/bd2 at support ac +ve Mu/bd2 at mid span Max. Mu/bd2 Min. reinf. in each directi	cross long across cross short across	= 1.5 = 1. = 1.	5*1.18*10000/165^2 = 5*1.2*10000/165^2 = 5*0.9*10000/165^2 = Max. of (0.87:0.49)	0.65 0.66 0.49	N/mm ² N/mm ² N/mm ²				

		Reinf as per Table-2,Pg- 48,SP-16				
Reqd. reinf	M _u /bd ²	<u>p</u> ,xd/10				
For -ve moment i.e. top	0.87	0.209	= 0.209*16.5/10 =	3.45	cm ² /m	
reinf. across long span	0.0.	0.200		0.10		
For +ve moment i.e. bottom reinf. across long span	0.65	0.154	= 0.154*16.5/10 =	2.55	cm ² /m	
For -ve moment i.e. top reinf. across short span	0.66	0.154	= 0.154*16.5/10 =	2.55	cm ² /m	
For +ve moment i.e. bottom reinf. across short span	0.49	0.120	= 0.12*16.5/10 =	1.98	cm²/m	
Main Reinforcements	Ф 10	spacing 225	= pi/4*(10/10)^2*1000/225 =	3.49	2,	0.212%
At top across long span At bottom across long	10	300	= pi/4*(10/10)*2*1000/225 = = pi/4*(10/10)*2*1000/300 =	2.62	cm ² /m	0.212%
span						
At top across short span	10	300	= pi/4*(10/10)^2*1000/300 =	2.62	cm ² /m	0.159%
At bottom across short span	8	250	= pi/4*(8/10)^2*1000/250 =	2.01	cm ² /m	0.122%
				Max.	% steel =	0.212%
Max. permissible spacing	3xd or	495 300	(As per Cl. 26.3.3; Pg. 46; IS:4	56)		
Least of the two	OI .	300				
Max. provided spacing		300				
	,	OK				
Distribution Reinforcen Min. reinf. in each direction		CL 26.5.2.1 · D	1 48: IS:456			
	2 %	OI. 20.J.Z. I, F	= 0.0012*16.5*100 =	1.98	cm ² /m	
Provide	8	300	= pi/4*(8/10)^2*1000/300 =	1.68	cm ² /m	
Max. permissible spacing		825	(As pe	er Cl. 26.3.3; Pg		
Least of the two	or	450 450	, 1		· /	
Max. provided spacing		300				
		OK				
C. DEFLECTION CHEC		(As per t	L Cl. 23.2.1; Pg. 37; IS:456)			
. ccsibio opan to be	railo	(, .5 por (Cantilever	7		
			Simply supported	20		
fs = 0.58*Ast Reqd/Ast Pro			Continuous	26 286.5		
MARIE P. C. C.		<u> </u>				
Multiplication factor corre Modified applicable ratio			stress of 0.212% steel from = 1.38*26 =	1.4 35.79		
		to 'Depth' ratio		30.30		
			OK from deflection co			
D. SKETCH						
			10dia @	225 c/c (T)		
1		8		<u>i</u> i		
		10dia @	3000% (B)		1	
Short Span = 5000	 	† =	3000			
	1	1	.	10dia @	300 c/c (T)	
				ı 10ula ₩	000 0/0 (./	
		8dia @	250 c/c (B)	i Todia @	(1)	
	<u> </u>	8dia @	250 c/c (B)	Todia @	000 0,0 (1)	
	# -	===				
	# -	===	= 등 등 등 를 빌	Toula &		
	# = =	===		Toula &		
All distributio	on rebars =	Longs	= 등 등 등 를 빌	i i		
All distribution	on rebars =	Longs	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	TOUIA @		
All distributio	on rebars =	Longs	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	TOUIA @	200-	
All distributio	on rebars =	Longs	Span = 6000 PLAN 300 c/c	TOUIA @		
All distributio	on rebars =	Longs	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Toula @		