

BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR

OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN 2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)

56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%

Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal,

93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)

For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360

SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRICT FOURTH TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA

JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students  
SUCCESS RATIO 55 %

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 1 of

JEE Main अन. Set D Page - 1

Q If curve  $y^2 = 6x$  ... ?

(A) Tangent to  $y^2 = 6x$ .  $y \cdot y_1 = 3(x + x_1)$  (1)

Tangent to  $ax^2 + by^2 = 16$

$$axx_1 + byy_1 = 16$$

$$byy_1 = -axx_1 + 16$$

$$y = \frac{-ax_1x + 16}{by_1}$$

$$\text{Slope} = -\frac{ax_1}{by_1}$$

Slope  $\frac{3}{y_1}$

$$\frac{3}{y_1} \times -\frac{a}{b} \times \frac{x_1}{y_1} = -1 \quad (\text{curves are orthogonal})$$

$$+ 27 \times \frac{x_1}{y_1^2} = +1 \quad \Rightarrow \quad 27 \times \frac{1}{6} = \left(\frac{y_1}{2}\right)$$

(2)  $y_1^2 = 6x_1 \Rightarrow \frac{1}{6} = \frac{x_1}{y_1^2}$  let  $u$  coplanar. ?

Ans P.T.O.

BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR  
OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN 2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)  
56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%

Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal,  
93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)  
For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360  
SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRICT FOURTH

TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA  
JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students

SUCCESS RATIO 55 %

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 2 of

2) (B) Let  $\vec{u} = a\hat{i} + b\hat{j} + c\hat{k}$  Page - 2  
 $\vec{a} \times \vec{b} = \begin{vmatrix} \hat{i} & \hat{j} & \hat{k} \\ 2 & 3 & -1 \\ 0 & 1 & 1 \end{vmatrix} \Rightarrow \hat{i}(3+1) - \hat{j}(2) + \hat{k}2$

$\vec{u}$  coplanar with  $\vec{a}$  &  $\vec{b}$

$$\therefore \vec{u} \cdot (\vec{a} \times \vec{b}) = 0$$

$$(a\hat{i} + b\hat{j} + c\hat{k}) \cdot (4\hat{i} - 2\hat{j} + 2\hat{k}) = 0$$

$$4a - 2b + 2c = 0 \quad \dots (i)$$

$$\vec{a} \perp \vec{u}$$

$$\therefore \vec{a} \cdot \vec{u} = 0$$

$$(a\hat{i} + b\hat{j} + c\hat{k}) \cdot (2\hat{i} + 3\hat{j} - \hat{k}) = 0$$

$$2a + 3b - c = 0 \quad \dots (ii)$$

$$\vec{u} \cdot \vec{b} = 24$$

$$(a\hat{i} + b\hat{j} + c\hat{k}) \cdot (0\hat{i} + \hat{j} + \hat{k}) = 24$$

$$b + c = 24$$

$$\rightarrow 3b = 24 \Rightarrow b = 8$$

$$(ii) \times 2 - i = 4a + 6b - 2c - 4a + 2b - 2c = 0$$

$$8b - 4c = 0$$

$$2b = c \quad \dots (iii)$$

BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR

OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN 2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)

56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%

Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal, 93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)

For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360

SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRICT FOURTH TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA

JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students  
**SUCCESS RATIO 55 %**

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 3 of

$$b + c = 24$$

$$8 + c = 24$$

$$c = 16$$

$$2a + 3(8) - 16 = 0$$

$$2a + 24 - 16 = 0$$

$$2a = -8$$

$$a = -4$$

$$|\vec{u}| = \sqrt{a^2 + b^2 + c^2}$$

$$\sqrt{(4)^2 + (8)^2 + (16)^2}$$

$$\sqrt{16 + 64 + 256}$$

$$|\vec{u}| = \sqrt{336}$$

$$|\vec{u}|^2 = 336$$

Ans

$$\begin{array}{r} 11 \\ 256 \\ 64 \\ 16 \\ \hline 336 \end{array}$$

BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR  
OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN 2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014  
96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)  
56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%  
Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal,  
93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced  
46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)  
For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360  
SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRIC FOURTH TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA  
JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students  
SUCCESS RATIO 55 %

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 4 of

5  
A

The value of  $\int_{-\pi/2}^{\pi/2} \frac{\sin^2 x}{1+2^x} dx$  . . . . . Page 4

I =  $\int_{-\pi/2}^{\pi/2} \frac{\sin^2 x}{1+2^x} dx$

I =  $\int_{-\pi/2}^{\pi/2} \frac{\sin^2(\frac{\pi}{2}-\frac{\pi}{2}-x)}{1+2^{\frac{\pi}{2}-\frac{\pi}{2}-x}} dx$  proper  $f(x) = f(a+b-x)$

I =  $\int_{-\pi/2}^{\pi/2} \frac{\sin^2 x}{1+2^{-x}} dx$

I =  $\int_{-\pi/2}^{\pi/2} \frac{2^x \sin^2 x}{2^x + 1} dx$

2I =  $\int_{-\pi/2}^{\pi/2} \frac{\sin^2 x (2^x + 1)}{2^x + 1} dx$

2I =  $\int_{-\pi/2}^{\pi/2} \sin^2 x dx$

2I =  $2 \int_0^{\pi/2} \sin^2 x dx$

2I =  $2 \times \frac{\pi}{4}$

I =  $\frac{\pi}{4}$  ANS P.T.O

BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR

OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN 2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)

56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%

Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal, 93/120 Swastik Sharma, 93/120 Shashwat Ranganekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)

For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360

SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRICT FOURTH TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA

JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students

SUCCESS RATIO 55 %  
Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 5 of

⑥  $g(x) = \cos x^2$   $f(x) = \sqrt{x}$

Page 5

Ⓑ

$$18x^2 - 9\pi x + \pi^2 = 0$$

$$18x^2 - 6\pi x - 3\pi x + \pi^2 = 0$$

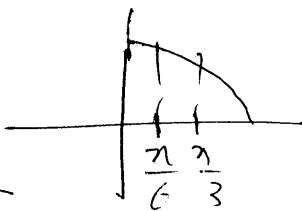
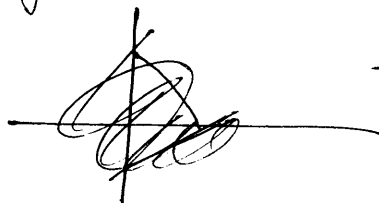
$$6x(3x - \pi) - \pi(3x - \pi) = 0$$

$$(3x - \pi)(6x - \pi) = 0$$

$$x = \frac{\pi}{3} \quad y = \frac{\pi}{6}$$

$$x = \frac{\pi}{6} \quad y = \frac{\pi}{3}$$

$g \circ f(x) = \cos x$



$\int_{\pi/6}^{\pi/3} \cos x dx = [\sin x]_{\pi/6}^{\pi/3}$   
 $\frac{\sqrt{3}}{2} - \frac{1}{2} = \frac{1}{2}(\sqrt{3} - 1)$

⑦ If sum of all solutions -  $8 \cos(\cos) - ?$

⑧  $8 \cos x (\cos(\frac{\pi}{6} + x) \cos(\frac{\pi}{6} - x) - \frac{1}{2}) = 1$

$4 \cos x (2 \cos(\frac{\pi}{6} + x) \cos(\frac{\pi}{6} - x) - 1) = 1$  P.T.O

**IIT JEE Main & Advance with class 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> & DROPPER** [www.MathsBySuhag.com](http://www.MathsBySuhag.com)  
BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR  
OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN  
2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)

56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%

Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal,  
93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)

For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360

SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRICT FOURTH  
TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA

JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students  
**SUCCESS RATIO 55%**

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send  
request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 6 of

$$(\cos x)^4 \left[ \cos \frac{\pi}{3} + \cos 2x - 1 \right] = 1$$

Page 6

$$(\cos x)^4 \left( \frac{1}{2} + \cos 2x - 1 \right) = 1$$

$$4 (\cos x)^4 \left( \cos 2x - \frac{1}{2} \right) = 1$$

$$4 (\cos x)^4 (\cos 2x) - 2 (\cos x)^4 = 1$$

$$4 (\cos x)^4 (\cos 2x) = 1 + 2 (\cos x)^4$$

$$2 (2 (\cos x)^4 (\cos 2x)) = 1 + 2 (\cos x)^4$$

$$2 (\cos^4 x + \cos^6 x) = 1 + 2 (\cos x)^4$$

$$2 (\cos^6 x) = 1$$

$$(\cos^6 x) = \frac{1}{2}$$

$$0 < x < \pi$$

$$0 \leq 3x \leq 3\pi$$

$$3x \rightarrow \frac{\pi}{3}, 2\pi - \frac{\pi}{3}, 2\pi + \frac{\pi}{3}$$

$$3x \rightarrow \frac{2\pi}{3}, \frac{5\pi}{3}, \frac{7\pi}{3}$$

$$x \rightarrow \frac{\pi}{9}, \frac{5\pi}{9}, \frac{7\pi}{9}$$

Sum  $\frac{13\pi}{9} \therefore k = \frac{13}{9}$  Ans  
PTO

BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)

To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR

OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN 2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)

56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%

Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal, 93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)

For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360

SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRICT FOURTH TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA

JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students

**SUCCESS RATIO 55%**

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 8 of

(10) A bag contains 4 Red, 6 Black ball - ? *प्रश्न*

Total Probability :-

Page 8

First draw give Red	$\frac{4}{10}$
→ Second draw give Red	$\frac{6}{12} \times \frac{4}{10}$
→ Second draw give Black	$\frac{6}{12} \times \frac{4}{10}$
First draw give Black	$\frac{6}{10}$
→ Second draw give Red	$\frac{4}{12} \times \frac{6}{10}$
→ Second draw give Black	$\frac{8}{12} \times \frac{6}{10}$
Total probability =	$\frac{6}{12} \times \frac{4}{10} + \frac{6}{12} \times \frac{4}{10} + \frac{4}{12} \times \frac{6}{10} + \frac{8}{12} \times \frac{6}{10}$
Favourable cases →	$\frac{6}{12} \times \frac{4}{10} + \frac{4}{12} \times \frac{6}{10}$

Ans =  $\frac{6 \times 4 + 4 \times 6}{6 \times 4 + 6 \times 4 + 6 \times 4 + 8 \times 6}$  =  $\frac{48}{120} = \frac{4}{10} = 2$

$\frac{72}{48}$   
 $\frac{120}{120}$

= 2

S Ans

P.T.O

**IIT JEE Main & Advance with class 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> & DROPPER** [www.MathsBySuhag.com](http://www.MathsBySuhag.com)  
BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR  
OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN  
2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)  
56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%

Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal,  
93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)

For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360

SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRICT FOURTH  
TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA

JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students  
**SUCCESS RATIO 55%**

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send  
request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 9 of

एकसूत्रीय Set D

(11) Let the orthocentre and centroid ... ? Page 9

(4) A  $\left(-3, 5\right)$   $\xrightarrow{2}$  B  $\left(3, 3\right)$   $\xrightarrow{1}$  C  $\left(h, k\right)$

Centroid divides AC in ratio 2:1

$$\therefore \frac{2h-3}{3} = 3 \Rightarrow 2h-3=9 \Rightarrow h=6$$

$$\frac{2k+5}{3} = 3 \Rightarrow 2k+5=9 \Rightarrow 2k=4 \Rightarrow k=2$$

Circumcentre C (6, 2)

$$\therefore \text{Diameter AC} = \sqrt{(6-(-3))^2 + (2-5)^2}$$

$$= \sqrt{90} \Rightarrow \text{Radius} = \frac{\sqrt{90}}{2} = \frac{3\sqrt{10}}{2} = \boxed{3\sqrt{\frac{5}{2}}}$$

Ans

(12) If tangent at (1, 7) ... ? P.T.O.  
 $y^2 = 4x - 6$   
 $2y = \frac{dy}{dx} \Rightarrow m_T = 2$



BEST Phy., Chem., Maths TEAM FOR IITJEE, Down Load Free Study Package From Website [www.TekoClasses.com](http://www.TekoClasses.com)  
To know teaching style (demo) search "IIT MATHS BY SUHAG SIR" on [www.youtube.com](http://www.youtube.com)

GET SAME DAY SOLUTION OF JEE MAIN & JEE ADVANCED ON WEBSITE [www.MathsBySuhag.com](http://www.MathsBySuhag.com) EVERY YEAR  
OUR STUDENT "PRATHAM NAIK" SCORED 115 OUT OF 120 (96%) IN MATHS & TOTAL MARKS 282 OUT OF 360 (79%) IN JEE MAIN  
2013 & IN JEE ADVANCE 2013 HIS ALL INDIA RANK 258. 105 Selections in JEE Main 2014 & 22 Selections in JEE Advanced 2014

96 Selections in JEE Main 2015 & 21 Selections in JEE Advanced 2015 Also Available Online [www.MathsBySuhag.com](http://www.MathsBySuhag.com)

56 Students Selected in JEE Advanced 2016 out of 129 JEE Main 2016 Selection Success Ratio 43%  
Also JEE Main 2016 Maths Marks 115/120 Siddharth Agrawal, 100/120 Himanshu Shukla, 100/120 Nikhil Jaiswal,  
93/120 Swastik Sharma, 93/120 Shashwat Rangnekar & Our 112+ Students Selected for Advanced

46 Students, Scored 90% or More in Maths Class 12 (8 in M. P. Board with state Rank 7<sup>th</sup> Shivansh Maheshwari) (38 in CBSE)

For Doubt Discussion on Maths : WhatsApp Number of Suhag Kariya : 9009 260 559

JEE MAIN 2017: SELECTIONS 115+ WITH MARKS 288, 288, 264, 250, 241, 240, 218, 214, 195, 193, 191, 187 OUT OF 360

SCHOOL RESULT 2017 CLASS 12 VIVEK SAHU BHOPAL SECOND TOPPER 465/500 MATHS 99/100 & CLASS 10 AKSHAY BHARDWAJ SHARMA SEHORE DISTRIC FOURTH  
TOPPER 564 / 600, MATHS 99/100 & SCIENCE 99/100 NATIONAL SCIENCE OLYMPIAD STATE RANK 6 SIDDHANT SHRIVASTVA & STATE RANK 7 SHANTANU MISHRA

JEE Advanced 2017: Maths Marks 119, 110, 107, 104, 95, 90, 90 out of 122 Marks & 63 sections out of 115 JEE Main 2017 selected students  
SUCCESS RATIO 55 %

Solution of JEE Main Offline Paper held on 08-April-2018 with in 45 minutes to get its PDF send  
request on whatsapp number 9039037779 or email as 9039037779mp@gmail.com page 10 of

Eqn of Circle  $x^2 + y^2 + 16x + 12y + c = 0$  Set D Page 10

Eq<sup>n</sup> of Tangent  ~~$y - 7 = 2(x - 1)$~~

$$y - 7 = 2(x - 1)$$

$$y - 7 = 2x - 2$$

$$y - 2x - 5 = 0$$

Tangent to Circle  $x^2 + y^2 + 16x + 12y + c = 0$   
& centre  $(-8, -6)$

$$\text{radius} = \sqrt{100 - c}$$

$$\text{radius} = \sqrt{100 - c}$$

$$\left| \frac{-6 - 2(-8) - 5}{\sqrt{5}} \right| = \sqrt{100 - c}$$

$$\left| \frac{-6 + 16 - 5}{\sqrt{5}} \right| = \sqrt{100 - c}$$

$$\left| \frac{16 - 11}{\sqrt{5}} \right| = \sqrt{100 - c}$$

$$\left| \frac{5}{\sqrt{5}} \right| = \sqrt{100 - c}$$

$$5 = 100 - c$$

$$c = 95 \text{ Ans}$$

PTC