# MATHS

# BOOKS - JEEVITH PUBLICATIONS MATHS (KANNADA ENGLISH)

# ANNUALEXAMIATION QUESTION PAPER - 2018 (SOUTH)

## Part A South

**1.** Define power set of a Set.

Watch Video Solution

**2.** If `( x+ 1,y -2) =(3,1) Find the values of x and y .

Watch Video Solution

**3.** Convert $240^\circ$ into radian measure.

Watch Video Solution

**4.** Find the multiplicative inverse of $2 - 3i$.

Watch Video Solution

**5.** Compute $\frac{12!}{10!2!}$

Watch Video Solution

**6.** If the nth term of the sequence is $a_n = 4n - 3$ then find 17th term

Watch Video Solution

**7.** Find the slope of the time passing through the points (3,-2) and ( -1,4)

Watch Video Solution

**8.** Evaluate $\underset{x-0}{\text{Lim}} \frac{ax+b}{cx+1}$

Watch Video Solution

**9.** Write the negation of statement $\sqrt{2}$ is not a complex number.

Watch Video Solution

**10.** Describe the sample space for the indicated experiments

A coin is tossed and a die is thrown

Watch Video Solution

## Part B South

**1.** If A={3,5,7,9,11},B={7,9,11,13},C={11,13,15} and $D = \{15, 17\}$, find

$A \cap (B \cup C)$

Watch Video Solution

**2.** If S and T are two sets such that S has 21 elements, T has 32 elements and $S \cap T$ has 11 elements, how many elements does $S \cup T$ have ?

Watch Video Solution

**3.** Let $A = \{1, 2\}, B = \{3, 4\}$. Write $A \times B$. How many subsets will $A \times B$ have ?

Watch Video Solution

**4.** Find the value of $\sin 75^\circ$.

Watch Video Solution

**5.** Find the general solution of $2 \sin x + \sqrt{3} = 0$

Watch Video Solution

**6.** Express $\frac{\left(3+i\sqrt{5}\right)\left(3-i\sqrt{5}\right)}{\left(\sqrt{3}+i\sqrt{2}\right)-\left(\sqrt{3}-i\sqrt{2}\right)}$ in the from a + ib.

Watch Video Solution

**7.** Solve $7x+3<5x+9$. Show the graph of the solution on number line.

Watch Video Solution

**8.** Find the equatin of the straight line with slope m and passing through the point (x1,y1)

Watch Video Solution

**9.** Reduce the equation $3x + 2y - 12 = 0$ into intercept form and find its intercepts on the axes.

Watch Video Solution

**10.** Show that the points $A(-2, 3, 5), B(1, 2, 3)$ and $C(7, 0, -1)$ are

collinear.

Watch Video Solution

**11.** Evaluate : $\lim_{x \to 1} \frac{x^{15} - 1}{x^{10} - 1}$

Watch Video Solution

**12.** Write the converse and contrapositive of " if a number is divisible by 9 then its is divisible by 3"

Watch Video Solution

**13.** An analysis of monthly wages paid to workers in two firms A and B belonging to the same industry gives the following results.

| | Firm A | Firm B |
|---|---|---|
| No.of wage earners | 586 | 648 |
| Mean of monthly wages | $Rs.5253$ | $Rs.5253$ |
| Variance of distribution of wages | 100 | 121 |

(i) Which firm A or B pays larger amount as monthly wages ?

(ii) Which firm A or B shows greater variability in individual wages .

Watch Video Solution

**14.** A and B are events such that P(A) =0.42,P(B) =0.48 and P(A and B) =0.16 Determine (i) P( not A ) ,(ii) P(not B) ,(iii) P ( A or B)

Watch Video Solution

## Part C South

**1.** In a survey of 600 students in a school, 150 students were found to be taking tea and 225 taking coffee, 100 were taking both tea and coffee. Find how many students were taking neither tea nor coffee ?

Watch Video Solution

**2.** Let A={1,2,3,4,6}. Let R be the relation on A defined by $\{\{a, b): a, b \in A$, b is exactly divisible by a}.

(i) Write R in roster form, (ii) Find the domain of R, (iii) Find the range of R.

Watch Video Solution

**3.** Prove that: $\cos 3x = 4\cos^3 x - 3\cos x$

Watch Video Solution

**4.** Represent the complex number $Z = \frac{1}{1+i}$ in the polar form.

Watch Video Solution

**5.** Solve $\sqrt{5}x^2 + x + \sqrt{5} = 0$

Watch Video Solution

**6.** Find the number of arrangements of the letters of the word INDEPENDENCE. In how many of these arrangements (i) do the word start with P (ii) do all the vowels always occur together.

Watch Video Solution

**7.** Find the middle term in the expansion of $\left(\frac{x}{3}+9y\right)^{10}$

Watch Video Solution

**8.** Insert five numbers between 8 and 26 such that the resulting sequence is in AP.

Watch Video Solution

**9.** Find the sum of the series, $7, 77, 777, 7777, \ldots\ldots\ldots\ldots$ to n tems.

Watch Video Solution

**10.** Prove that $\cos\left(\frac{\pi}{2} + x\right) = -\sin x.$

Watch Video Solution

**11.** (b) Find the sum to n terms of the series $1 \times 2 \times 3 + 2 \times 3 \times 4 + 3 \times 4 \times 5 + \ldots$

Watch Video Solution

**12.** Define hyperbola as a set of points derive its equation in the form $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$

Watch Video Solution

**13.** Find the derivative of $f(x)\frac{x + \cos x}{\tan x} w.r.$ to x . .

.

Watch Video Solution