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 Sinl00x.
- 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  $L[t^3e^{-3t}]$ .
- 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.

1 | M-70808 (S2)-1815

# **SECTION-B**

- 11. If  $f(x) = |\cos x|$ , expand f(x) as a fourier series in the interval  $(-\pi,\pi)$ .
- Evaluate the integral by using Laplace transform  $\int_0^\infty t \ e^{-2t} \ sint \ dt$ . 12.
- Solve the following partial differential equations: 13.

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
- Determine the analytic function whose real part is  $e^{2x}$  ( $x \cos 2y y \sin 2y$ ) 15.

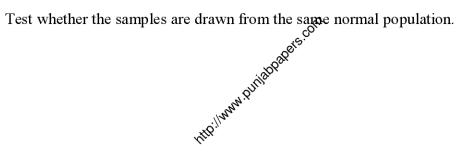
# **SECTION-C**

16. Apply Gauss-Seidel iteration method to solve the equations

$$20x + y - 2z = 17$$
,  $3x + 20y - z = -18$ ,  $2x - 3y + 20z = 25$ 

- What do you mean by normal distribution, 31% of the items are under 45 & 8% are over 17. 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
В	16	16	20	27	26	25	21	



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.

2 | M-70808 (S2)-1815