



Department of Food Technology
School of Interdisciplinary Sciences and Technology
Jamia Hamdard, New Delhi-110062
End Sem Examination September, 2023.
B.Tech IInd Semester
Paper Title: Mathematics II; Paper Code: BFTC – 201

Roll No.

B.Tech
2023
2nd Sem

Time Allotted: 3Hrs.

Max Marks: 60

Note: Write to the point. Before answering make sure you have mentioned the Question No.

Section-A (12 Marks, Attempt All)

- Q1. $L[1]=?$ CO1
Q2. $L[\cos at]=?$ CO1
Q3. Write down the expression which is used in Newton Raphson method. CO1
Q4. What is the mode of the complex number $Z=3-4i$? CO1
Q5. Give an example of differential equation. CO1
Q6. Divide $1+i$ by $3+4i$. CO1

Section- B (Attempt any 3) (6 Marks Each)

- Q7 Find the Laplace transform $L[1+\cos 2t]$. CO2
Q8 Starting with $X_0=3$, Find a root of $X^3-3X-5=0$ correct to three decimal places by using Newton Raphson method. CO2
Q9 $y=\sin(ax+b) \cdot \cos(cx+d)$ CO2
Find dy/dx
Q10. Form the differential equation from $x/a + y/b = 1$. CO2

Section C (Attempt any 2) (15 Marks Each)

- Q11. Solve the differential equation $(x+1) dy/dx + y = e^x (x+1)^2$ CO3
Q12. If $Z=x+iy$, then prove that
 $z/z + z/z = 2(x^2-y^2/x^2+y^2)$, Where $z = \bar{z}$ CO3
Q13 Find the Laplace transform of $[e^{-4t} \cdot \sin 3t/t]$ CO3