DPP-12 Periodic Functions

1. The period of $\sin^4 x + \cos^4 x$ is –

(A) π (B) $\pi/2$ (C) 2π (D) None of these

2. The period of function $|\cos 2x|$ is -

(A) π (B) $\pi/2$ (C) 4π (D) 2π.

3. The period of function $\sin\left(\frac{\pi x}{2}\right)+\cos\left(\frac{\pi x}{2}\right)$ is-

(A) 4 (B) 6 (C) 12 (D) 24

4. The period of the function f(x) = log cos 2x + tan 4x is-

(A) $\pi/2$ (B) π (C) 2π (D) $2\pi/5$.

5. The period of the function $f(x)=2\cos\frac{1}{3}(x-\pi)$ is–

(A) 6π (B) 4π (C) 2π (D) π.

6. In the following which function is not periodic-

(A) $\tan 4x$ (B) $\cos 2\pi x$ (C) $\cos x^2$ (D) $\cos^2 x$.

7. The period of $|\sin 2x|$ is-

(A) $\pi/4$ (B) $\pi/2$ (C) π (D) 2π.

8. The period of $f(x)=\frac{|\sin x|+|\cos x|}{|\sin x-\cos x|}$ is–

(A) $\pi/2$ (B) π (C) 2π (D) None of these

9. Period of function $2^{\{x\}}+\sin\pi x+3^{\{x/2\}}+\cos 2\pi x$ is (where { } represent fractional part of x)

(A) 2 (B) 1 (C) 3 (D) None of these

10. Period of the function $f(x)=|\sin\pi x|+e^{3(x-[x])}$ (where [ ] represent G.I.F.) is -

(A) 1 (B) 2 (C) 1/3 (D) None of these

11. Period of $f(x)=\sin 3\pi\{x\}+\tan\pi[x]$ where [ ] and {} represent of G.I.F and fractional part of x

(A) 1 (B) 2 (C) 3 (D) π.

12. If period of $\frac{\cos(\sin nx)}{\tan(x/n)}(n\in N)$ is 6π then n is equal to -

(A) 4 (B) 2 (C) 6 (D) 1

13. The period of f(x) = cos (sin x) + cos (cos x) is -

(A) $\pi/3$ (B) $\pi/6$ (C) π (D) $\pi/2$.

14. The value of $n\in I$ for which the function $f(x)=\frac{\sin nx}{\sin\left(\frac{x}{n}\right)}$ has 4π as its period is-

(A) 2 (B) 3 (C) 4 (D) 5

15. If f(x) is an odd periodic function with period 2, then f (4) equals to-

(A) 0 (B) 2 (C) 4 (D) –4

1.	2.	3.	4.	5.
B	B	A	B	A
6.	7.	8.	9.	10.
C	C	B	A	A
11.	12.	13.	14.	15.
A	C	D	A	A