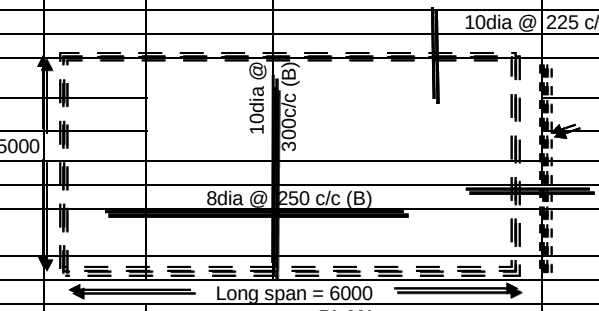
	STRUCTURE :	**ADMIN BUILDING**					
	ITEM :	**S5**					
	Longer clear span		=		**6000 mm**		
	Sorter clear span		=		**5000 mm**		
	Thickness of Slab		=		**200 mm**		
	Total UDL.		=		**1.4 Ton/m2**		
	Support Condition		=		**Interior Panel**		
	A. DESIGN FORCES						
	Longer clear span				6000	<mm; m>	6.00
	Sorter clear span				5000	<mm; m>	5.00
	Assumed thickness of sl	t	(By trial & error till OK for various		200 mm	<mm; m>	0.200
	Clear cover to main reinf				30	mm	
	Maximum diameter of bar				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.					
		OK, From max. Mu/bd2 considerations as detailed hereunder.					
		OK from deflection considerations as checked hereunder.					
	The least effective depth in shorter / longer			= 200-30 -10/2 =	**165**	<mm; cm>	16.5
	Total design UDL				1.40	t/m^2	
				Say	**1.40**	t/m^2	
	Longer effective span	L_Y		= 6000+165 =	6165	<mm; m>	6.17
	Sorter effective span	L_x		= 5000+165 =	5165	<mm; m>	5.17
			L_y/L_x	= 6165/5165 =	1.19		
	Shorter of the two spans (for use in bending moment calculations)				5165	<mm; m>	5.17
	Refering IS-456, Table-22, P91		CASE 1	Interior Panel			
	-ve support moment at continuous edge across long span	$-M_y$	0.042	= 0.042*1.4*5.17^2 =	1.58	tm	
	+ve moment at mid span across long span	$+M_y$	0.032	= 0.032*1.4*5.17^2 =	1.18	tm	
	-ve support moment at continuous edge across short span	$-M_x$	0.032	= 0.032*1.4*5.17^2 =	1.20	tm	
	+ve moment at mid span across short span	+Mx	0.024	= 0.024*1.4*5.17^2 =	0.90	tm	
	B. REINFORCEMENTS						
	-ve Mu/bd2 at support across long		= 1.5*1.58*10000/165^2 =		0.87	N/mm^2	
	+ve Mu/bd2 at mid span across		= 1.5*1.18*10000/165^2 =		0.65	N/mm^2	
	-ve Mu/bd2 at support across short		= 1.5*1.2*10000/165^2 =		0.66	N/mm^2	
	+ve Mu/bd2 at mid span across		= 1.5*0.9*10000/165^2 =		0.49	N/mm^2	
	Max. Mu/bd2			Max. of (0.87:0.49)	0.87	N/mm^2	
	Min. reinf. in each direction - as per Cl. 26.5.2.1; Pg. 48; IS:456						
	0.12 %			= 0.0012*16.5*100 =	1.98	cm^2/m	

			Reinf as per Table-2,Pg-48,SP-16				
	Reqd. reinf	M_u/bd^2	$p_t xd/10$				
	For -ve moment i.e. top reinf. across long span	0.87	0.209	= 0.209*16.5/10 =	3.45	cm^2/m	
	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	cm^2/m	
	Main Reinforcements	Φ	spacing				
	At top across long span	10	225	= pi/4*(10/10)^2*1000/225 =	3.49	cm^2/m	0.212%
	At bottom across long span	10	300	= pi/4*(10/10)^2*1000/300 =	2.62	cm^2/m	0.159%
	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	495	(As per Cl. 26.3.3; Pg. 46; IS:456)			
		or	300				
	Least of the two		300				
	Max. provided spacing		300				
			OK				
	Distribution Reinforcement						
	Min. reinf. in each direction - as per Cl. 26.5.2.1; Pg. 48; IS:456						
	0.12 %			= 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	5xd	825	(As per Cl. 26.3.3; Pg. 46; IS:456)			
		or	450				
	Least of the two		450				
	Max. provided spacing		300				
			OK				
	C. DEFLECTION CHECK						
	Permissible 'Span' to 'Depth' ratio			(As per Cl. 23.2.1; Pg. 37; IS:456)			
				Cantilever	7		
				Simply supported	20		
				Continuous	26		
	fs = 0.58*Ast Reqd/Ast Pro				286.5		
	Multiplication factor corresponding to steel service stress of 0.212% steel from				1.4		
	Modified applicable ratio assuming 'Discontinuous'			= 1.38*26 =	35.79		
	Actual 'Span' to 'Depth' ratio			= 5000/165 =	30.30		
				OK from deflection considerations.			
	D. SKETCH						



PLAN

All distribution rebars = 8dia @ 300 c/c

SECTION

Provided rebars on drawings may be the same or greater than the above design requirements.