NDA 1 2025

LIVE

MATHS

PERMUTATION & COMBINATION

CLASS 3

NAVJYOTI SIR

Crack
EXAMS

8 Nov 2024 Live Classes Schedule

8:00AM	08 NOVEMBER 2024 DAILY CURRENT AFFAIRS	RUBY MA'AM
9:00AM	08 NOVEMBER 2024 DAILY DEFENCE UPDATES	DIVYANSHU SIR

SSB INTERVIEW LIVE CLASSES

9:30AM	OVERVIEW OF TAT & WAT	ANURADHA MA'AM

NDA 1 2025 LIVE CLASSES

11:30AM	GK - MODERN HISTORY - CLASS 1	RUBY MA'AM
4:00PM	MATHS - PERMUTATION & COMBINATION - CLASS 3	NAVJYOTI SIR
5:30PM	ENGLISH - COMPREHENSION - CLASS 1	ANURADHA MA'AM

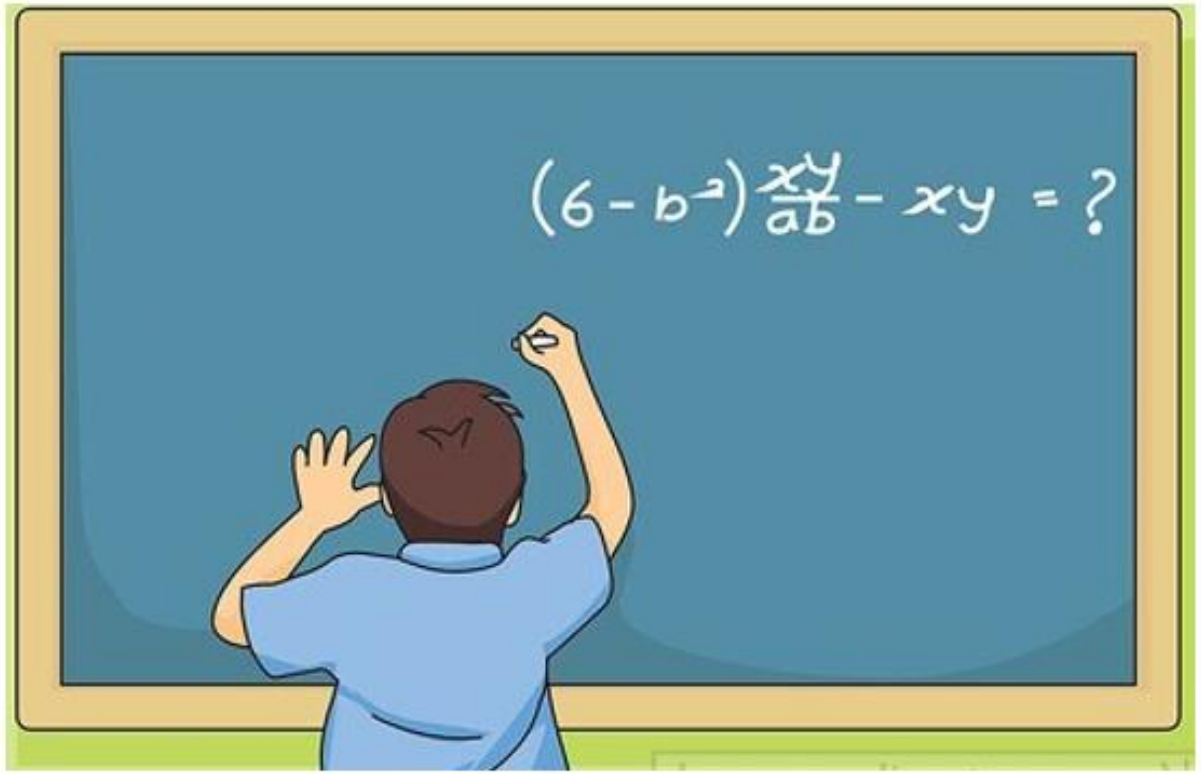
CDS 1 2025 LIVE CLASSES

11:30AM	GK - MODERN HISTORY - CLASS 1	RUBY MA'AM
5:30PM	ENGLISH - COMPREHENSION - CLASS 1	ANURADHA MA'AM
7:00PM	MATHS - GEOMETRY - CLASS 4	NAVJYOTI SIR

AFCAT 1 2025 LIVE CLASSES

5:30PM	ENGLISH - COMPREHENSION - CLASS 1	ANURADHA MA'AM

PRACTISE TIME !



SSBCrack EXAMS

QUESTION

PYQ – (2024 – I)

A man has 7 relatives (4 women and 3 men). His wife also has 7 relatives (3 women and 4 men). In how many ways can they invite 3 women and 3 men so that 3 of them are man's relatives and 3 of them are his wife's relatives ?

(a) 340

(b) 484

(c) 485 ✓

(d) 469

M — Ram

W — Sita

4W 3M

3W 4M

$${}^4C_3 \times {}^4C_3 + {}^3C_3 \times {}^3C_3 + {}^4C_2 \times {}^3C_1 \times {}^3C_1 \times {}^4C_2$$

$$+ {}^4C_1 \times {}^3C_2 \times {}^3C_2 \times {}^4C_1$$

$$= 4 \times 4 + 1 \times 1 + 6 \times 3 \times 3 \times 6 + 4 \times 3 \times 3 \times 4$$

$$= 16 + 1 + 36 \times 9 + 144$$

$$= 17 + 324 + 144 = 5$$

Q) How many different words can be formed by jumbling the letters in the word MISSISSIPPI in which no two S are adjacent?

(a) $8.{}^6C_4.{}^7C_4$ (b) $6.7.{}^8C_4$

(c) $6.8.{}^7C_4.$ (d) $7.{}^6C_4.{}^8C_4$ ✓

$\frac{6 \times 5}{2} = 15$

$$({}^8C_4) \times \left(\frac{7!}{4!\,2!}\right) = {}^8C_4 \times \frac{7 \times 6 \times 5}{2}$$

$$= {}^8C_4 \times 7 \times 15$$

$$= {}^8C_4 \times 7 \times {}^6C_4$$

Q) How many different words can be formed by jumbling the letters in the word MISSISSIPPI in which no two S are adjacent?

(a) $8.{}^{6}C_{4}.{}^{7}C_{4}$

(b) $6.7.{}^{8}C_{4}$

(c) $6.8.{}^{7}C_{4}.$

(d) $7.{}^{6}C_{4}.{}^{8}C_{4}$

Ans: (d)

Q) What is the number of three-digit odd numbers formed by using the digits 1, 2, 3, 4, 5, 6 if repetition of digits is allowed?

(a) 60
(b) 108
(c) 120
(d) 216

$$\underline{6} \quad \underline{6} \quad \underline{1,3,5} \;=\; 6 \times 6 \times 3 \;=\; 36 \times 3 = \underline{108}$$

Q) What is the number of three-digit odd numbers formed by using the digits 1, 2, 3, 4, 5, 6 if repetition of digits is allowed?

(a) 60
(b) 108
(c) 120
(d) 216

Ans: (b)

Directions

Consider the letters of the word 'Krishna'.

Q) How many words can be formed the vowels are not separated?

(a) 1250 (b) 550

(c) 1440 (d) None of these

K R I S H N A

AI K R S H N

$6! \times 2!$

$= 720 \times 2$

$= 1440$

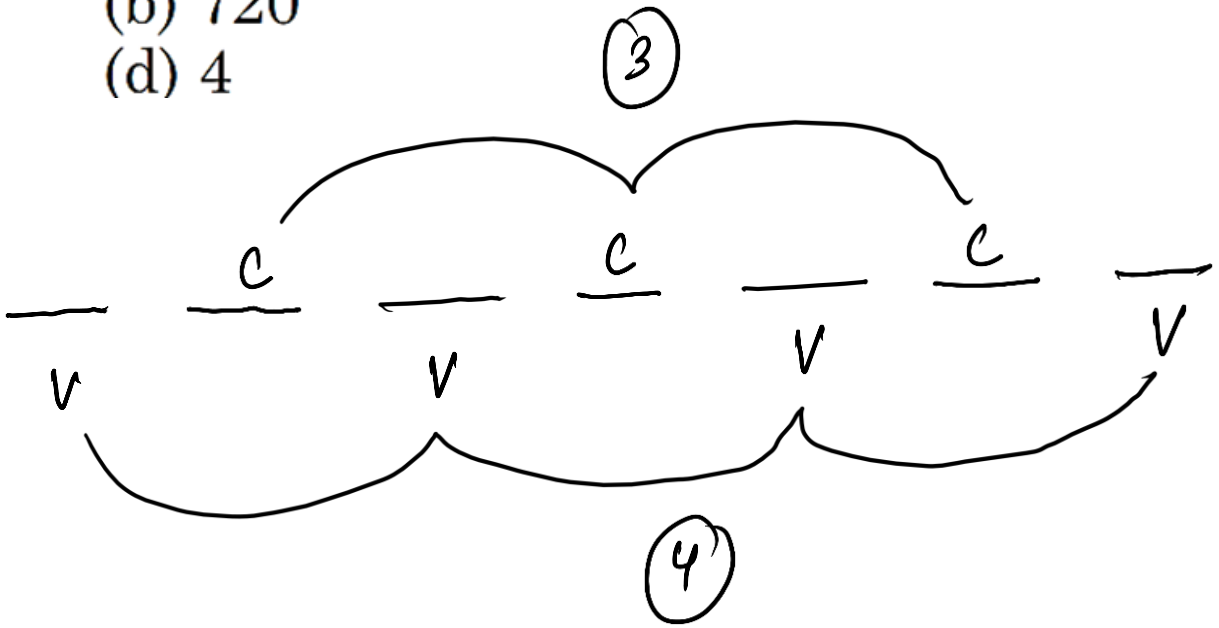
Q) How many words can be formed the vowels are not separated?

(a) 1250
(b) 550
(c) 1440
(d) None of these

Ans: (c)

Q) How many words can be formed the vowels may occupy only odd places?

(a) 100 (b) 720
(c) 700 (d) 4



V – Vowel

C – Consonant

$^4P_2 \times {}^5P_3$

$4 \times 3 \times 5 \times 4 \times 3 = 12^2 \times 5 = 144 \times 5 = 720$

Q) How many words can be formed the vowels may occupy only odd places?

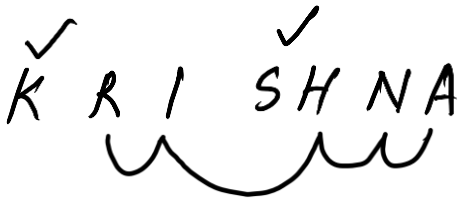
(a) 100 (b) 720
(c) 700 (d) 4

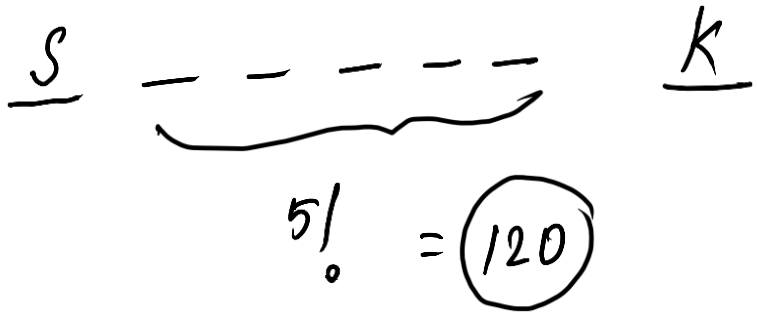
Ans: (b)

Q) How many words can be formed begin with s and end in k ?

(a) 150 (b) 70

(c) 200 (d) 120





Q) How many words can be formed begin with s and end in k ?

(a) 150
(b) 70
(c) 200
(d) 120

Ans: (d)

Q) What is the number of different messages that can be represented by three 0's and two 1's?

(a) 10 (b) 9

(c) 8 (d) 7

0 0 0

1 1

0 0 0 1 1

$$\frac{5!}{3!\,2!} = \frac{5\times 4}{2} = 10$$

Q)What is the number of different messages that can be represented by three 0's and two 1's?

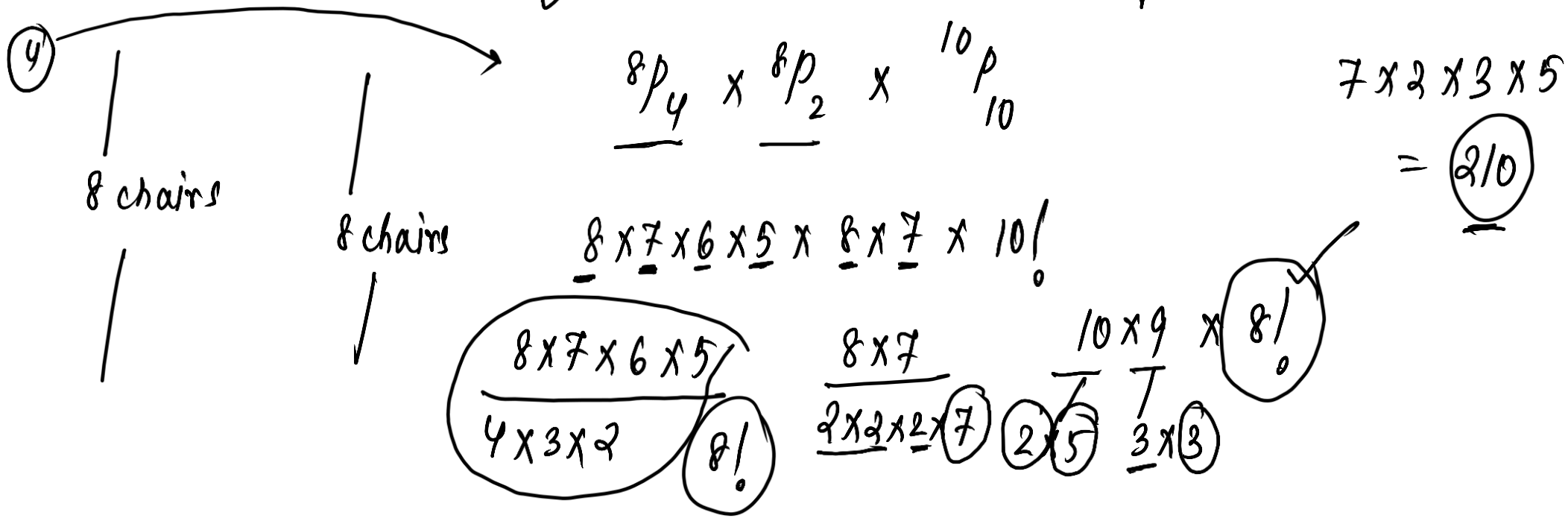
(a) 10 (b) 9

(c) 8 (d) 7

Ans: (a)

Q) A tea party is arranged for 16 people along two sides of a long table with eight chairs on each side. Four particular men wish to sit on one particular side and two particular men on the other side. The number of ways they can be seated is

(a) $24 \times 8! \times 8!$ (b) $(8!)^3$ (c) $210 \times 8! \times 8!$ (d) 16!



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(a) $24 \times 8! \times 8!$ (b) $(8!)^3$ (c) $210 \times 8! \times 8!$ (d) $16!$

Ans: (c)

Q) Three-digit numbers are formed from the digits 1, 2 and 3 in such a way that the digits are not repeated. What is the sum of such three-digit numbers?

(a) 1233 (b) 1322 (c) 1323 (d) 1332

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(a) 1233 (b) 1322 (c) 1323 (d) 1332

Ans: (d)

Q) From 7 men and 4 women a committee of 6 is to be formed such that the committee contains at least two women. What is the nubmer of ways to do this?

(a) 210 (b) 371

(c) 462 (d) 5544

$$^{4}C_{2} \times {}^{7}C_{4} + {}^{4}C_{3} \times {}^{7}C_{3} + {}^{4}C_{4} \times {}^{7}C_{2}$$

Q) From 7 men and 4 women a committee of 6 is to be formed such that the committee contains at least two women. What is the nubmer of ways to do this?

(a) 210
(b) 371
(c) 462
(d) 5544

Ans: (b)

Q) A polygon has 44 diagonals. The number of its sides is

(a) 11
(b) 10
(c) 8
(d) 7

Q) A polygon has 44 diagonals. The number of its sides is

(a) 11
(b) 10
(c) 8
(d) 7

Ans: (a)

Q) If the letters of the word SACHIN are arranged in all possible ways and these words are written out as in dictionary, then the word SACHIN appears at serial number

(a) 601 (b) 600 (c) 603 (d) 602

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(a) 601 (b) 600 (c) 603 (d) 602

Ans: (a)

Q) In how many ways can 7 persons stand in the form of a ring?

(a) $P(7, 2)$

(b) $7!$

(c) $6!$

(d) $\frac{7!}{2}$

$(n-1)!$

$6!$

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(a) $P(7,2)$

(b) $7!$

(c) $6!$

(d) $\frac{7!}{2}$

Ans: (c)

Q) What is the number of ways in which an examiner can assign 10 marks to 4 question giving not less than 2 marks to any question? (All questions carry marks equal to integral value)

(a) 4
(b) 6
(c) 10
(d) 16

Q) What is the number of ways in which an examiner can assign 10 marks to 4 question giving not less than 2 marks to any question? (All questions carry marks equal to integral value)

(a) 4 (b) 6

(c) 10 (d) 16

Ans: (c)

Q) 5 books are to be chosen from a lot of 10 books. If m is the number of ways of choice when one specified book is always included and n is the number of ways of choice when a specified book is always excluded, then which one of the following is correct?

(a) $m > n$ (b) $m = n$ ✓

(c) $m = n - 1$ (d) $m = n - 2$

$m = {}^{n-1}C_r = {}^{9}C_5$

$n = {}^{n-1}C_{r-1} = {}^{9}C_4$

${}^{n}C_r = {}^{n}C_{n-r}$

Q) 5 books are to be chosen from a lot of 10 books. If m is the number of ways of choice when one specified book is always included and n is the number of ways of choice when a specified book is always excluded, then which one of the following is correct?

(a) $m > n$ (b) $m = n$

(c) $m = n - 1$ (d) $m = n - 2$

Ans: (b)

Q) The number of ways of distributing 8 identical balls in 3 distinct boxes so that none of the boxes is empty is

(a) ${}^{8}C_{3}$ (b) 21 (c) 3^{8} (d) 5

$${}^{n-1}C_{r-1} = {}^{7}C_{2} = \frac{7 \times 6}{2} = 21$$

Q) The number of ways of distributing 8 identical balls in 3 distinct boxes so that none of the boxes is empty is

(a) ${}^{8}C_{3}$ (b) 21 (c) 3^{8} (d) 5

Ans: (b)

Q) If $n!$ has 17 zeros, then what is the value of n?

(a) 95 (b) 85 ✓

(c) 80

(d) No such value of n exists

$17 \times 5 = 85$

$5! = 120$ — 1 zero

$10! = 00$ — 2 zeroes

Q) If $n!$ has 17 zeros, then what is the value of n?

(a) 95 (b) 85
(c) 80
(d) No such value of n exists

Ans: (b)

Q) What is $C(47, 4) + C(51, 3) + C(50, 3) + C(49, 3) + C(48, 3) + C(47, 3)$ equal to?

(a) $C(47, 4)$ (b) $C(52, 5)$
(c) $C(52, 4)$ (d) $C(47, 5)$

Q) What is $C(47, 4) + C(51, 3) + C(50, 3) + C(49, 3) + C(48, 3) + C(47, 3)$ equal to?

(a) $C(47, 4)$ (b) $C(52, 5)$
(c) $C(52, 4)$ (d) $C(47, 5)$

Ans: (c)

Q) There are 10 points in a plane. No three of these points are in a straight line. What is the total number of straight lines which can be formed by joining the points?

(a) 90 (b) 45

(c) 40 (d) 30

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(a) 90 (b) 45

(c) 40 (d) 30

Ans: (b)

Q) How many words can be formed from the letters of the word 'ARTICLE', if vowels always comes at the odd places?

(a) 60

(b) 576

(c) $\frac{7!}{3!}$

(d) 120

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(a) 60
(b) 576
(c) $\frac{7!}{3!}$
(d) 120

Ans: (b)

Q) From 6 programmers and 4 typists, an office wants to recruit 5 people. What is the number of ways this can be done so as to recruit atleast one typist?

(a) 209 (b) 210

(c) 246 (d) 242

Q) From 6 programmers and 4 typists, an office wants to recruit 5 people. What is the number of ways this can be done so as to recruit atleast one typist?

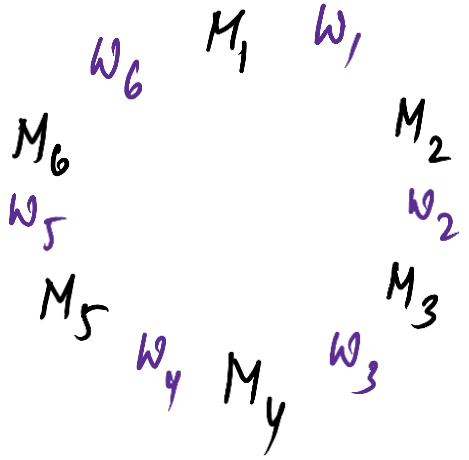
(a) 209 (b) 210
(c) 246 (d) 242

Ans: (c)

Q) The number of ways in which 6 men and 5 women can dine at a round table if no two women are to sit together is given by

(a) $7! \times 5!$ (b) $6! \times 5!$ (c) $30!$ (d) $5! \times 4!$

$(6-1)! = 5!$



$5! \times {}^{6}P_5$

$5! \times 6!$

Q) The number of ways in which 6 men and 5 women can dine at a round table if no two women are to sit together is given by

(a) $7! \times 5!$ (b) $6! \times 5!$ (c) $30!$ (d) $5! \times 4!$

Ans: (b)

Q) How many 4-letter words (with or without meaning) containing two vowels can be constructed using only the letters (without repetition) of the word 'LUCKNOW'?

(a) 240 (b) 200

(c) 150 (d) 120

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(a) 240 (b) 200
(c) 150 (d) 120

Ans: (a)

Q) In a football championship, a total of 153 matches was played. Every two teams played one match with each other. What is the total number of teams which took part in the championship?

(a) 17 (b) 18

(c) 19 (d) 21

Q) In a football championship, a total of 153 matches was played. Every two teams played one match with each other. What is the total number of teams which took part in the championship?

(a) 17 (b) 18

(c) 19 (d) 21

Ans: (b)

NDA 1 2025

LIVE

MATHS

VECTOR ALGEBRA

CLASS 3

NAVJYOTI SIR

Crack
EXAMS