PART - 3
Centurion Assignment
By O.P. GUPTA
INDIRA AWARD WINNER

CLASS XII – MATHEMATICS

MOST IMPORTANT QUESTIONS

WANT TO DO SOMETHING FOR A SOLDIER?
BE AN INDIAN, WHO IS WORTH FIGHTING FOR!

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Hey! After remarkable success in CBSE XII Math Examinations of last four years, (from 2015 to 2018), we have come up with the **Centurion Assignments : Most Important Questions Assignment Sheets** again for **2019** Board Exams.
We always strive to serve you better in Math. We hope this endeavour of ours shall be of some help for you in achieving your desired goal in the Math Examination of March 18, 2019.

With Best Wishes…
- O.P. Gupta, Math Mentor
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SURE SHOT SUCCESS MANTRA FOR CHAMPIONS...

...THE **CENTURION ASSIGNMENTS** BY **O.P. GUPTA**

Guys, be ready to grab a few **more** delicious sums.

Here we go!!!

- SECTION A : Total 19 Questions
- SECTION B : Total 35 Questions
- SECTION C : Total 87 Questions
- SECTION D : Total 59 Questions

SECTION A - VERY SHORT ANSWER TYPE QUESTIONS
(For 1 Mark only.)

Q01. Let $A = \begin{pmatrix} d_1 & d_2 & d_3 & \dots & d_n \end{pmatrix}$ be a diagonal matrix. What is the value of det.(A)?

Q03. If $A = \begin{bmatrix} 2 & 3 \\ k & 2 \end{bmatrix}$ and $A.\,adjA = 13\,I$ then, find the value of k.

Q04. Let $f : R \to R$ be defined by $f(x) = (3 - x^3)^{1/3}$. Determine fof (x).

Q05. Find the unit vector in the direction of sum of vectors $\hat{i} - \hat{j}$ and $\hat{k} + \hat{j}$.

Q06. Find the principal value of $\text{cosec}^{-1} \sin\frac{3\pi}{4}$, if possible.

Q07. Find the principal value of $\sec^{-1} \cos\frac{3\pi}{4}$, if possible.

Q08. Evaluate : $\int \cos^3 x . \text{cosec}\, x\, dx$.

Q10. For what values of x, $f(x) = x^4 - \frac{4x^3}{3}$ is increasing?

Q12. If R is a relation on the set N of natural numbers given by $R = \{(a,b) : b = a + 3,\ b > 5\}$, then does the element $(5,7) \in R$?

Q13. Write the sum of order and degree of the differential equation $1 + \left(\frac{dy}{dx}\right)^4 = 7\left(\frac{d^2y}{dx^2}\right)^3$.

Q14. If $A = \begin{pmatrix} 1 & 2 \\ 3 & -1 \end{pmatrix}$ and $B = \begin{pmatrix} 1 & 3 \\ -1 & 1 \end{pmatrix}$, write the value of |AB|.