1. **Find maximum/minimum value of**

   a)$9+4\cos\theta$ b)$11-5\sin\theta$ c)$16+3\cos 2\theta$ d)$7+5\cos^2\theta$ e)$9-2\sin^2\theta$

   f)$14-6\sin^3\theta$ g)$15+7\cos^5\theta$ h)$22-9\sin^8\theta$ i) $16\cos^2\theta-5$

2. **If $\alpha+\beta=90°$, then maximum value of $\sin\alpha.\sin\beta$ is?**

3. **Find the minimum value of $\frac{sin^2A+5sin\,A+1}{sin\,A}$ for $0 < A < \frac{\pi}{2}$?**

   $0 \le A \le \frac{\pi}{2}$ के लिए $\frac{sin^2A+5sin\,A+1}{sin\,A}$ का न्यूनतम मान ज्ञात कीजिए? (CDS-1 2024)

A) 3

B) 7

C) 5

D) 9

4. **Find maximum/minimum value of**

   a) $2\sin^2\theta + 3\cos^2\theta$ b) $(9+7\cos^2\theta-4\cos^2\theta)$

   c)$8-\sqrt{3}\sin^2\theta-\sqrt{2}\cos^2\theta$ d)$13\cos^2 3\theta-17\sin^2 3\theta$

5. **What is the difference between the greatest value and the least value of $cos^2\theta + 3sin^2\theta + 2$?**

   $cos^2\theta + 3sin^2\theta + 2$ के अधिकतम मान और न्यूनतम मान के बीच क्या अंतर है? (CDS-1 2024)

A) 4

B) 3

C) 2

D) 1

6. **Find maximum/minimum value of?**

   a)$\sin^{29}\theta.\cos^{29}\theta$ b)$16\sin^{11}\theta.\cos^{11}\theta$ c)$\sin^6\theta.\cos^6\theta$

7. **The maximum value of $(2\sin\theta+3\cos\theta)$?**

   a)2 b) $\sqrt{15}$ c) $\sqrt{13}$ d)1

8. **Find maximum/minimum value of?**

   a)$4\sin\theta+9.6\cos\theta$ b)$1+\frac{7\sqrt{3}}{2}\sin\theta+\frac{7}{2}\cos\theta$ c)$8+9\cos\theta-40\sin\theta$

9. **Find the least value of $16\text{cosec}^2\theta + 25\sin^2\theta$.**

   $16\text{cosec}^2\theta + 25\sin^2\theta$ का न्यूनतम मान ज्ञात कीजिए ।

   (a) 35 (b) 38 (c) 42 (d) 40

   (SSC CPO 2023)

10. **Find the minimum value of ?**

    a)$24\tan^2\theta+6\cot^2\theta$ b)$16\tan^2\theta+25\cot^2\theta+11$ c) $4\tan^2\theta+9\text{cosec}^2\theta$ d)$36\sin^2\theta+49\text{cosec}^2\theta$

    e)$81\sin^2\theta + 64\ \text{cosec}^2\theta$ f)$48\sin^2\theta+3\cot^2\theta$ g) $36\cos^2\theta+25\tan^2\theta$

    h)$25\cos^2\theta+49\sec^2\theta$

    i) $\sec^2\theta+4\text{cosec}^2\theta$. j) $32\sec^2\theta+ 72\text{cosec}^2\theta$ K)$25\cos^2\theta+16\tan^2\theta$

11. **The minimum value of $\sin^2\theta+ \cos^2\theta+ \sec^2\theta + \text{cosec}^2\theta+ \tan^2\theta+ \cot^2\theta$ is equal to**

    a)1 b)3 c)5 d)7

12. Find the minimum value of $(\sin\theta+\operatorname{cosec}\theta)^2 + (\cos\theta+ \sec\theta)^2$?

a)0 b)2 c)7 d)9

13. Find the maximum value of $(27^{\sin^2\theta}\times243^{\cos^2\theta})$?

14. Find the maximum value of $16\times64^{\sin\theta}\times256^{\cos\theta}$

15. Find the maximum/minimum value of

a) $\sin^4\theta+\cos^4\theta$ b) $\sin^6\theta+\cos^6\theta$ c) $\cos^2\theta+\sin^4\theta$ d) $\sin^2\theta+\cos\theta$

16. Find maximum/minimum value of $[11\sin^2x- 24\sin x.\cos x +18\cos^2x]$