



*Mahendra's*



# SSC CGL/CPO/CHSL

## MATHS

# COMPOUND INTEREST

## (चक्रवृद्धि ब्याज)

### PART 2

### Most Asked Questions By SSC

**LIVE**

**06:30 PM**





Muskan.... ✨ 1 day ago

Your teaching excellent sir

👍 3 🗨️ REPLY



Muskan.... ✨ 1 day ago

Homework answer  
Option -C(10000)

👍 3 🗨️ REPLY

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Tanu Vishwakarma 1 day ago

Homework answer  
Option-C (10,000)

👍 1 🗨️ REPLY

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SANDHYA ROY 1 day ago

Thank you very much sir outstanding session homework answer is option c ..10k 🙏🙏🙏

🙏 CI

👍 🗨️ REPLY



ARNAB DEBROY 1 day ago

c)10000

Outstanding session sir.

👍 🗨️ REPLY

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Manoj Kumar 1 day ago

10000 answer home work question.  
Nice session guru G.

👍 🗨️ REPLY

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Chhavi Saxena 1 day ago

Home work answer is 10,000

👍 🗨️ REPLY

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puspranjan singh 1 day ago

1000

**A** Anjali Kushwaha 21 hours ago  
10,000

  REPLY

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 officialshaurya4235 1 day ago  
10,000 Ryt answer

  REPLY

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**P** Prashant Rajput 1 day ago  
10000 ans

  REPLY



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**S** sakshi parate 1 day ago  
10000

  REPLY

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**N** Nidhi Gupta 1 day ago  
Hw 10000

  REPLY

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**S** Sukanta sen 1 day ago (edited)  
10000

  REPLY

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**K** Krishna Manjari 1 day ago  
10000


  REPLY

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 Ashwini Kumar 1 day ago  
10000

  REPLY

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 Mohd Irfan 1 day ago  
10000



The difference between C.I. for third year and second year is Rs.26.25, if rate is 5% per annum then find the sum.

तीसरे वर्ष और दूसरे वर्ष का चक्रवृद्धि ब्याज का अंतर 26.25 रु है, यदि ब्याज की दर 5% वार्षिक हो तो मूलधन ज्ञात करें?

[SSC CHSL 2018]

01:00

- a) Rs.8000
- b) Rs.12000
- »» c) Rs.10000
- d) Rs.7200

If the difference between C.I and S.I for three years is Rs.840. If rate of interest is  $11\frac{1}{9}\%$  then find principal?

3 वर्षों में चक्रवृद्धि ब्याज और साधारण ब्याज का अंतर 840 रु है | यदि ब्याज की दर  $11\frac{1}{9}\%$  हो तो मूलधन ज्ञात करें?

[SSC CPO 2019]

A)Rs.24300

B)Rs.18225

C)Rs.20780

➤➤➤ D)Rs.21870

01:00

If the difference between C.I and S.I for three years is Rs.840. If rate of interest is  $11\frac{1}{9}\%$  then find principal?

3 वर्षों में चक्रवृद्धि ब्याज और साधारण ब्याज का अंतर 840 रु है | यदि ब्याज की दर  $11\frac{1}{9}\%$  हो तो मूलधन ज्ञात करें?

[SSC CPO 2019]

A)Rs.24300

B)Rs.18225

C)Rs.20780

➤➤➤ D)Rs.21870

01:00

1. In C.I., Amounts of every consecutive years are in **Geometric Progression (G.P.-गुणोत्तर श्रेणी)** with Common Ratio  $\mathcal{X} = \left(1 + \frac{R}{100}\right)$

$$A=P \longrightarrow A\mathcal{X} \longrightarrow A\mathcal{X}^2 \longrightarrow A\mathcal{X}^3 \longrightarrow A\mathcal{X}^4$$

- Means , every next year Amount will be  **$\mathcal{X}$  times** of itself
- After **2 years** Amount will be  **$\mathcal{X}^2$  times** of itself
- After **3 years** Amount will be  **$\mathcal{X}^3$  times** of itself
- So After '**n**' years Amount will be  **$\mathcal{X}^n$  times** of itself
- for '**n**' years **Principal : Amount = 1 :  $\mathcal{X}^n$**

❖ Rate  **$R\%$**  =  $\frac{A_{n+1} - A_n}{A_n} \times 100$

If Amounts after 'n' years ( $A_n$ ), '2n' years ( $A_{2n}$ ) and '3n' years ( $A_{3n}$ ) are given, then

$$\frac{A_{3n}}{A_{2n}} = \frac{A_{2n}}{A_n} = \frac{A_n}{P} = x^n$$



Where  $x = \left(1 + \frac{R}{100}\right)$

$$A_n^2 = A_{2n} \times P$$



A certain sum of money becomes  $512/162$  times of itself in 4 years. Then find the rate of interest if compounded annually.

एक निश्चित धनराशि 4 वर्षों में अपने का  $512/162$  गुना हो जाती है। यदि चक्रवृद्धि ब्याज वार्षिक संयोजित हो, तो ब्याज दर ज्ञात करें?

[SSC CPO 2019]

01:00

a)33.33%

b)22.22%

c)25%

d)27.5%

At what rate% per annum will Rs.4704 amounts to Rs.5766 in two years compounded annually.

4704 रु का धन 2 वर्ष में 5766 हो जाता है। चक्रवृद्धि ब्याज की दर ज्ञात करें?

[SSC CGL 2018]

01:00

a)  $8\frac{4}{7}\%$

b)  $11\frac{3}{7}\%$

c)  $12\frac{1}{7}\%$

d)  $10\frac{5}{7}\%$

A certain sum of money becomes Rs.54000 in 4 years and it becomes Rs.59582 in 7 years. Find the rate of interest, if compounded annually.

एक निश्चित धनराशि 4 वर्षों में 54000 हो जाती है और 7 वर्षों में 59582 रु हो जाती है। यदि चक्रवृद्धि ब्याज वार्षिक संयोजित हो, तो ब्याज दर ज्ञात कीजिये?

[SSC CHSL 2020]

01:00

a)  $8\frac{4}{7}\%$

b)  $11\frac{3}{7}\%$

c)  $12\frac{1}{7}\%$

d)  $10\frac{5}{7}\%$

If a certain sum of money amounts to Rs.6400 in 7.5 years and Rs.8000 in 15 years at a certain rate of interest compounded annually. Find the principal.

यदि एक निश्चित चक्रवृद्धि ब्याज की दर से, एक निश्चित धनराशि 7.5 वर्ष 6400 रू हो जाती है और 15 वर्षों में 8000 रू हो जाती है। तो मूलधन ज्ञात करें?

**[SSC CGL 2017]**

**01:00**

a)Rs.4320

b)Rs.4800

c)Rs.5120

d)Rs.4000

If a certain sum of money amounts to Rs.4900 in 4 years and Rs.7350 in 8 years compounded annually. Then in 12 years it will become how much?

एक निश्चित धनराशि चक्रवृद्धि ब्याज की दर से 4 वर्षों 4900 रू हो जाती है और 8 वर्षों में 7350 रू हो जाती है। तो 12 वर्षों में यह धनराशि कितनी हो जायेगी ?

**[SSC CGL 2017]**

**01:00**

a)Rs.11025

b)Rs.10500

c)Rs.9800

d)Rs.12550

If a certain sum of money amounts to Rs. 6250 in 3.5 years and Rs. 7500 in 7 years compounded annually. Then in 10.5 years it will become how much?

एक निश्चित धनराशि चक्रवृद्धि ब्याज की दर से 3.5 वर्षों 6250 रु और 7 वर्षों में 7500 रु हो जाती है | तो 10.5 वर्षों में यह धनराशि कितनी हो जायेगी?

**[SSC CGL 2017]**

**01:00**

- a. Rs. 12500
- b. Rs. 8750
- c. Rs. 9000
- d. Rs. 10000

Compound Interests of every consecutive particular year are in also

**Geometric Progression (G.P.)** with same Common Ratio  $x = \left(1 + \frac{R}{100}\right)$

$$P \xrightarrow{R\%} \frac{PR}{100} \longrightarrow 1^{\text{st}} \text{ year CI}$$

$$\longrightarrow \frac{PR}{100} + \frac{PR}{100} \times \frac{R}{100} = \frac{PR}{100} \left(1 + \frac{R}{100}\right) \longrightarrow 2^{\text{nd}} \text{ year CI}$$

$$\longrightarrow \frac{PR}{100} \left(1 + \frac{R}{100}\right) + \frac{PR}{100} \left(1 + \frac{R}{100}\right) \times \frac{R}{100} = \frac{PR}{100} \left(1 + \frac{R}{100}\right)^2 \longrightarrow 3^{\text{rd}} \text{ year CI}$$

➤ Means , every next year CI will be  **$x$  times** of last year CI

➤ For 1<sup>ST</sup> year , **Compound Interest = Simple Interest**

( at same rate and principal)

If compound interest received on a certain amount in the 3rd year is Rs.12,100, what will be the compound interest (in Rs) for the 4th year on the same amount if rate of interest is 9%? (MAINS 2017)

यदि किसी राशि पर तीसरे वर्ष में मिलने वाला चक्रवृद्धि ब्याज 12,100 रुपये है तो उसी राशि पर चौथे वर्ष में मिलने वाला चक्रवृद्धि ब्याज (रुपयों में) क्या होगा यदि ब्याज दर 9% है ?

**[SSC CGL MAINS 2017]**

**01:00**

(a) 17080

(b) 15669

»» (c) 13189

(d) 14376



If compound interest received on a certain amount in the 2nd year is Rs. 350. What will be the compound interest (in Rs.) for the 3rd year on the same amount at 14% rate of interest?

यदि 2 वर्ष में एक निश्चित राशि पर चक्रवृद्धि ब्याज रु. 350 प्राप्त होता है। तीसरे वर्ष के लिए उसी राशि पर 14% ब्याज की दर पर चक्रवृद्धि ब्याज क्या होगा?

[SSC CHSL 2018]

01:00

A.436

»» B.399

C.469

D.450

if the compound interest on a principal of second year is Rs. 480 and of fourth year is Rs. 1080 ,then find the compound interest on same principal of third-year?

यदि किसी धनराशि पर दूसरे और चौथे वर्ष के चक्रवृद्धि ब्याज क्रमशः रु. 480 और रु. 1080 हैं तो समान धनराशि पर तीसरे वर्ष का चक्रवृद्धि ब्याज ज्ञात करें ?

**[SSC CGL 2018]**

**01:00**

a. Rs. 840

b. Rs. 600

c. Rs. 720

d. Rs. 640