	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSIT	ΓY, LONERE	
	Mid Semester Examination – March 2018		
	Course: S.Y. B. Tech.	ı: III	
	Subject Name: NMME  Subject Code: BTMEC40		,
	Max Marks: 20 Date:- Duration:- 1	Hr.	
	Instructions: 1. All question are compulsory.  2. Use of nonprogrammable calculator is allowed.  3. Figures to right indicate full marks.		
		(Level/CO)	Marks
Q. 1	Do as directed.		6
	1. Round off the numbers 86767 to four significant digits	Understand/CO1	
	2. The number of significant digits in 0.0800 are	Understand/CO1	
	3. Well conditioned systems are those where small changes in coefficients results in changes in solution.	Understand/CO2	
	<ul> <li>a. large b. small c.no change d. none of these</li> <li>4. Write sum of 124 and 0.751 with regard to significant figures</li> </ul>	Understand/CO1	
	5. For $x + 2y = 10$ , $1.05x + 2y = 10.4$ . Calculate value of x.	Apply/CO2	
	6. The root of the equation $e^{-x} - \sin x = 0$ lies between A. $(-1,0)$ B. $(0,1)$ C. $(1,2)$ D. none of these	Understand/CO2	
Q.2	Solve Any <u>Two</u> of the following.		6
(A)	A body travels uniformly a distance of $(13.8 \pm 0.2)m$ in a time $(4.0 \pm 0.3)sec$ . Compute the velocity with error limits. What is the percentage error in velocity?	Apply/CO1	
(B)	Compute one root of $3 \sin x - 2x + 5 = 0$ correct to four decimal places by Newton Raphson method.	Apply/CO2	
(C)	Find one root of $x^3 - 2x - 5 = 0$ correct to three decimal places by bisection method.	Apply/CO2	
0.2	Solve Arm Over 641, 641		
Q. 3	Solve Any One of the following.		8
(A)	Explain Ill-conditioned system and well-conditioned system? Given the system	Apply/CO2	
	x + y - z = -3 $6x + 2y + 2z = 2$ $-3x + 4y + z = 1$ Solve by naïve Gauss elimination with partial pivoting. Show all the steps of computations.		
(B)	Compute one root of $x \sin x + \cos x = 0$ correct to four decimal places by Newton Raphson method.	Apply/CO2	
	*** End ***		