

**KOLHAPUR INSTITUTE OF TECHNOLOGY'S  
COLLEGE OF ENGINEERING (AUTONOMOUS), KOLHAPUR**

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**First Year BTech  
MID SEMESTER EXAMINATION  
Engineering Mathematics 1 (123)**

Day and Date :

PRN:

Time :

Max Marks:30

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**Instructions:**

**IMP: Verify that you have received question paper with correct course, code, branch, etc**

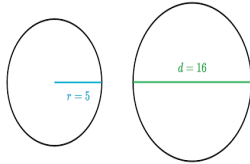
- i) All Questions are Compulsory
- ii) Figure to right indicate full marks
- iii) Assume suitable data wherever necessary

QNo	Question	Marks	CO	BL
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<b>1</b>	<b>Attempt 2 out of 3</b>	<b>10</b>		
1.A	Differentiate $x^3 dx$	3	CO3	1
1.B	Evaluate the following $\int y^3 dy$	3	CO2	3
1.C	Rank of the matrix $\begin{matrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{matrix}$	3	CO1	1

<b>2</b>	<b>Attempt 2 out of 3</b>	<b>10</b>		
2.A	Evaluate the following $\int_2^5 \sqrt{\frac{5x}{2}} dx$	3	CO3	3

2.B	Add the following matrices $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 6 & 4 \end{bmatrix} + \begin{bmatrix} 4 & 5 & 6 \\ 7 & 8 & 9 \\ 5 & 4 & 4 \end{bmatrix}$	3	CO1	3
2.C	find the sum $\frac{53}{22} + \frac{11}{22}$	3	CO1	1

<b>3</b>	<b>Attempt 2 out of 3</b>	<b>10</b>		
3.A	Difference between area of 2 circles   <p style="text-align: center;"><b>Figure 3.A</b></p>	3	CO5	1
3.B	Evaluate $\sum_3^5 (x + x^4)$	3	CO1	1
3.C	Derive the following equation $y = x^4$	3	CO2	1