

Sahaj Adhyayan (सहज अध्ययन)

जर हे **Practice Question Papers** तुम्हाला खरंच फायदेशीर वाटत असतील तर तुमच्या सर्व मित्र मैत्रिणींना पाठवा.

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तर ते आम्हाला WhatsApp वर पाठवा,

इतर विद्यार्थी मित्रांना त्या सर्वांचा उपयोग होईल.

Std - XI

First Term Examination 2021-22

Sub - Mathematics (40)

Marks - 50

Time - 2.30 Hrs.

SECTION : A

Q.1 Select and write the Most appropriate answer from the given alternatives (10)

1) The radian measure of 260° is

- A) $\frac{-13\pi}{9}$ B) $\frac{13\pi}{9}$ C) $\frac{\pi}{3}$ D) $\frac{11\pi}{2}$

2) The 10th term of G.P $\frac{1}{4} - \frac{1}{2} 1 - 2 \dots$ is

- A) 1024 B) $\frac{1}{1024}$ C) -128 D) $\frac{-1}{128}$

3) If $z = 3 - 5i$ is any complex number then \bar{z} is

- A) $Z = -3 + 5i$ B) $\bar{Z} = -3 - 5i$

- C) $\bar{Z} = 3 + 5i$ D) $\bar{Z} = 5i + 2$

4) If $\sin \theta = < 0$ and $\tan \theta > 0$ then θ lies in

- A) First Quadrant B) second quadrant
C) third quadrant D) fourth quadrant

5) If $\sin \theta = \frac{21}{29}$ and θ lies in the second quadrant, then the value of $\sec \theta - \tan \theta$ is

- A) $\frac{2}{5}$ B) $\frac{5}{2}$ C) $-\frac{2}{5}$ D) $-\frac{5}{2}$

Q.2 Answer the following question

1) whether the pair of angle is coterminal or not $270^\circ, -140^\circ$ (04)

2) Write the formula for the n th term of G.P

3) Evaluate $\sin^2 \frac{\pi}{2} + \sin^2 \frac{\pi}{6} + \sin^2 \frac{\pi}{3}$

4) Find $(i)^{345}$

(1)

SECTION : - B

Attempt any EIGHT of the following

(16)

Q.3 Convert in to radian measure $280^\circ, 270^\circ, 90^\circ, 20^\circ$ Q.4 Find the all possible value of $\sin \theta$ if $6 \sin^2 \theta - 2 \sin \theta + 4 = 0$ Q.5 Express the complex number in the polar form $Z = 1 + \sqrt{3}i$ Q.6 Find the cartesian coordinate of the point whose polar coordinate are $(2, 60^\circ)$ Q.7 Find S_n of G.P is $4, 8, 16, 32, \dots$ Q.8 Check whether the sequence is G.P Find First term and common ratio
 $3, 6, 12, 24, \dots$ Q.9 Simplify $\sqrt{-9} + 3\sqrt{-16} + \sqrt{-49} - \sqrt{-25}$ Q.10 Find the modulus and amplitude of $Z = 6 - 2i$ Q.11 w is complex cube root of unity then show that $(2-w)(2-w^2) = 7$ Q.12 In ΔABC $M < A = \frac{\pi}{4}$ and $M < B = 60^\circ$ find the $M < C$ in
degree and radianQ.13 The sum of two angle is 2π and their difference is 60° find
the angle in degree

SECTION : - O

Attempt any FOUR from the following

(12)

Q.14 Find the three numbers in G.P such that their sum is 21 and sum
of the square is 189

Q.14 If $\cos \theta = \frac{3}{5}$ $\pi < \theta < \frac{3\pi}{2}$ then find all trigonometric ratio

Q.15 Eliminate θ $x = a \sec \theta$ $y = b \tan \theta$

Q.16 Express the angle $(321.9)^\circ$ in degree minuit and second

Q.17 Express the complex number in the form $a + ib$

$$z = \frac{4+2i}{(2+i)(3-i)}$$

Q.18 If w is complex cube root of unity then show that

$$w^2 + w + 1 = 0$$

Q.19 If $\cos \theta = \frac{3}{5}$ $\pi < \theta < \frac{3\pi}{2}$ then find all trigonometric ratio

SECTION : - D

(08)

Attempt any TWO from the following

Q.20 Find the sum of the n^{th} term of
G.P $0.4 + ,0.44 + 0.444 + 0.4444 + \dots$

Q.21 If α and β are complex cube root of unity then prove
that $\alpha^2 + \beta^2 + 2\alpha\beta = 0$

Q.22 Find all the trigonometric ratio of angle in standerd whose
terminal arm passes through $(2, -10)$

Q24 Find the four number in G.P such that sum of middle two
number is $\frac{10}{3}$ and their product is 1

