SBI PO MAINS 2020-21

की तैयारी कैसे करें ?

Permutation

(FPC Method) - High

पढ़ना नहीं, सीखना है

04:00 PM

MATHS

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Analysis/विश्लेषण

When some letters in the given word appear more than once
जब दिये गये शब्द में कुछ अक्षर एक अधिक बार आए:

AAB

A A B

A B A

B A A

~~B A A~~

~~A B A~~

~~A A B~~

only three arrangmts

$$\frac{3!}{2!} = \frac{6}{2} = 3$$

INSTITUTE

$$\frac{9!}{(2! \times 3!)} = 30240$$

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Find the number of permutations of the letters of the word ALLAHABAD .

ALLAHABAD शब्द के अक्षरों से बनने वाले क्रमचयों की संख्या ज्ञात कीजिए

A → 4

L → 2

$$\frac{9!}{4! \times 2!}$$

$$= \frac{9 \times 8 \times 7 \times 6 \times 5 \times 4!}{4! \times 2}$$

$$= 7560$$

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Find the number of arrangements of the letter of the word INDEPENDENCE in how many of these arrangements (I) do the words start with p

INDEPENDENCE शब्द के अक्षरों से बनने वाले विन्यासों की संख्या ज्ञात कीजिए, इन विन्यास में से कितने विन्यास में (I) शब्द P से प्रारंभ होते हैं

D :→ 2
E :→ 4
N :→ 3

11

2 fixed

P

$$\frac{11!}{2! \times 4! \times 3!}$$

$$= \frac{3628800 \times 11}{2 \times 24 \times 6}$$

$$= 138600$$

(Ans.)

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Find the number of arrangements of the letter of the word INDEPENDENCE in how many of these arrangements (II) do the words begin with E and end in N

INDEPENDENCE शब्द के अक्षरों से बनने वाले विन्यासों की संख्या ज्ञात कीजिए. इन विन्यास में से कितने विन्यास में ((II) शब्द E से प्रारंभ होते हैं और उनका अंत N से होता है.

D :→ 2
E :→ 4 —1→ 3
N :→ 3 —1→ 2

E _ _ _ _ _ _ _ _ _ N

$$\frac{10!}{2! \times 3! \times 2!} = \frac{3628800}{2 \times 6 \times 2} = 151200 \text{ (Ans)}$$

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Find the number of arrangements of the letter of the word INDEPENDENCE in how many of these arrangements (III) do all the vowels always occur together and

INDEPENDENCE शब्द के अक्षरों से बनने वाले विन्यासों की संख्या ज्ञात कीजिए. इन विन्यास में से कितने विन्यास में (III)सभी स्वर सदैव एक साथ रहे

NDPNDNC

7

IEEEE

1

$$\frac{8! \times 5!}{3! \times 2! \times 4!} = \frac{40320 \times 120}{6 \times 2 \times 24}$$

$= 16800$ (Ans)

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Find the number of arrangements of the letter of the word **INDEPENDENCE** in how many of these arrangements (IV) do the vowels never occur together

INDEPENDENCE शब्द के अक्षरों से बनने वाले विन्यासों की संख्या ज्ञात कीजिए. इन विन्यास में से कितने विन्यास में (IV) स्वर कभी भी एक साथ नहीं रहते हैं

D 4
E 2
N 3

Total — Always together

$$\frac{12!}{4! \times 2! \times 3!} \longrightarrow 16800$$

$$= \frac{3628800 \times 11 \times 12}{24 \times 2 \times 6} - 16800$$

$$= 1663200 - 16800$$

$$= 1646400 \text{ (Ans)}$$

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In how many of the distinct permutations of the letters in MISSISSIPPI do the 4 "I" not come together?

MISSISSIPPI शब्द के अक्षरों से बने विभिन्न क्रमचयों में से कितने में चारों "I"एक साथ नहीं आते हैं?

Together : $\underbrace{MSSSSPP}_{7}$ $\boxed{IIII}$ (1)

$$\frac{8! \times 4!}{4! \times 2! \times 4!} = \frac{\cancel{40320}\ 20160}{24 \times 2} = 10080$$

Total :→ $$\frac{11!}{4! \times 2! \times 4!} = \frac{36288000 \times 11}{24 \times 2 \times 24} = 34650$$

Neve together = 34650 − 10080 = 24570 (Ans)

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In how many ways can the letters of the word ASSASSINATION be arranged so that all the "S" are together

ASSASSINATION शब्द के अक्षरों के कितने विन्यास बनाए जा सकते हैं जबकि सभी "S" एक साथ रहे?

A A I N A T I O N | S S S S |

9 1

$$\frac{10! \times 4!}{3! \times 2! \times 2! \times 4!}$$

$$= \frac{362880}{6 \times 2 \times 2}$$

$$= 151200$$

(Ans).

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In how many ways can the letters of the word POOJA can be arranged so that the vowels always occupy the even places.

POOJA शब्द के अक्षरों को कुल कितने विभिन्न तरीके से व्यवस्थित किया जा सकता है ताकि स्वर हमेशा सम स्थान पर आये.

इनामी Question

Name इनाम Goes to

1. Rajesh. (CND)
2. Jagdeesh. (CND)
3. Ram (60)
4. Trishani CND

CND

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Mind Twister/दिमाग घुमा देने वाला:

In how many ways can 4 red, 3 yellow and 2 green discs be arranged in a row if the discs of the same colour are indistinguishable?

4 लाल 3 पीली तथा 2 हरी डिस्को को एक पंक्ति में कितने प्रकार से व्यवस्थित किया जा सकता है यदि एक ही रंग की डिस्को में कोई अंतर नहीं है?

$R_1 R_2 R_3 R_4 Y_1 Y_2 Y_3 G_1 G_2$ (let it be a 9 letter word)

$$\frac{9!}{4! \times 3! \times 2!} = \frac{362880}{24 \times 6 \times 2}$$

$= 1260$ (Ans).

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Mind Twister/दिमाग घुमा देने वाला:

In how many ways can the letters of the word **PERMUTATIONS** be arranged if there are always 4 letters between "P" and "S".

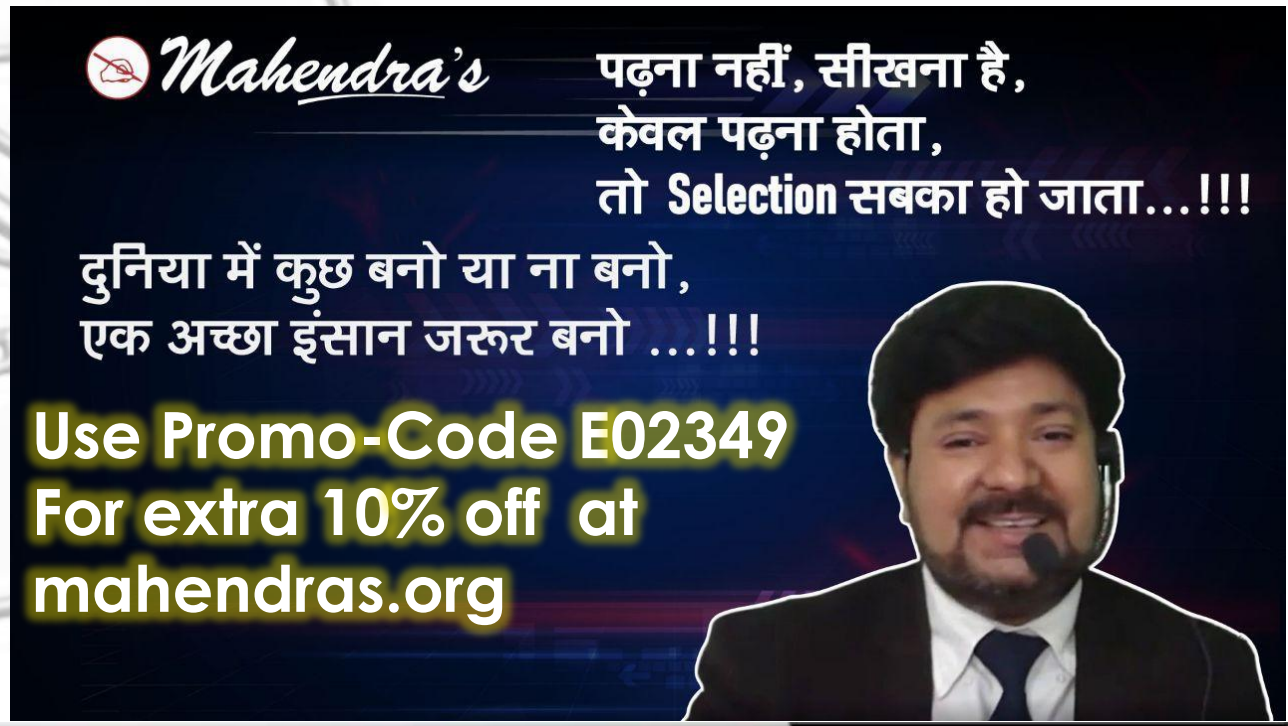
PERMUTATIONS शब्द के अक्षरों को कितने तरीकों से व्यवस्थित किया जा सकता है यदि चयनित शब्द में "P" तथा "S" के मध्य सदैव चार अक्षर हो.

Stay tuned – 15 Jan - at 4:00 pm

Combination

(Special Case of FPC) - Low –

पढ़ना नहीं, सीखना है



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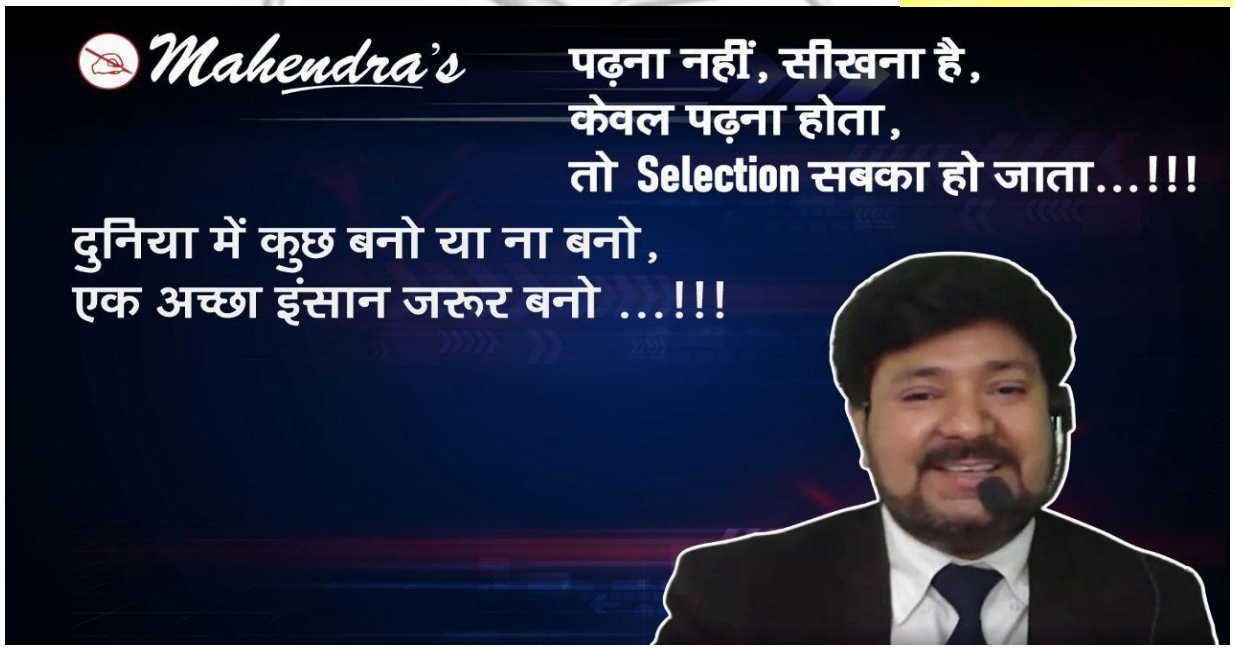

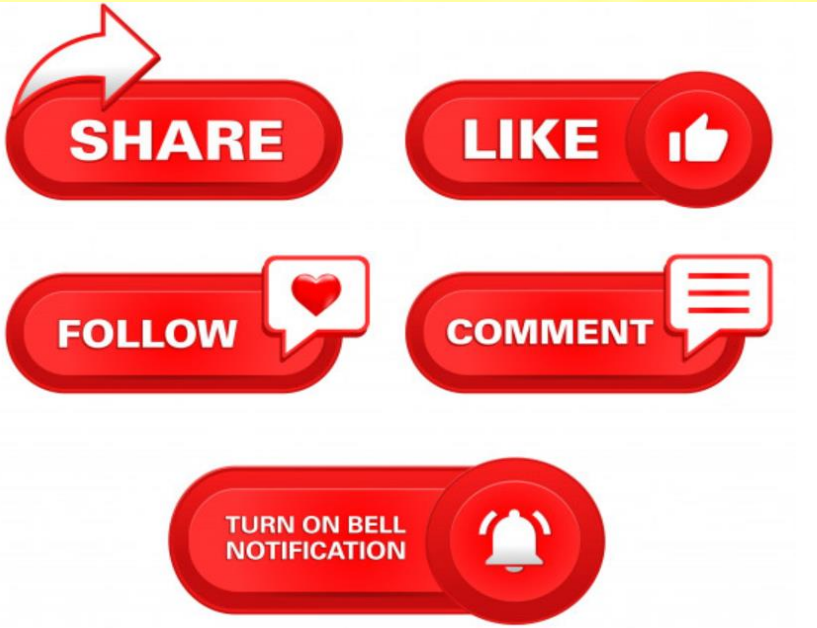

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