

SECTION-B

11. If $f(x) = |\cos x|$, expand $f(x)$ as a fourier series in the interval $(-\pi, \pi)$.
12. Evaluate the integral by using Laplace transform $\int_0^\infty t e^{-2t} \sin t \, dt$.
13. Solve the following partial differential equations :
 - a) $p \cdot q = \log(x+y)$
 - b) $xp - yq = y^2 - x^2$
14. Solve : $r - 4s + 4t = e^{2x+y}$ where symbol's have their usual meaning
15. Determine the analytic function whose real part is $e^{2x} (x \cos 2y - y \sin 2y)$

SECTION-C

16. Apply Gauss-Seidel iteration method to solve the equations
 $20x + y - 2z = 17, 3x + 20y - z = -18, 2x - 3y + 20z = 25$
17. What do you mean by normal distribution, 31% of the items are under 45 & 8% are over 64. Find the mean & standard deviation of the distributions.
18. Two random samples are drawn from two normal populations are shown below :

A	17	27	18	25	27	29	13	17
B	16	16	20	27	26	25	21	

Test whether the samples are drawn from the same normal population.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.