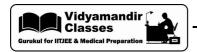


Date Planned : / /	Daily Tutorial Sheet - 2	Expected Duration : 90 Min		
Actual Date of Attempt : / /	JEE Archive	Exact Duration :		

Date Plannea://		JEE Archive			Expected Duration :						
Actual Date of Attempt : / /											
13.		number of w	•	six '+' and	l four '–' si	gns can be	be arranged in a line such that no two				
14.	of wa								palls. The number go to a box of its (1992)		
15.	The n	number of ways	s of choosing	10 objects of	out of 31 ob	jects of whic	h 10 are ide	entical ar	nd the remaining		
	21 ar	e distinct, is:							(2019)		
	(A)	$2^{20}-1$	(B)	2^{21}	(C)	2^{20}	(D)	$2^{20} + 1$			
16.	Supp	ose that 20 pil	llars of the sa	me height h	ave been e	rected along	the boundar	ry of a ci	cular stadium. If		
	the to	p of each pilla	ır has been co	onnected by	beams with	h the top of a	ll its non-ac	ljacent p	illars, then the		
	total	number of bea	ıms is:						(2019)		
	(A)	180	(B)	210	(C)	170	(D)	190			
17.	Some	identical ball	s are arrang	ed in rows	to form an	equilateral t	riangle. The	e first to	w consists of one		
	ball,	ball, the second row consists of two balls and so on. If 99 more identical balls are added to the total									
	numb	number of balls used in forming the equilateral triangle, then all these balls can be arranged in a square									
	whose	whose each side contains exactly 2 balls less than the number of balls each side of the triangle contains									
	Then,	, the number o	of balls used t	to form the e	equilateral	triangle is:			(2019)		
	(A)	262	(B)	190	(C)	225	(D)	157			
18.	There	e are m men ar	nd two wome	n participat	ing in a che	ess tourname	ent. Each pa	articipant	plays two games		
	with (every other pa	rticipant. If t	he number	of games p	layed by the	men betwee	en thems	elves exceeds the		
	numb	per of games pl	layed betweer	n the men a	nd the won	nen by 84, th	en the value	of m is:	(2019)		
	(A)	12	(B)	11	(C)	9	(D)	7			
19.	A gro	up of students	comprises o	f 5 boys and	l n girls. If	the number o	of ways, in w	vhich a te	eam of 3 students		
	can r	can randomly be selected from this group such that there is at least one boy and at least one girl in each									
	team,	is 1750, then	n is equal to	:					(2019)		
	(A)	28	(B)	27	(C)	25	(D)	24			
20.	Let S	be the set of	all triangle i	n the <i>xy</i> -pla	ane, each l	naving one v	ertex at the	origin a	nd the other two		
	vertic	vertices lie on coordinate axes with integral coordinates. If each triangle in S has area 50 sq. units, then									
	the n	umber of elem	ents in the se	et S is:					(2019)		
	(A)	36	(B)	32	(C)	18	(D)	9			
21.	The r	number of 6 o	digits numbe	rs that can	be formed	l using the o	digits 0, 1,	2, 5, 7	and 9 which are		
	divisi	ble by 11 and	no digit is rep	peated, is:					(2019)		
	(A)	60	(B)	72	(C)	48	(D)	36			



22 .	A committee of 11 members to be formed from 8 males and 5 females. If <i>m</i> is the number of ways the						f ways the			
	committee is formed with at least 6 males and n is the number of ways the committee is formed with									
	atleast 3 females, then:								2019)	
	(A)	m = n = 68	(B)	m + n = 68	(C)	m = n = 78	(D)	n = m - 8		
23 .	Conside	er three boxes, e	ach cont	aining 10 balls l	abelled 1	1, 2,, 10. Supp	ose one	ball is rar	ndomly drawn	
	from ea	ch of the boxes.	Denote 1	by n_i , the label α	of the ba	ll drawn from the	e <i>i</i> th box	i, (i = 1, 2, 3)). Then, the	
	number	of ways in whic	h the ba	lls can be chose	n such t	hat $n_1 < n_2 < n_3$	is:	(2	2019)	
	(A)	82	(B)	120	(C)	240	(D)	164		
24.	The nur	nber of natural	numbers	s less than 7,000) which o	ean be formed by	using t	he digits 0	, 1, 3, 7, 9	
	(repitition of digits allowed) is equal to: (2019)									
	(A)	374	(B)	375	(C)	372	(D)	250		
25 .	Conside	er a class of 5 gi	rls and 7	boys. The number	oer of dif	ferent teams con	sisting o	of 2 girls a	nd 3 boys that	
	can be f	formed from this	s class, if	f these are two s	pecific b	oys A and B, who	o refuse	to be the n	nembers of the	
	same team, is: (2019)									
	(A)	350	(B)	500	(C)	200	(D)	300		
26.	The nur	nber of four-dig	it numbe	ers strictly greate	er than 4	321 that can be	formed	using the o	digits 0, 1, 2,	
	3, 4, 5 (repetition of digits is allowed) is:							(2	2019)	

(C)

360

(D)

288

(A)

306

(B)

310