Left poster:

defenceofficersacademy.in

RIMC JUNE 2022 WRITTEN QUALIFIED

DEFENCE OFFICERS ACADEMY

AHEM HEMANT AHER
ROLL.NO-MH20221046
STATE-MAHARASHTRA

9917633604/7060500801/803

Right poster:

defenceofficersacademy.in

RIMC JUNE 2022 WRITTEN QUALIFIED

DEFENCE OFFICERS ACADEMY

ADITYA SINGH TAKULI
STATE- UTTAR PRADESH
ROLL NO- 195

9917633604/7060500801/803

RIMC JUNE 2022
WRITTEN QUALIFIED

DEFENCE OFFICERS
ACADEMY
A Premier Institute only for Defence Services

INAN KUNDU
JAMMU & KASHMIR
ROLL NO- 2206082 B

9917633604/7060500801/803

RIMC JUNE 2022
WRITTEN QUALIFIED

AARADHYA
ROLL.NO- 2206230
STATE- DELHI

9917633604/7060500801/803

FOLLOW US NOW

CONGRATULATIONS
RAJKUMAR
RAJASTHAN

RIMC JOINING HAS COME

REGISTER NOW

CALL US : 9917633604/7060500801/803
defenceofficersacademy.in

DEFENCE OFFICERS ACADEMY
A Premier Institute only for Defence Services

FOLLOW US NOW

CONGRATULATIONS
SENTHIL NATHAN AB
TAMIL NADU

RIMC JOINING HAS COME

REGISTER NOW

CALL US : 9917633604/7060500801/803
defenceofficersacademy.in

DEFENCE OFFICERS ACADEMY
A Premier Institute only for Defence Services

Polygon

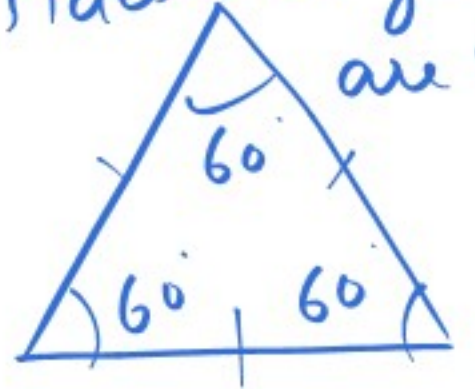$\longrightarrow \triangle, \square, \ldots$
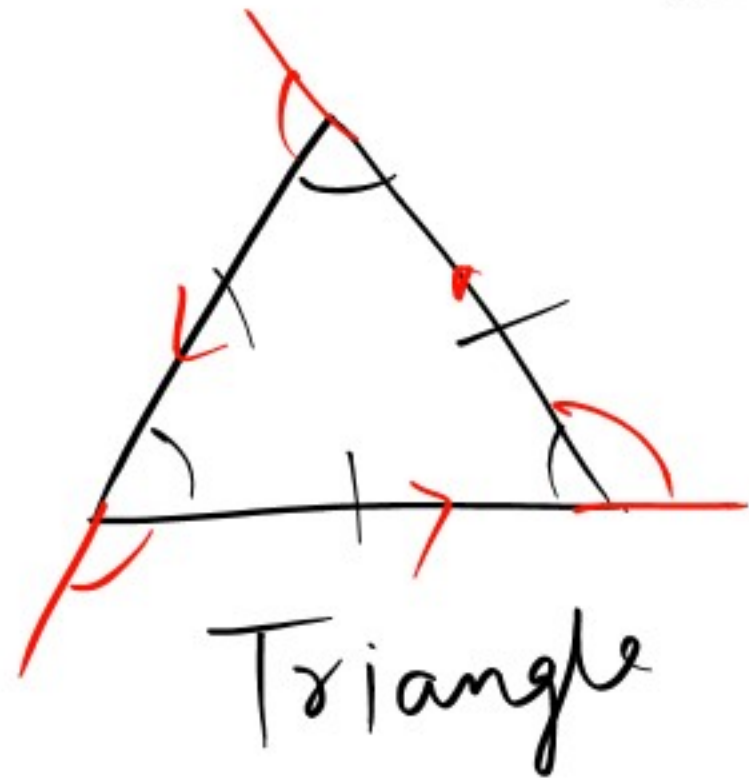
No: of side = 3 (n)

No: of Interior angles = 3 (θ_i)

No: of Exterior angles = 3 (θ_e)

Triangle

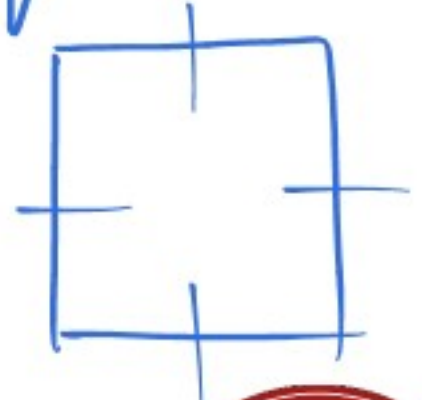$\theta = $ theta $\Rightarrow$ Angle

---

Regular polygon

All sides & angles are same

60°
60° 60°

Equilateral $\triangle$

Square

Polygon

eg:

$n = 3$

Sum of interior angles
$$= (n-2)180$$

$n = $ no. of sides

①

Regular polygon

$\theta = 60$

60   60

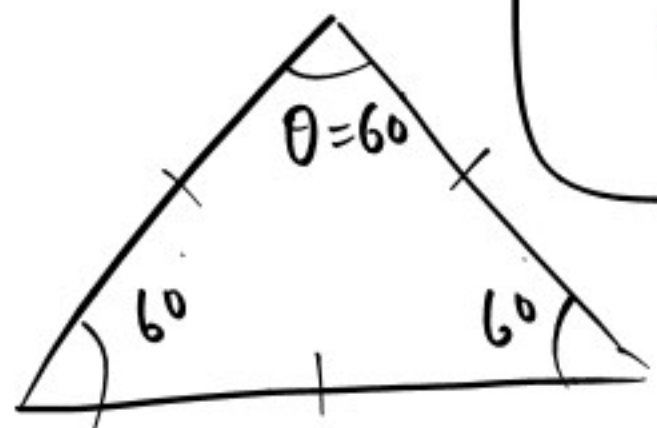**Sum of interior angles**
$$= n \times \theta_i$$

②

Regular polygon

$$n \times \theta_i = (n-2)180$$

★★

$$\boxed{\theta_i = \frac{(n-2)180}{n}}$$

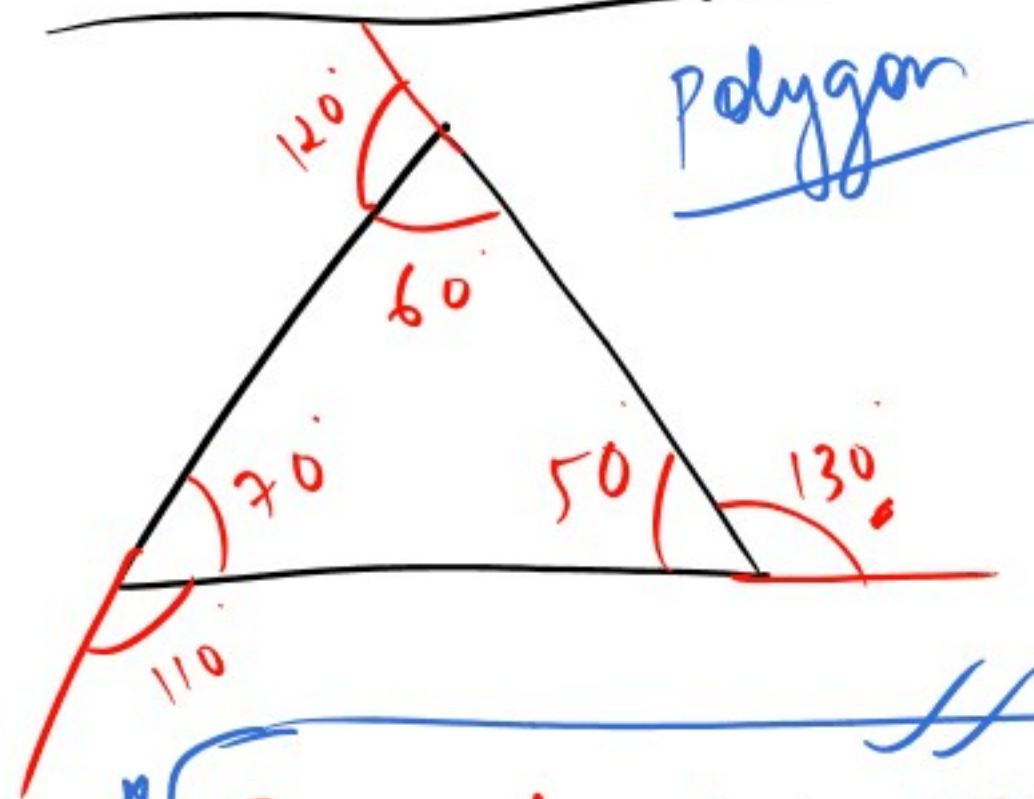$\theta_i = $ one interior Angle

$n = $ no. of sides

Exterior angle

Polygon

120°
60°
70°
110°
50°
130°

Sum of exterior angle
= 360

Regular Polygon

120°
60°
60° 60° 120°
120°

Sum of exterior angles
= n × θ_e
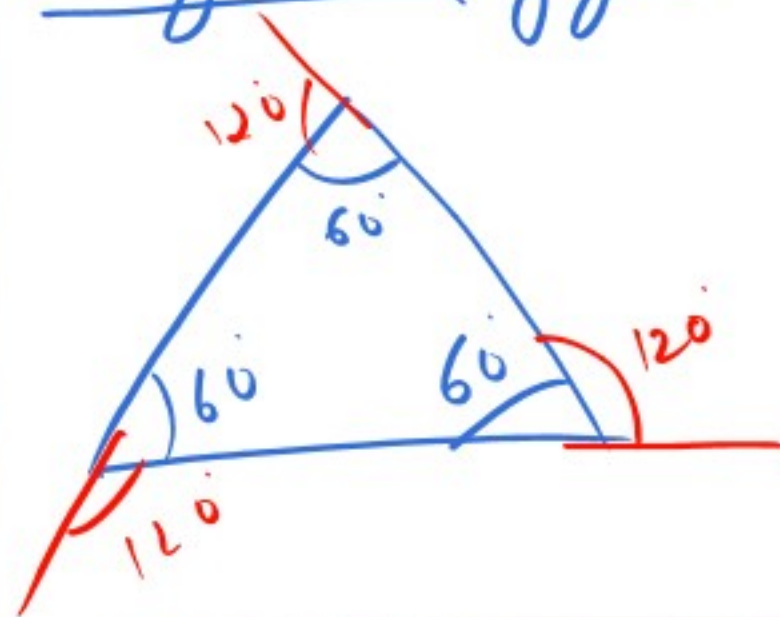
$$\text{Sum of exterior angles} = n \times \theta_e$$

Regular polygon

$$n \times \theta_e = 360$$

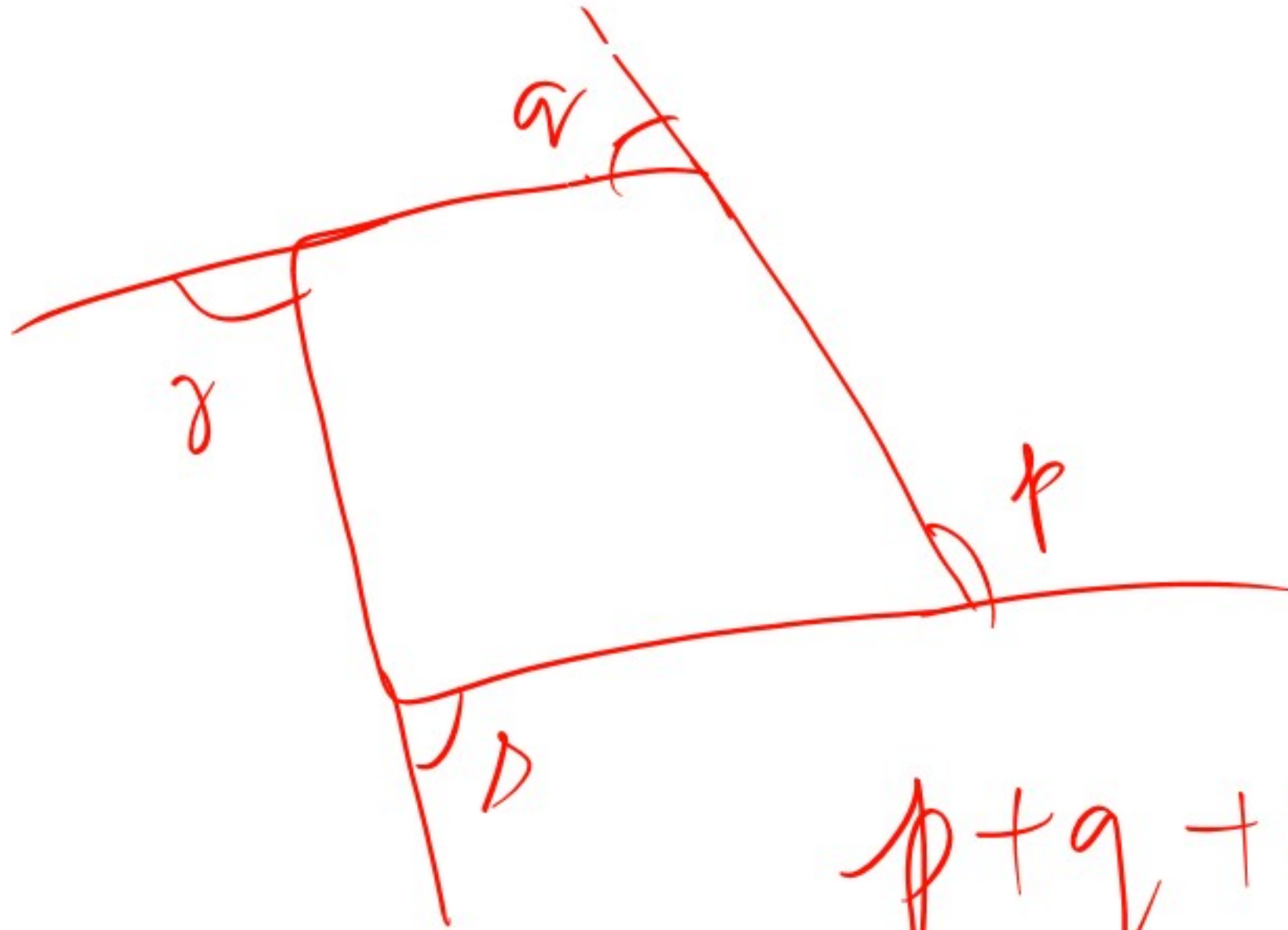$$\boxed{\theta_e = \frac{360}{n}}$$

θ_e = one exterior angle

n = no. of sides

$$p + q + r + s = 360°$$

1. The exterior angle of a regular polygon is 1/3 rd of its interior. How many sides does the polygon have ?

n

Sol) Given

$$\theta_e = \frac{1}{3}\theta_i \quad \left[\text{Regular polygon}\right]$$

$$2\frac{360}{n} = \frac{1}{3}\frac{(n-2)180}{n}$$

$$n-2 = 6$$

$$n = 6+2$$

$$\boxed{n = 8}$$

DEFENCE OFFICERS
ACADEMY
A Premier Institute only for Defence Services

2. Two regular polygons are such that the ratio between their number of sides is 1:2 and the ratio of the measures of their interior angles is 3:4. Find the number of sides of each polygon.

Sol) Let the no: of side of two regular polygons be n_1 & n_2

Given
$$n_1 : n_2 = 1:2$$

Let common multiple be x

$$n_1 = x$$
$$n_2 = 2x$$

Let $\theta_{i_1} =$ interior angle of polygon 1

$\theta_{i_2} =$ interior Angle of polygon 2

$$\frac{\theta_{i_1}}{\theta_{i_2}} = \frac{3}{4}$$

$$\frac{\dfrac{(n_1-2)180}{n_1}}{\dfrac{(n_2-2)180}{n_2}} = \frac{3}{4}$$

$$\frac{(x-2)180}{x} \div \frac{(2x-2)180}{2x} = \frac{3}{4}$$

$$\frac{(x-2)18\cancel{0}}{\cancel{x}} \times \frac{2\cancel{x}}{(2x-2)\cancel{180}} = \frac{3}{4}$$

$$\frac{2(x-2)}{2x-2} = \frac{3}{4}$$

$$8(x-2) = 3(2x-2)$$

$$8x - 16 = 6x - 6$$

$$8x - 6x = -6 + 16$$

$$2x = 10$$

$$x = \frac{10}{2} = 5$$

Polygon 1

No: of sides $= x = 5$

Polygon 2

No: of sides $= 2x = 2 \times 5 = 10$

DEFENCE OFFICERS
ACADEMY
A Premier Institute only for Defence Services

3. Each interior angle of regular polygon is $144°$. Find the interior angle of a regular polygon which has double the number of sides as in the first polygon.

Sol) Regular polygon

$\theta_i = 144°$

$$\frac{(n-2)180}{n} = 144$$

$$(n-2)180 = 144n$$

$180n - 360 = 144n$

$36n = 360$

$\boxed{n = 10}$ ✓

2nd polygon

No. of sides $= 2 \times 10 = 20$

Interior angle $\theta_i = \frac{(n-2)180}{n}$

$$\theta_i = \frac{(20-2)180^9}{20}$$

$= 18 \times 9$

$= 162°$

$\theta_i = 162°$

Junior Courses Of Defence Officers Academy

- **RIMC** (1)

- **RMS** = 5

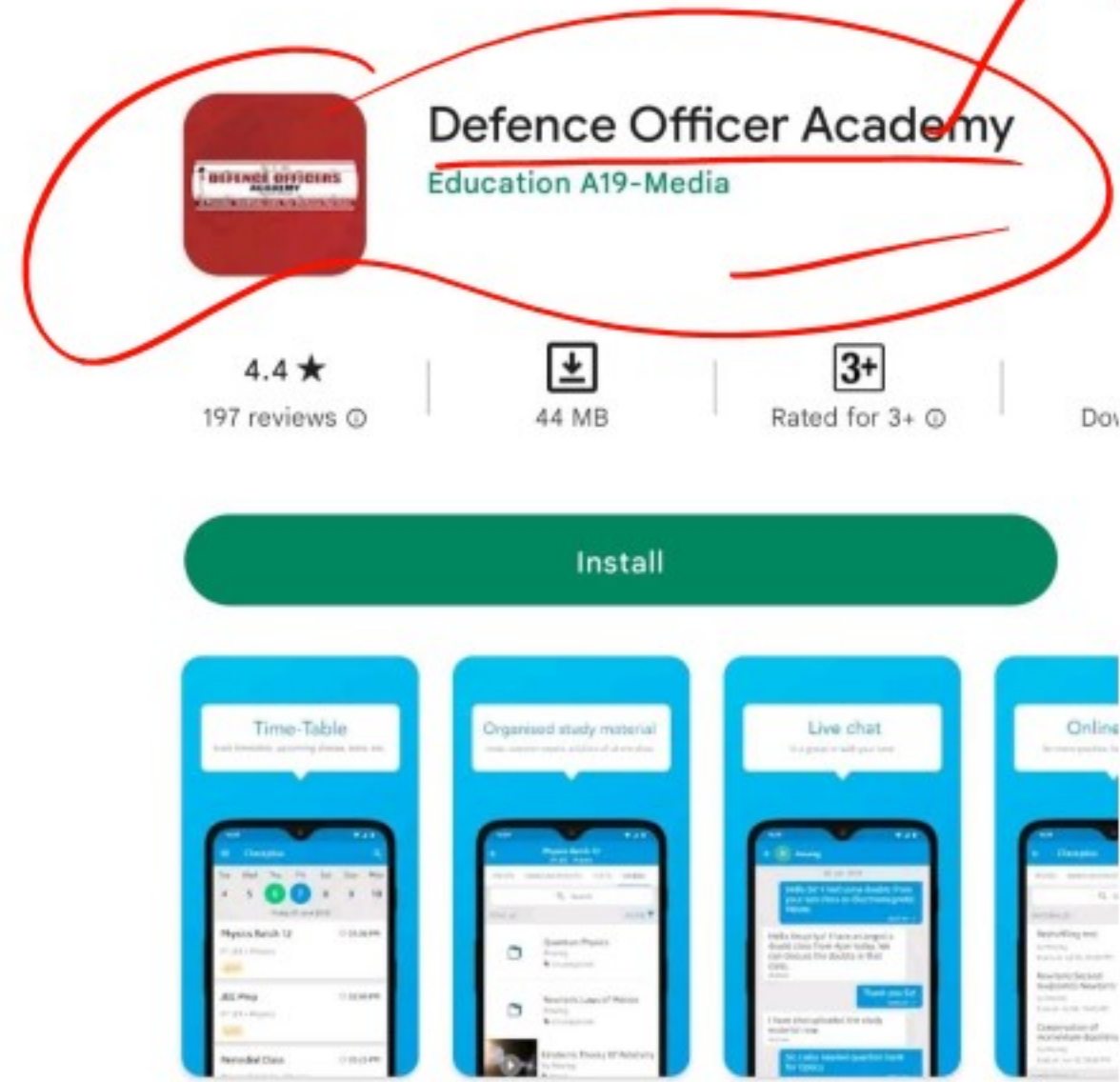- **SAINIK SCHOOL** (33)

Offline With Hostel Facility

Hostel only for Boys

Live Classes On Google Meet/ Zoom Platform

5 to 6:30 am

Online Course on DOA App (Recorded Sessions).

Defence Officer Academy

Education A19-Media

4.4 ★
197 reviews

44 MB

Rated for 3+

Install

Time-Table

Organised study material

Live chat

Defence Officer Academy

Courses (86)

RIMC
6 MONTH
4,999/-

TESTS   VIDEOS   FILES
(6 Month) RIMC- Full Course
₹4,999/-

CURRENT AFFAIR
2022
MONTHWISE PDF
₹ 499/-
BY- SURAJ SIR

FILES
CURRENT AFFAIRS 2022 MONTHWISE PDF
₹499/-

CUTTING EDGE
JUNE 2022

FILES
Cutting Edge JUNE 2022
₹1,499/-

RIMC
1 YEAR
9,999/-

TESTS   VIDEOS   FILES
A COMPLETE COMBO COURSE FOR RIMC - 1 YEAR
₹1,000/-

FOUNDATION

FREE CONTENT   VIDEOS
(6 Month) Foundation- Full Course
₹4,999/-

Home   Batches   Store   Chats   Profile

Student

ALL
THE
BEST

DEFENCE OFFICERS
ACADEMY
A Premier Institute only for Defence Services

9917633604, 7060500801

@DOADDN

defenceofficersacademy.in