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# ALL ODISHA MATH PYQ

# E- Book (PDF)

# All Odisha Exam Previous Year Chapter Wise MATH Question & Explanation

## (ODIA & ENGLISH Language)

[Exam- OSSSC, OSSC, OPSC, Police SI / Constable, Battalion, Fireman, Jail Warder, B.ED, RHT, CT, JT, OSSTET, OAVS, OSSSC (PEO, RI, ARI, JA, LSI, OFDC, Group C)]

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## Features Of "MATH" Chapter Wise E-Book

Total PYQ	6,812
Total Topic	44 (With Explanation & Answer Key)
Language	Odia & English
Best For	All Odisha Exam- OSSSC, OSSC, OPSC, Police SI / Constable, Battalion, Fireman, Jail Warder, B.ED, RHT, CT, JT, OSSTET, OAVS, OSSSC (PEO, RI, ARI, JA, LSI, OFDC, Group C) & Other Exams
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SI. No.	Торіс	No. Of MCQ
1	Average	430
2	Percentage	448
3	Partnershin	129
4	Mixture & Allegation	182
5	Ratio & Proportion	345
6	Time & Work	396
7	Compound Interest	186
8	Profit & Loss	358
9	Simple Interest	220
10	Speed Time & Distance	312
11	Simplification	400
12	Data Interpretation	501
13	Problems on Trains	54
14	Boat & Stream	44
15	Tax	55
16	Decimal & Fractions	53
17	Pipes and Cisterns	53
18	Discount	67
19	Age Problem	171
20	Divisibility	220
	Teaching Exam PYQ	
21	Geometry	118
22	Mensuration- Volume and Surface Area	327
23	Logarithm	24
24	Probability	271
25	Statistic	201
26	Algebra , Polynomial & Quadratic	284
27	Relations & Functions	38
28	Square & Square Root	104
29	Number System	197
30	Miscellaneous	68
31	Permutation & Combination	12
32	Sets & Union	86
33	Trigonometry	67
34	Hight & Distance	11
35	HCF & LCM	216
36	Analytical Geometry	32
37	Arithmetic Problem PYQ	24
38	Calculus	13



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39	Coordinate Geometry	37
40	Determinant & Matrix	12
41	Differentiation & Integration	12
42	Limits & Continuity	9
43	Sequences and Series	15
44	Math Pedagogy	10
Total		6,812





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## All These Questions Have Been Updated To Combo E-Book

OSSSC Previous Year Questions (PYQ)		
SI. No.	Exam Name	Year
1	OSSSC LSI, FG, FORESTER	2024 (All 42 Shifts)
2	OSSSC RI	2015, 2021
3	OSSSC PEO & JA	2023
4	OSSSC CRE (ARI, AMIN, SFS, FG, EXCISE CONSTABLE)	2022
5	OSSSC JUNIOR CLERK	2015, 2017, 2018
6	OSSSC LSI	2021
7	OSSSC ICDS Supervisor	2016
8	OSSSC Excise Constable	2014, 2019
9	OSSSC VAW	2016
10	OSSSC Jr. Stenographer	2015
11	OSSSC Laboratory Technician	2021
12	OSSSC MPHW	2023
13	OSSSC Nursing	2020, 2023
14	OSSSC SFS	2016
15	OSSSC Pharmacist	2020
16	OSSSC Radiographer	2020

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OSSC Previous Year Questions (PYQ)		
SI. No.	Exam Name	Year
1	OSSC ATO	2024
2	OSSC CHSL Specialist	2024
3	OSSC Assistant Sub-Inspector	2022
4	OSSC Accountant	2022
5	OSSC AMIN	2023 Pre & Mains
6	OSSC BSSO	2022 (All 18 Shifts)
7	OSSC CGL	2022 (All 18 Shifts) , 2023,
		2024
8	OSSC CHSL	2023
9	OSSC CPGL	2023
10	OSSC CTS	2023, 2024
11	OSSC ESI	2023
12	OSSC GPEO	2015
13	OSSC Investigator	2022 (All 3 Shifts)
14	OSSC WEO	2022
15	OSSC JEA	2022 (All 16 Shifts)
16	OSSC Junior Assistant	2022 (All 10 Shifts)
17	OSSC Junior Clerk	2022
18	OSSC SCEW	2022 (All 5 Shifts)
19	OSSC SFS	2016
20	OSSC Specialist	2023
21	OSSC Stenographer	2023, 2024
22	OSSC Supply Inspector	2017
23	OSSC WEO	2022 (All 21 Shifts)

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Odisha Police & Defence Previous Year Questions (PYQ)			
SI. No.	Exam Name	Year	
1	Odisha Battalion / OSAP	2017	
2	Odisha Police Constable	2011, 2012, 2013, 2018,	
		2023	
3	Odisha Fireman	2023	
4	Odisha Jail Warder	2022 (All 18 Shifts)	
5	OPRB SI Police	2016, 2017, 2019, 2022	
		(All 11 Shifts), 2023	
6	OSSC Excise SI	2021 (All 9 Shifts), 2022	
7	OSSC Traffic Constable	2022 (All 6 Shifts)	
8	OSSC Traffic SI	2022 (All 4 Shifts)	

OPSC Previous Year Questions (PYQ)		
SI. No.	Exam Name	Year
1	OPSC ASO	2014, 2015, 2019, 2022
2	OPSC OMAS	2019, 2023
3	OPSC Junior Asst.	2024
4	OPSC OAS	Only Odisha GK Taken
		From All Previous Year
		Preliminary Exams
5	OPSC Assistant Director Of Factory & Boiler	2023 Pre (Only Odisha GK
		Taken)
6	OPSC Asst Director Handicraft	2023 Pre (Only Odisha GK
		Taken)

Odisha	High Court Previous Year Questions (PYQ)	
SI. No.	Exam Name	Year
1	OHC ASO	2021, 2023, 2023 (ST
		Special)

Odisha Forest Development Corporation Previous Year Questions (PYQ)			
SI. No.	Exam Name	Year	
1	OFDC Field Assistant	2021	



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Odisha Teaching Exams Previous Year Questions (PYQ)			
SI. No.	Exam Name	Year	
1	СТ	2018 (All 23 Shifts)	
		2019 (All 24 Shifts)	
		2020 (All 20 Shifts)	
		2023 (All 11 Shifts)	
2	OTET	2022	
3	JT	2023 (All 14 Shifts)	
4	B.ED Entrance Exam		
	ARTS & SCIENCE	2018 (All 11 Shifts)	
		2019 (All 15 Shifts)	
		2020 (All 13 Shifts)	
		2021 (All 15 Shifts)	
		2022	
		2023	
6	OSSTET (ARTS, CBZ & PCM)	2018, 2019, 2021 (1 <sup>st</sup> ),	
		2021 (2 <sup>nd</sup> ), 2022, 2024	
7	SSB (ARTS, CBZ & PCM)	2024	
8	RHT / High School Teacher		
	> RHT ARTS	2019	
		2021 (All 3 Shifts)	
		2022 (All 6 Shifts)	
		2023 Pre (All 3 Shifts)	
		2023 Mains	
	➢ RHT CBZ	2019	
		2021	
		2022 (All 3 Shifts)	
		2023 Pre (All 3 Shifts)	
		2023 Mains	
	➢ RHT PCM	2019 (All 2 Shifts)	
		2021 (All 2 Shifts)	
		2022 (All 4 Shifts)	
		2023 Pre (All 3 Shifts)	
		2023 Mains	
9	OAVS		
	OAVS TGT ODIA	2018, 2019, 2021	
	OAVS TGT ENGLISH	2019	
	OAVS TGT SOCIAL STUDIES	2019, 2021, 2023	
	OAVS TGT SCIENCE	2019, 2021	
	OAVS TGT MATH	2019, 2023	





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# **Topic Name-Percentage**

## 1- What percent of 1692 is 423?

1692 ର କେତେ ଶତକଡା 423 ଅଟେ?

## [OSSC RHT High School Teacher 2023]

- (A) 35
- (B) 20
- (C) 30
- (D) 25

## Ans- D

Formula:  $\rightarrow$  Percentage =  $\frac{Part}{Whole} \times 100$ Solution:  $\rightarrow \frac{423}{1692} \times 100 = 25\%$ Final Conclusion:  $\rightarrow 423$  is 25% of 1692.







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2- My income is Rs 1200 per month. If I save 20% of it every month, how much I shall save in a year?

- ମୋର ରୋଜଗାର ମାସିକ ୧୨୦୦ ଟଙ୍କା । ଯଦି ମୁଁ ପ୍ରତି ମାସରେ ଏହାର ୨୦% ସଞ୍ଚୟ କରେ, ତେବେ ମୁଁ ବର୍ଷକୁ କେତେ ସଞ୍ଚୟ କରିବି?

## [Odisha Jail Warder 2022]

- A. Rs 240
- B. Rs 2880
- C. Rs 1440
- D. Rs 120

#### Ans-B

#### Given:

- → Monthly income = ₹1200
- $\rightarrow$  Savings = 20%

#### Formula:

- → Savings per month =  $1200 \times \frac{20}{100} = ₹240$
- → Annual savings = ₹240 x 12

Solution:

→ Annual savings = ₹2880

## **Final Conclusion:**

→ The amount saved in a year is ₹2880.





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3- If the given two numbers are respectively 6% and 24% of a third number, then what percentage is the first number of the second number

- ଯଦି ଦିଆଯାଇଥିବା ଦୁଇଟି ସଂଖ୍ୟା ତୃତୀୟ ସଂଖ୍ୟାର ଯଥାକ୍ରମେ 6% ଏବଂ 24% ଅଟେ, ତେବେ ଦ୍ବିତୀୟ ସଂଖ୍ୟାର ପ୍ରଥମ ସଂଖ୍ୟା କେତେ ପ୍ରତିଶତ ଅଟେ

## [OSSSC Livestock Inspector 2021]

- (A) 15%
- (B) 20%
- (C) 25%
- (D) None of these

## Ans- C

#### Given:

 $\rightarrow$  Two numbers are 6% and 24% of a third number.

## Formula:

- $\rightarrow$  First number  $A = 6\% \times$  Third Number
- $\rightarrow$  Second number  $B = 24\% \times$  Third Number
- $\rightarrow$  The required percentage =  $\frac{A}{B} \times 100$

## Solution:

- $\rightarrow$  First number  $A = 0.06 \times$  Third Number
- $\rightarrow$  Second number  $B = 0.24 \times$  Third Number
- $\rightarrow \frac{A}{B} \times 100 = \frac{0.06}{0.24} \times 100 = 25\%$





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4- If a number is increased by 25% and then decreased by 25%, find out the percentage of increase/decrease of final value of the number.

- ଯଦି କୌଣସି ସଂଖ୍ୟା 25% ବୃଦ୍ଧି କରାଯାଏ ଏବଂ ପରେ 25% ହ୍ରାସ କରାଯାଏ, ତେବେ ସଂଖ୍ୟାର ଚୂଡ଼ାନ୍ତ ମୂଲ୍ୟର ବୃଦ୍ଧି/ହ୍ରାସର ପ୍ରତିଶତ ଜାଣନ୍ତୁ।

## [OSSSC RI Exam 2021]

- (A) Increase by 6.25 %
- (B) Decrease by 6.25%
- (C) Increase by 9.25 %
- (D) Decrease by 9.25 %

#### Ans-B

#### **Given:**

- $\rightarrow$  Initial percentage increase: A = +25%
- $\rightarrow$  Percentage decrease: B = -25%

#### Formula:

 $\rightarrow$  Net percentage change =  $A + B + \frac{AB}{100}$ 

## Solution:

- $\rightarrow$  Net percentage change =  $25 + (-25) + \frac{(25)\times(-25)}{100}$
- $\rightarrow$  Net percentage change =  $0 + \frac{-625}{100}$
- $\rightarrow$  Net percentage change = -6.25%

## Final Result:

 $\rightarrow$  The final value of the number decreases by 6.25%.





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5- In an examination, there were 600 boys and 400 girls. 60% of boys and 50% of girls passed. The percentage of candidates that failed is:

- ଗୋଟିଏ ପରୀକ୍ଷାରେ ୬୦୦ ବାଳକ ଓ ୪୦୦ ଝିଅ ଥିଲେ। ୬୦% ପୁଅ ଓ ୫୦% ଝିଅ ପାସ୍ କରିଛନ୍ତି। ଫେଲ୍ ହୋଇଥିବା ପ୍ରାର୍ଥୀଙ୍କ ପ୍ରତିଶତ ହେଉଛି:

## [OSSSC Combined Recruitment 2022]

- (A) 50%
- (B) 55%
- (C) 40%
- (D) 44%

#### Ans- D

#### Given:

- $\rightarrow$  Total boys = 600
- $\rightarrow$  Total girls = 400
- $\rightarrow 60\%$  of boys passed
- $\rightarrow 50\%$  of girls passed

#### **Calculation:**

- $\rightarrow$  Boys who passed =  $600 \times \frac{60}{100} = 360$
- $\rightarrow$  Boys who failed = 600 360 = 240
- $\rightarrow$  Girls who passed =  $400 \times \frac{50}{100} = 200$
- $\rightarrow$  Girls who failed = 400 200 = 200
- $\rightarrow$  Total candidates = 600 + 400 = 1000
- $\rightarrow$  Total failed = 240 + 200 = 440
- $\rightarrow$  Percentage failed =  $\frac{440}{1000} \times 100 = 44\%$



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6- 2600 candidates appeared for an examination, of which 2184 passed. Find the pass percentage.

୨୬୦୦ ପରୀକ୍ଷାର୍ଥୀ ପରୀକ୍ଷା ଦେଇଥିବା ବେଳେ ସେମାନଙ୍କ ମଧ୍ୟରୁ ୨୧୮୪ ଜଣ ପାସ୍ କରିଛନ୍ତି। ପାସ୍ ପ୍ରତିଶତ ନିର୍ଦ୍ଧାରଣ କରନ୍ତୁ।

## [Odisha Police ASI 2022]

- (A) 92%
- (B) 80%
- (C) 84%
- (D) 88%

#### Ans-C

Given:  $\rightarrow$  Total candidates = 2600  $\rightarrow$  Passed candidates = 2184 Formula:  $\rightarrow$  Pass percentage =  $\frac{Passed Candidates}{Total Candidates} \times 100$ Calculation:  $\rightarrow$  Pass percentage =  $\frac{2184}{2600} \times 100 = 84\%$ Final Conclusion:  $\rightarrow$  The pass percentage is 84%.





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## 7- What percent of 11.4 kg is 3078 gms?

- 11.4 **କିଲୋଗ୍ରାମର** କେତେ **ପ୍ରତିଶତ** 3078 ଗ୍ରାମ?

## [OSSC Traffic SI 2022 Exam]

- (A) 29
- (B) 23
- (C) 27
- (D) 25

## Ans- C

## Given:

- $\rightarrow$  Total weight = 11.4 kg = 11,400 grams
- $\rightarrow$  Part weight = 3078 grams

## Formula:

 $\rightarrow$  Percentage =  $\frac{Part}{Total} \times 100$ 

## **Calculation:**

 $\rightarrow$  Percentage =  $\frac{3078}{11,400} \times 100 = 27\%$ 

## **Final Conclusion:**

 $\rightarrow$  3078 grams is **27%** of 11.4 kg.





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8- The salary of X, Y and Z are in the ratio 5:3: 1. The salary of X and Y together is Rs 7200. By what percent is salary of X more than that of Z?

- X, Y ଏବଂ Z ର ଦରମା 5: 3: 1 ଅନୁପାତରେ ଅଛି । X ଏବଂ Y ମିଳିତ ଦରମା ହେଉଛି ୭୨୦୦ ଟଙ୍କା । Z ତୁଳନାରେ X ର ଦରମା କେତେ ପ୍ରତିଶତ ଅଧିକ?

## [OSSSC RI Exam 2021]

- (A) 100%
- (B) 200%
- (C) 300%
- (D) 400%

#### Ans- D

#### Given:

- $\rightarrow$  The ratio of the salaries of X, Y, and Z is 5:3:1.
- → The sum of X and Y's salaries is ₹7200.

#### **Calculation:**

- $\rightarrow$  Let the salaries of X, Y, and Z be 5x, 3x, and x respectively.
- $\rightarrow 5x + 3x = 7200$
- $\rightarrow 8x = 7200$
- $\rightarrow x = 900$
- $\rightarrow$  Salary of X = 5x = 4500
- $\rightarrow$  Salary of Z = x = 900
- $\rightarrow$  Percentage increase of X's salary over Z's salary =  $\frac{4500-900}{900}$  ×

100 = 400%

#### Final Conclusion:

 $\rightarrow$  X's salary is **400%** more than Z's.





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9- Rakesh spends 15% of his monthly income on his household expenditure, 20% on books, 30% on clothes and saves the rest. On counting, he comes to know that he has finally saved Rs.12565. Find his monthly income. (In Rs.)

- ରାକେଶ ତାଙ୍କ ମାସିକ ଆୟର ୧୫% ଘର ଖର୍ଚ୍ଚ, ୨୦% ବହି, ୩୦% ପୋଷାକ ପାଇଁ ଖର୍ଚ୍ଚ କରନ୍ତି ଏବଂ ବାକି ସଞ୍ଚୟ କରନ୍ତି । ଗଣନା କରିବା ପରେ, ସେ ଜାଣିବାକୁ ପାଇଲେ ଯେ ସେ ଶେଷରେ 12565 ଟଙ୍କା ସଞ୍ଚୟ କରିଛନ୍ତି। ତାଙ୍କର ମାସିକ ଆୟ ସନ୍ଧାନ କରନ୍ତ। (ଟଙ୍କାରେ)

## [OSSC CGL Exam 2022]

- (A) 35900
- (B) 36900
- (C) 37900
- (D) 34900

#### Ans- A

## Given:

→ Savings = ₹12,565

 $\rightarrow$  He spends 15% on household, 20% on books, and 30% on clothes.

- $\rightarrow$  Total spending = 15% + 20% + 30% = 65%
- $\rightarrow$  Savings = 100% 65% = 35%

#### Formula:

- $\rightarrow$  Savings = 35% of monthly income
- $\rightarrow$  Monthly income =  $\frac{\text{Savings} \times 100}{25}$

#### Calculation:

→ Monthly income =  $\frac{12,565 \times 100}{35}$  = 35,900

#### **Final Conclusion:**

→ Rakesh's monthly income is ₹35,900.





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10- After 5060 liters of petrol were poured into the tank, it was still 12% empty. What is the total capacity of the tank? (In liters)

- ଟାଙ୍କିରେ ୫୦୬୦ ଲିଟର ପେଟ୍ରୋଲ ଢାଳିବା ପରେ ମଧ୍ୟ ତାହା ୧୨ ପ୍ରତିଶତ ଖାଲି

ରହିଥିଲା। **ଟାଙ୍କିର ସମୁଦାୟ କ୍ଷମତା କେତେ**? (**ଲିଟରରେ**)

## [OSSC Excise SI 2021]

- (A) 5750
- (B) 5550
- (C) 5450
- (D) 5650

#### Ans- A

#### Given:

 $\rightarrow$  5,060 liters poured.

 $\rightarrow$  12% of the tank is still empty.

## Formula:

 $\rightarrow$  Total capacity =  $\frac{\text{Amount poured}}{1 - \text{Percentage empty}}$ 

## Solution:

 $\rightarrow$  Total capacity =  $\frac{5,060}{1-0.12} = \frac{5,060}{0.88} = 5,750$ 

## **Final Conclusion:**

 $\rightarrow$  The total capacity of the tank is **5,750 liters**.





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11- If 25% of a certain number is 1875, then what is 80% of that number?

ଯଦି ଏକ ନିର୍ଦ୍ଦିଷ୍ଟ ସଂଖ୍ୟାର ୨୫% ୧୮୭୫, ତେବେ ସେହି ସଂଖ୍ୟାର ୮୦% କେତେ?

## [OSSC SCEW 2022]

- (A) 6000
- (B) 6200
- (C) 6100
- (D) 6300

## Ans- A

## **Given:**

- $\rightarrow$  25% of a certain number is 1875.
- $\rightarrow$  Find 80% of that number.

## Solution:

→ Let the number be *N*. → According to the question: 0.25N = 1875→ Solving for *N*:  $N = \frac{1875}{0.25} = 7500$ → Now, 80% of *N* is:  $0.80 \times 7500 = 6000$ 

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12. Ram secures 50% and Shyam secures 30% of the total marks in an examination. If the difference between the marks secured by both of them is 40, what is the total marks ?

ରାମ ଏକ ପରୀକ୍ଷାରେ ମୋଟ ମାର୍କର ୫୦% ଏବଂ ଶ୍ୟାମ ୩୦% ମାର୍କ ହାସଲ କରନ୍ତି । ଯଦି ଦୁହେଁ ହାସଲ କରିଥିବା ମାର୍କ ମଧ୍ୟରେ ପାର୍ଥକ୍ୟ ୪୦, ତେବେ ସମୁଦାୟ ମାର୍କ କେତେ ?

## [Odisha District Police Constable 2013]

- (A) 100
- (B) 500
- (C) 300
- (D) 200

#### Ans- D

# Given: $\rightarrow$ Ram's percentage = 50% $\rightarrow$ Shyam's percentage = 30% $\rightarrow$ Difference in marks = 40 Formula: $\rightarrow$ Difference in marks = 50% - 30% = 20% $\rightarrow$ Total marks = $\frac{\text{Difference in marks}}{20\%}$ Solution: $\rightarrow$ Total marks = $\frac{40}{0.20} = 200$ Final Conclusion: $\rightarrow$ The total marks are 200.

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