Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(3D Animation & Graphics)(CSE/IT) (2012 Onwards)
(Sem.–3)

MATHEMATICS – III

Subject Code : BTAM-302
M.Code : 70808

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Answer briefly :

1. What do you mean by periodic functions? Also write period of Sin100x.
2. Explain properties of Laplace transformation.
3. Define limit & Continuity of the function of complex variables.
4. Write down Runge-kutta Method.
5. Explain Poisson distributions.
6. Evaluate $L[t^3 e^{-3t}]$.
7. Find the differential equation of all spheres of fixed radius having their centres in the xy-plane.
8. Discuss the conditions for a fourier expansion.
9. Explain t-distribution.
10. Define mean & variance.

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) $p-q = \log(x+y)$

    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.