**Half mark and one mark questions**

1. Show that tan² θ - = -1?
2. Explain the meaning of cos θ?
3. If tan θ = then find the value of 1 + cos θ?
4. Evaluate ?
5. If sin A = and cot B = 1 then prove that sin (A + B) = 1 where A and B are both acute angles?
6. Express cos θ in terms of tan θ?
7. If cos θ = then find the value of 4 + cot θ?
8. Is it correct sin θ = cos (900 – θ)? Why?
9. Find the value of tan 2A, if cos 3A = sin 450?
10. Prove that 4 tan² 450 – cosec² 300 + cos² 300 = ?
11. Evaluate cosec 390. Sec 510 – tan 510. Cot 390?
12. In a right angled triangle ABC, right angled at C, in which AB = 13cm, BC = 5cm. Determine the value of cos² B + sin² A?
13. Ravi says, “The value of tan 00. Tan10.tan20 ………. Tan 890 is zero”. Do you agree with him? Give reason.
14. If 3 cos A – 4 sin A = 0, then find tan A?
15. Given (1 + tan θ)(1 – tan θ) = 0 then find the value of θ? (θ is acute angle)
16. Find the value of ‘x’ if cotf x =?
17. Give **∠**A = 750 and **∠**B = 300 then find tan (A – B)?
18. If sec A + tan A = then find the value of sec A – tan A?
19. If tan A = , find sin A?
20. Given cosec (900 – A) = then what is the value of sec A?
21. Simplify (sec² A – 1) (cosec² A – 1)?
22. What is reciprocal of tan θ?
23. Evaluate sin 150. Sec 750?
24. If 1 – 2sin² A = 0, then find the value of tan 2A?
25. Sasi says, “If θ is an acute angle, then sin θ value is always less than 1”. Do you agree with him? Justify your answer.
26. Write the relation between cos A and cos B when A > B?
27. Find the value of sin 00. Sin 10. Sin 20. ……. Sin900?
28. If sin 2A = cos 3A then find tan 5A?
29. Ramana said that sin 100 < cos 100. Can agree with Ramana? Justify your answer?
30. For any value of θ, sec² θ – tan² θ = 1. Is it true? Justify.
31. Find the value of tan² 450 + 2 tan² 600?
32. What is the value of cot² 150 – cosec² 150?
33. Simplify: ?
34. If x = sec θ and y = tan θ then find the value of (x + y) (x – y)?
35. Express tan θ in terms of sin θ?
36. Express cos 750 + cot 650 in terms of angles between 00 and 300?
37. What is the value of tan² 150 – sec² 150?

**Two marks questions**

1. Simplify (1 + cot² θ) (1 – cos θ) (1 + cos θ)?
2. Show that = tan θ + cot θ?
3. Prove that = sec θ – tan θ?
4. If tan (A + B) = 1 and cos (A – B) = , 00 < A + B < 900 and A > B, find A and B?
5. If x = a sec θ and y = b tan θ, then prove that - = 1?
6. If A, B, C are interior angles of a triangle ABC, then prove that sin + cos = cos + sin?
7. Prove that = 2 tan A?
8. What can you say about the values of sin A and cos A as the measure of an angle A increases from 00 to 900?
9. Find the value of ?
10. Prove that ?
11. If cos A = then find sin A and cot A?
12. If cot θ = then find sec θ using identities?
13. Check whether (sin θ + cos θ)² + (sin θ – cos θ)² = 1?
14. Show that 4(sin4 300 + cos4 600) – 3(cos² 450 – sin² 900) = 2
15. Take A = 600 and B = 300 then verify whether sin (A + B) = sin A + sin B?
16. Prove that if sec A = cosec B then A + B = 900?
17. If sec 5A = cosec (A + 360), where 5A is an acute angle, find the value of A?
18. Prove that sin θ. Sin (900 – θ) – cos θ. Sin (900 – θ) = 0
19. Show that sec4 θ – sec² θ = tan4 θ – tan² θ?
20. If sin θ + sin² θ = 1 then prove that cos² θ + cos4 θ = 1
21. Show that sec² θ – tan² θ = 1?

**Four marks questions**

1. If Sec θ + tan θ = p then prove that sin θ = ?
2. Prove that (sin θ – cosec θ) ² + (cos θ – sec θ) ² = cot² θ + tan² θ – 1?
3. Show that (sin A + cosec A) ² + (cos A + sec A) ² = 7 + tan² A + cot² A?
4. Find the value of ?
5. If cot θ = , then find the value of ?
6. If = 4 (00 < θ < 900), then find the value of θ?
7. Prove that (1 + tan² θ) + = ?
8. If = m and = n, then show that (m² + n²) cos² α = m². n²?
9. If cosec θ + cot θ = k, then write all trigonometric ratios at θ in terms of ‘k’?
10. Prove that = sin A + cos A?
11. Show that (sec θ – tan θ)² = .
12. Prove that = cosec θ – cot θ?
13. If cosec A = then fine the value of ?
14. Show that = 2 sec θ?
15. Prove that sin6 θ + cos6 θ = 1 – 3 sin² θ. Cos² θ
16. Prove the following identity: = cot θ?
17. Show that = cosec θ?
18. Prove that (1 + cot θ – cosec θ) (1 + tan θ + sec θ) = 2?