

## Permutation & Combination

Date Planned ://	Daily Tutorial Sheet - 6	Expected Duration : 90 Min		
Actual Date of Attempt : / /	Level - 2	Exact Duration :		

126.	The nu	umber of subset	s of the	set $A = \{a_1,$	$a_2,\ldots,a_n$	which co	ntain even nu	mber of e	lements is:
	(A)	$2^{n-1}$	<b>(B)</b>	$2^{n}-1$	(C)	$2^n-2$	<b>(D)</b>	$2^n$	$\odot$
*127.	ill, hav		mes eac	h (not playe	d between the	em). If the			class players fell played is 84, the
128.	group of In this semifire the final	will play a mat round each te	ch again am will a each te e they w	st each othe play against eam will play	er. From each t others once. y against the o	group 3 to Four top others once	op teams will of teams of this e. Two top tea	qualify for round w ms of this	s. Teams of each rethe next round. ill qualify for the seround will go to of matches in the
	(A)	54	(B)	53	(C)	52	(D)	51	
129.		is a convex qualitively. The num			-			des, <i>AB</i> ,	BC, CD and DA
130.		umber of 6-digi f digits is: 480	t numbe	ers that can	be made with	h the digita		4 and ha	aving exactly two
131.		st two digits in	100	k! are:	(C)	1000	(D)	210	$\odot$
	(A)	10	<b>(B)</b>	11	(C)	12	(D)	13	
132.									m candidates for en the number of

**133.** A person predicts the outcome of 20 cricket matches of his home team. Each match can result either in a win, loss or tie for the home team. Total number of ways in which he can make the prediction so that exactly 10 predictions are correct, is equal to:

(C)

6

(A)  $^{20}C_{10} \cdot 2^{10}$  (B)  $^{20}C_{10} \cdot 3^{20}$  (C)  $^{20}C_{10} \cdot 3^{10}$  (D)  $^{20}C_{10} \cdot 2^{20}$ 

43

candidates is:

7

**(B)** 

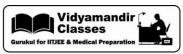
5

(A)

8

**(D)** 

**(** 



134.	The n	umber of differe	ent sever	n digits number	s that car	n be written us	sing only	the three digit	s 1, 2 and 3
	with t	he condition tha	at the dig	git 2 occurs twic	ce in each	number is:			
	(A)	$^{7}P_{2}\cdot 2^{5}$	(B)	$^{7}C_{2}\cdot 2^{5}$	(C)	$^{7}C_{2}\cdot 5^{2}$	<b>(D)</b>	$^{7}P_{2}\cdot 5^{2}$	

- **135.** The number of ways in which a score of 11 can be made from a throw by three persons, each throwing a single die once is: (Assume dice are identical)
  - (A) 45 (B) 18 (C) 27 (D) 68
- **136.** A mint prepares metallic calendars specifying months, dates and days in the form of monthly sheets (one-plate for each month). How many types of February calendars should it prepare to serve for all the possibilities in the future years?

21

1295

(D)

(D)

28

2500

**137.** If  $E = \frac{1}{4} \cdot \frac{2}{6} \cdot \frac{3}{8} \cdot \frac{4}{10} \cdot \dots \cdot \frac{30}{62} \cdot \frac{31}{64} = 8^x$ , then value of x is: **(A)** -7 **(B)** -9 **(C)** -10 **(D)** -12

2400

- **138.** For a set of four multiple choice questions with three options (multiple correct possible), no two students have given the same sequence of answers. What is the maximum number of students that sat for the test, for this to be possible, given that each student attempts all the questions?
- **139.** Let  $T_n$  denote the number of triangles which can be formed by using the vertices of a regular polygon of n sides. If  $T_{n+1} T_n = 21$ , then n equals:

(C)

- (A) 5 (B) 7 (C) 6 (D) 4
- **140.** A class consists of 4 boys and g girls. Every Sunday five students, including at least three boys go for a picnic to Appu Ghar, a different group being sent every week. During the picnic, the class teacher gives each girl in the group a doll. If the total number of dolls distributed was 85, then value of g is:
  - **(A)** 15 **(B)** 12 **(C)** 8 **(D)** 5

(A)

4095

**(B)**