



ଭୁବନେଶ୍ୱର, ଶନିବାର, ଫେବୃଆରୀ ୨୩ / ୨୦୧୯ (୨୦ ପୃଷ୍ଠା+ପିଲାଙ୍କ ଧରିତ୍ରୀ) Bhubaneswar, Saturday, February 23/ 2019 (Career & Appointment) | ★★★★★

୪୪ଶ ଭାଗ ୧୯ ସଂଖ୍ୟା

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ମୂଲ୍ୟ ₹୪/-

ସ୍ଵତ୍ତ ଭାରତ ମନ୍ତ୍ରୀ ହେବାକୁ ଚାହାନ୍ତି ଦାପିକା

କେବେ ରାଜନୀତିରେ ଯୋଗଦେଲେ ସ୍ଵତ୍ତ ଭାରତ ମନ୍ତ୍ରୀ ହେବାକୁ ଚାହିଁରେ
ବୋଲି ବଳିତ୍ତ ଅଭିନେତ୍ରୀ ଦାପିକା ପାଦୁକୋନ୍ ପ୍ରକାଶ କରିଛନ୍ତି।

୦୯ ୧୯

ଅଣ୍ଟୁଙ୍ଗ ସିଙ୍ଗଲ୍ ଟାଇଲ୍

ମେଘଶାଳପ୍ରିତି ଗୁରୁକୁ ରିସର୍ଟରେ ଅନୁଷ୍ଠାନ ର୍ୟାଜିଞ୍ଜ ନେନ୍ଦ୍ର ମୁନ୍ଦାମେଣ୍ଟର
ପୁରୁଷ ସିଙ୍ଗଲ୍ ରେ ବାଣିଜ୍ୟ ହୋଇଛନ୍ତି ଓଡ଼ିଶାର ଅଂଶୁମାର ଭୟାଁ ।



ମଧ୍ୟମ ବର୍ଗ ପାଇଁ ଖୁସି ଖବର

- ୫ ଲକ୍ଷ ଟଙ୍କା ପର୍ଯ୍ୟନ୍ତ ରୋଜଗାର ଉପରେ ସଫ୍ଟ୍‌କିର୍ଷ ରିହାନ୍ତି
- ଅଭ୍ୟାସିକ ଔଷଧ ମୂଲ୍ୟ ହ୍ରାସ
- କ୍ଷେତ୍ର ଲଗାଇବା ଓ ଆଶ୍ରୁ ଚିକିତ୍ସା ଏବେ ହେଲା ଶତା



ଏବେ ଅସ୍ଥବ୍ରତ ହୋଇଛି ସମ୍ବନ୍ଧ



■ ମାଟ୍ରିକ ପରୀକ୍ଷା ଆରମ୍ଭରୁ ବିଭ୍ରାଟ

ଭାଇରାଳ ହେଲା ଡେଢ଼ିଆ ପ୍ରକାଶପତ୍ର

■ ୪ ସୁପରିଷେଣ୍ଡେଣ୍ଟ୍‌ଜ୍ଞାନ ସଫେଟ ଓ ନିଳାଯିତ

■ ଆନାରେ ଏତଳା



ପ୍ରସରିତ ଭାଇରାଳ ଘଣାରେ ଗଣଶିକ୍ଷା ମନ୍ତ୍ରୀ ବାସରବନ୍ଧୁ ଧ୍ୟେର ପରୀକ୍ଷା ଦେବେ ପୋଲିସ ସହ ଏକିପି କାର୍ଯ୍ୟକର୍ତ୍ତଙ୍କ ଧ୍ୟାଧସ୍ତ୍ରୀ ।
ଶିକ୍ଷା ପରିଷଦ । ତେବେ ପ୍ରସରିତ ଭାଇରାଳ ହେବା ପରେ ନିକଟସ୍ଥ ଥାମାରେ ଜିଲ୍ଲା ଶିକ୍ଷାଧିକାରୀଙ୍କ ହାରା ଏତଳା
୪ ପରାକ୍ଷା କେନ୍ଦ୍ର ସୁପରିଷେଣ୍ଡେଣ୍ଟ ଓ ଗଳଣ ପରାକ୍ଷା ଦିଆଯଥିବା ବୋର୍ଡ କାର୍ଯ୍ୟକର୍ତ୍ତଙ୍କ ନିମ୍ନଲିଙ୍ଗ ନିର୍ଦ୍ଦିଷ୍ଟ କରାଯାଇଛି । ଆମ୍ବର ୭ଜଣ ପରାକ୍ଷା ନିର୍ମାଣକଙ୍କ ବିରୋଧରେ ଦେବେ କରାଯାଇଛି । ଗୋର୍କ୍ଷ ଭାବେ କଢ଼ିକଢ଼ି କରିବା ପାଇଁ ଗୋର୍କ୍ଷ ପକ୍ଷରୁ ଉଦ୍‌ଦେଶ୍ୟ ହୋଇଛି । ମୋବାଇଲ୍ ଫୋନ୍

ପୃଷ୍ଠା-୪

ଶ୍ଵାସୀ ହେବେ ଅଶ୍ଵାସୀ ସ୍ବାସ୍ଥ୍ୟ କର୍ମଚାରୀ

ଭୁବନେଶ୍ୱର, ୨୩ ୨୩ (ଫ୍ଲ୍ୟୋଗେ)

ଆସନ୍ତି ସାଧାରଣ ନିର୍ବାଚନ ପୂର୍ବ ରାତ୍ୟ

ସରକାର ଗୋଟିଏ ପରେ ଗୋଟିଏ ଗୋପନୀୟାଙ୍କ

କରି ନିର୍ଣ୍ଣନ ହେଉଥିବା ପାଇଁ ହେବାକୁ ଲେବେବେର ଉଦ୍ୟମ ଲୋକଙ୍କରେ କାଷ୍ଟିକା

କଷ୍ଟିକା, ମହିଳା, ମୁକ୍ତଗୋପ୍ତା, ବୃକ୍ଷବୃକ୍ଷ, ଅନନ୍ତଜ୍ଞତା

କର୍ମଚାରୀଙ୍କ ଖୁସି କରିବା ପରେ ବିଭାଗୀୟ

ମୁଖ୍ୟମଧ୍ୟର, ଜିଲ୍ଲା, ଜ୍ଞାନ, ଉଦ୍ୟମ ଓ ତିଳା

ସାଧ୍ୟ କର୍ମଚାରୀଙ୍କ ଖୁସି କରିଛନ୍ତି । ରାତ୍ୟ

ମୁଖ୍ୟମଧ୍ୟର, ଜିଲ୍ଲା, ଜ୍ଞାନ ଓ ଉଦ୍ୟମରେ କରିଛନ୍ତି ।

କର୍ମଚାରୀଙ୍କ ଭଲି ପଦୋନ୍ତି ଓ ଅନ୍ୟାନ୍ୟ

ସୁଧିକା ଯୋଗାଇ ଦେବା ପାଇଁ ବିଭାଗୀୟ

ମୁଖ୍ୟ ଦ୍ୱାରା କରିଛନ୍ତି । କର୍ମଚାରୀଙ୍କ କରିଛନ୍ତି ।

କର୍ମଚାରୀଙ୍କ କରିଛନ୍ତି । କରିଛନ୍ତି ।

କରିଛନ୍ତି । କରିଛନ୍ତି ।

କ୍ୟାରିନେଟ ନିଷ୍ପତ୍ତି

■ ବିଭାଗୀୟ ମୁଖ୍ୟ ଦ୍ୱାରା,
ଜିଲ୍ଲା, ଜ୍ଞାନ, ଉଦ୍ୟମ କର୍ମଚାରୀଙ୍କ
ପଦୋନ୍ତି ପାଇଁ ବାଟ ଖୋଲିଲା

■ ଗାନ୍ଧି ହେଲା କମନ୍ଡାଯାତର

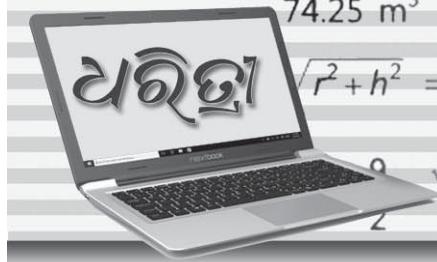
■ ବାର୍ଷିକ ପତ୍ତିର ୨୨ କୋଟିର
ଅତିରିକ୍ତ ଆର୍ଥିକ ବୋଲ୍

କର୍ମଚାରୀଙ୍କ ଭଲି ପଦୋନ୍ତି ଓ ଅନ୍ୟାନ୍ୟ

ସୁଧିକା ଯୋଗାଇ ଦେବା ପାଇଁ ବିଭାଗୀୟ

ମୁଖ୍ୟ ଦ୍ୱାରା କରିଛନ୍ତି । କରିଛନ୍ତି ।

କରିଛନ



Exam Mate



Mock Test Paper for Std X, XII CBSE Board, IIT - JEE Main & Advanced.

FOR ANSWERS VISIT : www.dharitri.com

MOCK TEST PAPER # 6

IITJEE (Main) (MATHEMATICS)

Time : 1 hour

Maximum Marks: 120

GENERAL INSTRUCTIONS

For each question you will be given 4 Marks if you have darkened only the bubble corresponding to the correct answer and zero mark if no bubble is darkened. In all other cases, minus one (-1) Marks (NEGATIVE MARKING) will be given.

1. If p th, q th and r th terms of an A.P. are in G.P. whose common ratio is k , then the root of equation $(q-r)x^2 + (r-p)x + (p-q) = 0$ other than unity is:
 (1) k^2 (2) k (3) $2k$ (4) None of these
2. If a and b ($\neq 0$) are roots of the equation $x^2 + ax + b = 0$, then the least value of $x^2 + ax + b$ ($x \in \mathbb{R}$) is:
 (1) $\frac{9}{4}$ (2) $-\frac{1}{4}$ (3) $\frac{1}{4}$ (4) $-\frac{9}{4}$
3. If a, b, c are in A.P. and if $(b-c)x^2 + (c-a)x + (a-b) = 0$ and $2(c+a)x^2 + (b+c)x = 0$ have a common root then
 (1) a^2, b^2, c^2 are in A.P. (2) a^2, b^2, c^2 are in G.P.
 (3) a^2, b^2, c^2 are in A.P. (4) None of these
4. Common roots of the equation $z^3 + 2z^2 + 2z + 1 = 0$ and $z^{1985} + z^{100} + 1 = 0$ are
 (1) ω, ω^2 (2) $1, \omega, \omega^2$ (3) $-1, \omega, \omega^2$ (4) $-\omega, -\omega^2$
5. If $z = \frac{\sqrt{3}+i}{2}$, then $(z^{101} + i^{103})^{105}$ is equal to
 (1) z (2) z^2 (3) z^3 (4) None of these
6. Let z denote a complex number and defined $S = \left\{ \frac{1}{1-z} : |z| = 1 \text{ and } z \neq 1 \right\}$. Which of the following best describing the locus of set S ?
 (1) S is a straight line parallel to the imaginary axis
 (2) S is straight line parallel to the real axis
 (3) S is a circle with a single point missing
 (4) S is a branch of hyperbola
7. The interior angles of a polygon are in A.P. The smallest angle is 120° and the common difference is 5° . Then the number of sides of the polygon are:
 (1) 7 (2) 8 (3) 9 (4) 10
8. If $a_1, a_2, a_3, \dots, a_{2n+1}$ are in A.P. then $\frac{a_{2n+1}-a_1}{a_{2n+1}+a_1} + \frac{a_{2n}-a_2}{a_{2n}+a_2} + \dots + \frac{a_{n+2}-a_n}{a_{n+2}+a_n}$ is equal to
 (1) $\frac{n(n+1)}{2} \cdot \frac{a_2-a_1}{a_{n+1}}$ (2) $\frac{n(n+1)}{2}$ (3) $(n+1)(a_2-a_1)$ (4) None of these
9. One of the general solution to the equation $\sqrt{3} \cos \theta - 3 \sin \theta = 4 \sin 2\theta \cos 3\theta$ is:
 (1) $m\pi + \frac{\pi}{18}, m \in \mathbb{Z}$ (2) $\frac{m\pi}{2} + \frac{\pi}{6}, \forall m \in \mathbb{Z}$ (3) $\frac{m\pi}{3} + \frac{\pi}{18}, \forall m \in \mathbb{Z}$ (4) None of these
10. The greatest integral value of c so that both the roots of the equation $(c-5)x^2 - 2cx(c-4) = 0$ are positive, one root is less than 2 and other root is lying between 2 and 3 is:
 (1) 22 (2) 23 (3) 24 (4) 25
11. If $\sin x + \cos x = \sqrt{y + \frac{1}{y}}, x \in [0, \pi]$, then
 (1) $x = \frac{\pi}{4}, y = 1$ (2) $y = 0$ (3) $y = 2$ (4) $x = \frac{3\pi}{4}$
12. A line L is drawn from $P(4, 3)$ to meet the lines L_1 and L_2 given by $3x + 4y + 5 = 0$ and $3x + 4y + 15 = 0$ at points A and B , respectively. From A_1 , a line perpendicular to L is drawn meeting the line L_2 at A_1 . Similarly, from point B , a line perpendicular to L is drawn meeting the line L_1 at B_1 . Thus, a parallelogram AA_1BB_1 is the least is:
 (1) $x - 7y + 17 = 0$ (2) $7x + y + 11 = 0$ (3) $x - 7y - 17 = 0$ (4) $x + 7y - 31 = 0$
13. In $\triangle ABC$, vertex A is $(1, 2)$. If the internal angle bisector of $\angle B$ is $2x - y + 10 = 0$ and the perpendicular bisector of AC is $y = x$, then find the equation of BC .
 (1) $5x + 9y - 19 = 0$ (2) $9x + 5y - 19 = 0$ (3) $12x + 5y - 19 = 0$ (4) None of these
14. The locus of the centre of the circle which touches the circle $x^2 + y^2 - 6x - 6y + 14 = 0$ externally and also touches the y -axis is given by equation
 (1) $x^2 - 6x - 10y + 14 = 0$ (2) $x^2 - 10x - 6y + 14 = 0$
 (3) $y^2 - 6x - 10y + 14 = 0$ (4) $y^2 - 10x - 6y + 14 = 0$
15. The equation of the incircle of equilateral triangle ABC where $B \equiv (2, 0)$, $C \equiv (4, 0)$ and A lies in the fourth quadrant is:
 (1) $x^2 + y^2 - 6x + \frac{2y}{\sqrt{3}} + 8 = 0$ (2) $x^2 + y^2 - 6x - \frac{2y}{\sqrt{3}} + 8 = 0$
 (3) $x^2 + y^2 + 6x + \frac{2y}{\sqrt{3}} + 8 = 0$ (4) None of these
16. Number of ways in which a lawn-tennis mixed double be made from 7 married couples if no husband and wife play in the same set is
 (1) 240 (2) 420 (3) 720 (4) None of these
17. If the coefficient of r th, $(r+1)$ th and $(r+2)$ th terms in the expression of $(1+x)^{14}$ are in A.P., then the value of r is
 (1) 5 or 8 (2) 4 or 9 (3) 5 or 9 (4) 6 or 7
18. If the last term in the binomial expansion of $\left(2^{\frac{1}{3}} - \frac{1}{\sqrt{2}}\right)^n$ is $\left(\frac{1}{3^{\frac{5}{3}}}\right)^{\log_3 8}$, then the 5th term from the beginning is:
 (1) 210 (2) 420 (3) 105 (4) None of these
19. If the sum of the coefficient in the expansion of $(1-3x+10x^2)^n$ is a and if the sum of the coefficients in the expansion of $(1+x^2)^n$ is b , then
 (1) $a = 3b$ (2) $a = b^3$ (3) $b = a^3$ (4) None of these
20. Two circles with radii a and b touch each other externally such that θ is the angle between the direct common tangents ($a > b \geq 2$). Then
 (1) $\theta = 2\cos^{-1}\left(\frac{a-b}{a+b}\right)$ (2) $\theta = 2\tan^{-1}\left(\frac{a+b}{a-b}\right)$
 (3) $\theta = 2\sin^{-1}\left(\frac{a+b}{a-b}\right)$ (4) $\theta = 2\sin^{-1}\left(\frac{a-b}{a+b}\right)$
21. Consider the two curves $C_1 : y^2 = 4x$, $C_2 : x^2 + y^2 - 6x + 1 = 0$. Then
 (1) C_1 and C_2 touch each other only at one point
 (2) C_1 and C_2 touch each other exactly at two points
 (3) C_1 and C_2 intersect (but do not touch) at exactly two points
 (4) C_1 and C_2 neither intersect nor touch each other
22. An ellipse intersects the hyperbola $2x^2 - 2y^2 = 1$ orthogonally. The eccentricity of the ellipse is reciprocal of that of the hyperbola. If the axes of the ellipse are along the coordinate axes, then
 (1) the equation of the ellipse is $x^2 + 2y^2 = 2$
 (2) the foci of the ellipse are $(\pm 2, 0)$
 (3) the equation of the ellipse is $x^2 + 2y^2 = 4$
 (4) the foci of the ellipse are $(\pm \sqrt{2}, 0)$
23. $\frac{\sin^2 A - \sin^2 B}{\sin A \cos A - \sin B \cos B}$ is equal to
 (1) $\tan(A-B)$ (2) $\tan(A+B)$ (3) $\cot(A-B)$ (4) $\cot(A+B)$
24. Let $f(n) = 2 \cos nx \forall n \in \mathbb{N}$, then $f(1)f(n+1) - f(n)$ is equal to
 (1) $f(n+3)$ (2) $f(n+2)$ (3) $f(n+1)f(2)$ (4) $f(n+2)f(2)$
25. If $4 \cot 2\theta = \cot^2 \theta - \tan^2 \theta$, then $\theta =$
 (1) $n\pi + \frac{\pi}{4}$ (2) $n\pi - \frac{\pi}{6}$ (3) $n\pi + \frac{\pi}{3}$ (4) $n\pi - \frac{\pi}{3}$
26. The solution of $\frac{3\sin\theta - \sin 3\theta}{1 + \cos\theta} + \frac{3\cos\theta + \cos 3\theta}{1 - \sin\theta} = 4\sqrt{2} \cos\left(\theta + \frac{\pi}{4}\right)$ is
 (1) $n\pi$ (2) $n\pi + \frac{\pi}{12}$ (3) $n\pi \pm \frac{\pi}{2}$ (4) $2n\pi$
27. The normal at a point P on the ellipse $x^2 + 4y^2 = 16$ meet the x -axis at Q . If M is the midpoint of the line segment PQ , then the locus of M intersects the latus rectum of the given ellipse at points:
 (1) $(\pm 3\sqrt{5}/2, \pm 2/7)$ (2) $(\pm 3\sqrt{5}/2, \pm \sqrt{19}/7)$
 (3) $(\pm 2\sqrt{3}, \pm 1/7)$ (4) $(\pm 2\sqrt{3}, \pm 4\sqrt{3}/7)$
28. If the distance between the foci and the distance between the two directrices of the hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ are in the ratio $3:2$, then $b:a$ is
 (1) $1:\sqrt{2}$ (2) $\sqrt{3}:\sqrt{2}$ (3) $1:2$ (4) $2:1$
29. A tangent drawn to the hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ at $P\left(\frac{\pi}{6}\right)$ forms a triangle of area $3a^2$ sq. units with the coordinate axes. Then the square of its eccentricity is:
 (1) 15 (2) 24 (3) 17 (4) 14
30. If $\alpha + \beta = \pi$ then the chord joining the points α and β for the hyperbola $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ passes through
 (1) focus (2) centre (3) one of the end points of the transverse axis
 (4) one of the end points of the conjugate axis

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