Name : **Prep 3**

Exam 1

(A) Choose the correct answer: -

1) if $X \times Y = \{(2,3)\}$, then $X^2 =$ …….

(a) $\{(4,9)\}$ (b) 4 (c) $\{(2,2)\}$ (d) 1

2) if $\tan 3X = 1$, $m(\angle X) =$ ……..

(a) $60°$ (b) $45°$ (c) $30°$ (d) $15°$

3) if $X = \{1,3,5\}$ and R is a function on X , $R = \{(1,1) , (b,5) , (3,a)\}$, then $a + b =$ ……..

(a) 3 (b) 5 (c) 6 (d) 8

4) if $\cos \theta = 0.4$, then $m(\angle \theta) =$ ……..

(a) $66° 25' 19''$ (b) $23° 34' 42''$ (c) $36° 52' 12''$ (d) $66° 9' 42''$

(B) Find value of x if : $\sin(2x + 15) = \frac{\sqrt{3}}{2}$, where $(2x + 15)$ is measure of acute angle

Name : **Prep 3**

Exam 2

(A) Choose the correct answer: -

1) if $\{1\} \times \{x\ , y\} = \{(1,3), (1,6)\}$, then $x - y =$ ……

(a) 3 (b) -3 (c) ± 3 (d) Zero

2) if 2 sin X = tan 45 , so m($\angle$ X) = ……..

(a) 60° (b) 45° (c) 30° (d) 15°

3) $2\cos^2 30 - 1$ = ……

(a) $\cos 60^\circ$ (b) $\sin 60^\circ$ (c) $2 \sin 60^\circ$ (d) $\tan 60^\circ$

4) if (x+1 , k) = (4, x^2+1) , then k = ……

(a) 3 (b) 4 (c) 9 (d) 10

(B) without calculator , find value of

$$4 \sin^2 30 - tan^2 45$$

Name : **Prep 3**

Exam 3

(A) Choose the correct answer: -

1) if $\angle A$, $\angle B$ are two complementary angles and sin A = $\frac{12}{13}$, so cos B = ……..

(a) $\frac{5}{12}$ (b) $\frac{12}{5}$ (c) $\frac{5}{13}$ (d) $\frac{12}{13}$

2) if $(x-1\ ,\ 11) = (8\ ,\ y+3)$, then $\sqrt{x+2y} =$ ……

(a) 9 (b) ± 5 (c) 25 (d) 5

3) if $\sin\frac{x}{2} = \frac{1}{2}$ where x is the measure of an acute angle , then x = ……...

(a) 60° (b) 45° (c) 30° (d) 15°

4) if R is function from x to y , so y is called …….

(a) domain (b) range (c) codomain (d) rule of f

(B) if $\sin 2X = \sin 45 \cos 45$, Find m($\angle$ X) where X is an acute angle

Name : **Prep 3**

Exam 4

(A) Choose the correct answer: -

1) in $\triangle ABC$, if $m(\angle B) = 90°$, then $\sin A + \cos C =$……..

(a) $2 \sin C$ (b) $2 \cos A$ (c) $2 \cos C$ (d) $\tan A$

2) if $sin\ 50 = cos\ x$ where is an acute angle, then x = ……

(a) $60°$ (b) $40°$ (c) $30°$ (d) $15°$

3) if the point (2a , 3b) lies on x-axis then $\frac{b}{a}$ = ……

(a) 0 (b) $\frac{2}{3}$ (c) 2 (d) 3

4) if $n(X \times Y) = 4$ and Y = {4} so $n(X^2)$ = ……

(a) 1 (b) 4 (c) 8 (d) 16

(B) without calculator , find the value of :

$$tan^2 60\ sin\ 30 \cos 60$$

Name : **Prep 3**

Exam 5

(A) Choose the correct answer: -

1) XYZ is a right-angled triangle at Y , XY = 4cm , XZ = 5cm then sin X cos X = ……

(a) $\frac{12}{25}$ (b) $\frac{8}{25}$ (c) 1 (d) $\frac{24}{25}$

2) if $(x - 3 , 5)$ lies on Y-axis so $2x - 6 =$…….

(a) zero (b) 3 (c) 6 (d) 12

3) if $\sin x = \frac{1}{2}$, where x is the measure of an acute angle , then $\cos 2x =$ ……

(a) $\frac{1}{2}$ (b) $\frac{\sqrt{3}}{2}$ (c) $\frac{3}{2}$ (d) $\frac{3}{4}$

4) if X = {1 , 2} , y ={5 , 6} , then (5,1) ∈ ……..

(a) X × Y (b) Y × X (c) X^2 (d) Y^2

(B) find value of x (where x is an acute angle)

$$2 \sin x = \tan^2 60 - 2 \tan 45$$

Name : **Prep 3**

Exam 6

(A) Choose the correct answer: -

1) In Δ ABC is a right-angled triangle at A , which have the same value of sin C ?

(a) sin B (b) cos B (c) tan C (d) cos C

2) if tan $x = \frac{1}{\sqrt{3}}$, where x is measure of an acute angle, then x = ……..°

(a) 15 (b) 30 (c) 45 (d) 60

3) if function *f*= {(1,3) , (2,3) , (3,3)} then the range = ……..

(a) {3} (b) {1,2,3} (c) {1,2} (d) {1}

4) if the point ($a - b$, 5) lies on the y-axis then ……

(a) a = b (b) a= $-b$ (c) $a + b = 0$ (d) $a + b = 5$

(B) without calculator , find the value of :

$$2 \sin 30 + \cos 60 - \tan^2 45$$

Name : **Prep 3**

Exam 7

(A) Choose the correct answer: -

1) if $(-x\ , x^2)$ lies on second quadrant , so x = ……

(a) 0 (b) -1 (c) -3 (d) 2

2) $\sin^2 30° + \cos^2 60° =$ ……

(a) $\frac{1}{2}$ (b) 1 (c) $\frac{1}{4}$ (d) $\frac{3}{4}$

3) if $x = \{3\}, n(\text{X} \times \text{Y}) = 6$, so $n(\text{Y}^2)$ = ……

(a) 1 (b) 3 (c) 6 (d) 36

4) in Δ ABC , if m $(\angle \text{A}) = 50°$, $\sin \text{B} = \cos \text{B}$, then m$(\angle \text{C}) =$ ……

(a) 45 (b) 105 (c) 90 (d) 85

(B) without calculator , find the value of

$$\frac{\mathbf{2}\ \boldsymbol{tan}\ 60°}{\mathbf{1} + \ \boldsymbol{tan^2}\ 60°}$$

Name : **Prep 3**

Exam 8

(A) Choose the correct answer: -

1) $2 \sin 30° \tan 60°$ = …….

(a) $\sqrt{3}$ (b) $\frac{\sqrt{3}}{2}$ (c) $\frac{\sqrt{3}}{3}$ (d) $\frac{1}{2}$

2) if $\{3\} \times \{1 , y\} = \{(3,x) , (3,5)\}$, then x+ 2y = ……

(a) 1 (b) 5 (c) 10 (d) 11

3) If $x \cos 60° = \tan 45°$, then x = ……

(a) 1 (b) 2 (c) 3 (d) 4

4) if the point (k , $k^2 - 25$) lies on X-axis , then K may be equal to ……

(a) 2 (b) 3 (c) 4 (d) 5

(B) if 2 $\sin x = 4 \cos 30° - tan\ 60°$, where x is a measure of an acute angle , then find the value of : x