

Model Paper 2015 Mathematics

Inter 1st Year

Time: 3 hours

Max. Marks: 75

Note: This Question paper consists of three sections A, B and C

SECTION - A

10 x 2 = 20 Marks

I. Very Short Answer Questions:

(i) Answer All Questions

(ii) Each Question carries Two marks.

1. Find the value of x , if the slope of the line passing through $(2, 5)$ and $(x, 3)$ is 2.
2. Transform the equation $x + y + 1 = 0$ into the normal form.
3. Show that the points $(1, 2, 3)$, $(2, 3, 1)$ and $(3, 1, 2)$ form an equilateral Triangle.
4. Find the angle between the planes $2x - y + z = 6$ and $x + y + 2z = 7$.
5. Show that $\lim_{x \rightarrow 0+} \left\{ \frac{2|x|}{x} + x + 1 \right\} = 3$.
6. Find $\lim_{x \rightarrow 0} \frac{e^{x+3} - e^3}{x}$.
7. If $f(x) = a^x e^{x^2}$ find $f'(x)$ (where $a > 0, a \neq 1$).
8. If $y = \log[\sin(\log x)]$, find $\frac{dy}{dx}$.
9. Find the approximate value of $\sqrt[3]{65}$.
10. Find the value of 'C' in Rolle's theorem for the function $f(x) = x^2 + 4$ on $[-3, 3]$.