MULTIPLE CHOICE QUESTIONS

TAYLOR AND MACLAURIN SERIES

.   1. The expansion of $f(a + h) = \cdots$

(I) $f(a) + \frac{h}{1!}f'(a) + \frac{h^2}{2!}f''(a) + \cdots$ (II) $f(a) + \frac{h}{1!}f'(a) + \frac{h^2}{2!}f''(a) +$
$\cdots \frac{h^n}{n!}f^n(a)$

(III) $f(a) + f'(a) + f''(a) + \cdots$ (IV) None of these

2. The approximate value of $\sqrt{26}$ is

   a)5   b)6.001   c) 5.09   d) none of these

3.   If f(x)= x^3 -2x+5 then value of f(2.001) is

         a) 9.01   b)9.11   c)8.99   d) none of these

4.   If in Taylor's series we put a=0 and h=x, we get

 (I)Exponential Series (II)Logarithmic Series

 (III) Maclaurin's Series (IV) None of these

5. By applying Taylor's theorem in the powers of (x-π/2) in f(x) = e^{cosx} ,2nd term in e^{cosx} is

a) 1

b) (x-π/2)

c) - (x-π/2)

d) (x+π/2)

6. The necessary condition for the Maclaurin expansion to be true for function f(x) is _____
a) f(x) should be continuous
b) f(x) should be differentiable

c) f(x) should exists at every point

d) f(x) should be continuous and differentiable

7. Second term in Maclaurin's formula for the function $\sin^{-1}x$ is:

a) X   b) $x^2/2$ c) $x^3/6$ d) $3/40(x^5)$

8. In Lagrange's remainder the value of θ :

a)) $0 < \theta < 1$ b) $-1 < \theta < 1$ c) $-1 < \theta < 0$ d) $\theta > 1$