ADITYA TALENT SCHOOL

X CLASS **DAILY EXAM** **Dt : 24-04-2020**

MATHEMATICS - 2 (25 MARKS)

SECTION - I

$^1/_2$ mark questions. **20 x $^1/_2$ = 10**

1. The maximum value of $\sin x$ is .....
2. $\tan^2 20° - \sec^2 20° =$ .....
3. If $\cos\theta = \frac{\sqrt{3}}{2}$ and θ is acute, then $4\sin^2\theta + \tan^2\theta =$ .....
4. In a right triangle $ABC, AB = 8\,cm,\ BC = 15\,cm$ and $CA = 17\,cm$ then $\sec C =$ .....
5. If $\cot\theta = \frac{7}{8}$, then the value of $\frac{(1+\sin\theta)(1-\sin\theta)}{(1+\cos\theta)(1-\cos\theta)} =$ .....
6. In ΔABC, right angled at B, if $AB = 5\,cm,\ \angle ACB = 30°$, then $BC =$ .....
7. The value of $\sin 45° + \cos 45° =$ .....
8. The value of $\frac{\sec 35°}{\text{cosec}\, 55°} =$ .....
9. If $\sin A = \cos B,\ A + B =$ .....
10. The value of $\cos 12° - \sin 78° =$ .....
11. $\sec 16°.\text{cosec}\, 74° - \cot 74° \tan 16° =$ .....
12. $\tan 10° \tan 30°.\tan 60°.\tan 80° =$ .....
13. If θ is acute and increases, then $\cos\theta$ ..... (increases / decreases)
14. $\frac{\sin\theta.\sin(90-\theta)}{\cot(90-\theta)} - 1 =$ .....
15. If $\tan\theta = \frac{3}{4}$, then $\frac{1-\cos\theta}{1+\cos\theta} =$ .....
16. If $\text{cosec}\,\theta + \cot\theta = k$, then $\text{cosec}\,\theta - \cot\theta =$ .....
17. The line joining the observers eye and the object is called .....
18. If $\sin\theta = \cos\theta$ where θ is acute, then the value of $\sec\theta =$ .....
19. If a man observes an object at the top of a building of height 45 m with an angle of elevation $45°$, then the distance of the man from the foot of the building is .....
20. $\tan 90°$ is .....

SECTION - II

1 mark questions. 15 x 1 = 15

21. Express $\sec\theta$ in terms of $\sin\theta$.

22. Define an angle of elevation.

23. Define any three trigonometric ratios in the terms of sides of a right triangle.

24. In ΔPQR, right angled is at Q. If $PQ=3cm$ and $PR=6cm$, then find $\angle QPR$ and $\angle PRQ$.

25. If $\sin(A-B)=\frac{1}{2}, \cos(A+B)=\frac{1}{2}$, $6<A+B<90°$, $A>B$, then find A and B

26. If $\cos 7A=\sin(A-6°)$ where $7A$ is an acute angle, then find the value of A.

27. Express $\sin 81°+\tan 81°$ in term of trigonometric ratios of angles between $0°$ and $45°$.

28. If A, B and C are interior angles, of ΔABC, then show that $\sin\frac{B+C}{2}=\cos\frac{A}{2}$.

29. Show that $\cot\theta+\tan\theta=\sec\theta.\cos ec\theta$.

30. Show that $\tan^2\theta+\tan^4\theta=\sec^4\theta-\sec^2\theta$.

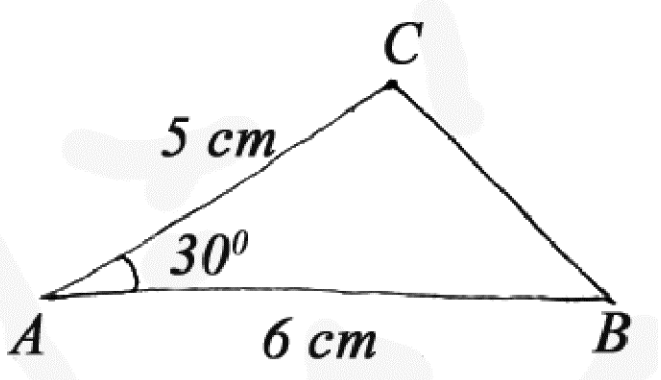
31. Prove that $\sqrt{\frac{1+\cos\theta}{1-\cos\theta}}=\cos ec\theta+\cot\theta$.

32. Show that $\frac{1-\tan^2 A}{\cot^2 A-1}=\tan^2 A$.

33. A person is flying a kite at an angle of elevation α and the length of thread from his hand to kite is 'ℓ'. For this situation, draw the diagram.

34. Length of the shadow of a 15 meter high pole is $5\sqrt{3}\,m$ then what is the angle of elevation of the sun rays with the ground at the time?

35. In the given figure, $AC=5cm$, $AB=6cm$ and $\angle BAC=30°$. Find the area of the triangle.



GENERAL SCIENCE - 2 (25 MARKS)

SECTION - I

$^1/_2$ mark questions. **20 x $^1/_2$ = 10**

1. What controls exit of stools from the body?
2. How much saliva is secreted per day?
3. Why right kidney is placed slightly lower than left kidney?
4. Slurry mass that is transported into oesophagus is called.....
5. Name the scientist who conducted experiments on conditional reflexes.
6. Oxygenated blood loaded with waste products is brought to kidney by.....
7. Partially digested food is called.....
8. Tubular reabsorption takes place in.....
9. Chemoreceptors in the nose are also known as...
10. Hormone that causes hunger pangs?
11. What is the storage capacity of urinary bladder?
12. Bunch of fine blood capillaries in bowman's capsule are called as....
13. Taste is sensed quickly when the tongue touches.....
14. Excretory organ appears for the first time in.....
15. RTE Act came into force in the year?
16. Alkaloid used as sedative...
17. Waste gets stored in the fruits in the form of solid bodies called..
18. Name any two water borne diseases
19. People who are affected by the materials collected from Garbage dump are called...
20. Secondary metabolite used in varnishes is.....

SECTION - II

1 mark questions. **15 x 1 = 15**

21. Name any four systems involved in the process of generating Hunger sensation?
22. Give reasons urine is acidic in the beginning but becomes alkaline on long standing?
23. What is peristalsis?
24. What are secondary metabolites?
25. What is your dental formula?
26. Define hemodialysis.
27. What are Villi?
28. Name the sphinters present in the gut?
29. Why weeds and wild plants are not affected by insects and pests?
30. What is the composition of urine?
31. How is stomach protected from HCl?
32. What is retropulsion?
33. Why the diameter of efferent arteriole is less than afferent arteriole?
34. Expand ESRD
35. What is diabetes insipidus?