Engineering Mathematics-I 2019-course Unit-I Mean value Theorem

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	According to Rolle's mean value theorem, $f(x)$ is continuous in $[a, b]$, differentiable in (a, b) such that $f(a) = f(b)$, then there exits $c \in (a, b)$ such that
((OPTION_A)) THIS IS MANDATORY OPTION	$f(c) = 0$
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	$f'(c) = 0$
((OPTION_C)) This is optional	$f''(c) = 0$
((OPTION_D)) This is optional	$f'(c) \neq 0$
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	B
((EXPLANATION)) This is also optional	

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((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	According to Lagrange's mean value theorem, $f(x)$ is continuous in $[a, b]$, differentiable in (a, b), then there exits $c \in (a, b)$ such that
((OPTION_A)) THIS IS MANDATORY OPTION	$f'(c) = \frac{f(b) - f(a)}{b - a}$
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	$f(c) = \frac{f(b) - f(a)}{b - a}$
((OPTION_C)) This is optional	$f''(c) = \frac{f'(b) - f'(a)}{b - a}$
((OPTION_D)) This is optional	$f'(c) = 0$
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	A
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	According to Cauchy's mean value theorem, $f(x)$ & $g(x)$ are continuous in $[a, b]$, differentiable in (a, b) such that $g(a) \neq g(b)$, then there exits $c \in (a, b)$ such that
((OPTION_A)) THIS IS MANDATORY OPTION	$\frac{f'(c)}{g'(c)} = \frac{f'(b) - f'(a)}{g'(b) - g'(b)}$
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	$\frac{f''(c)}{g''(c)} = \frac{f'(b) - f'(a)}{g'(b) - g'(b)}$
((OPTION_C)) This is optional	$\frac{f'(c)}{g'(c)} = \frac{f(b) - f(a)}{g(b) - g(b)}$
((OPTION_D)) This is optional	$\frac{f'(c)}{g'(c)} = \frac{f(b) + f(a)}{g(b) + g(b)}$
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	C

((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x^2-10x+16$ such that $f(3)=f(7)$, then according to Rolle's theorem $c=$
((OPTION_A)) THIS IS MANDATORY OPTION	2
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	3
((OPTION_C)) This is optional	4
((OPTION_D)) This is optional	5
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CH	D

OICE)) Either A or B or C or D or E	
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x^3-12x$ defined in $\left[0,\ 2\sqrt{3}\right]$ such that $f(0)=f\left(2\sqrt{3}\right)$, then according to Rolle's theorem $c=$
((OPTION_A)) THIS IS MANDATORY OPTION	2
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	-2
((OPTION_C)) This is optional	1
((OPTION_D)) This is optional	0
((OPTION_E)) This is optional. If optional keep empty so that	

system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	A
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=\sin x$ in the interval $[0,\ 2\pi]$, then according to Rolle's theorem $c=$
((OPTION_A)) THIS IS MANDATORY OPTION	only $\frac{\pi}{2}$
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	only $\frac{3\pi}{2}$
((OPTION_C)) This is optional	both $\frac{\pi}{2},\ \frac{3\pi}{2}$
((OPTION_D)) This is optional	none of the above
((OPTION_E))	

This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	C
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x^3-4x$ defined in $[0,\ 2]$ such that $f(0)=f(2)$, then according to Rolle's theorem $c=$
((OPTION_A)) THIS IS MANDATORY OPTION	$\frac{\sqrt{2}}{3}$
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	$-\frac{\sqrt{2}}{3}$
((OPTION_C)) This is optional	0

((OPTION_D)) This is optional	1
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	A
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x(x-2)$ defined in $[1,\ 3]$ such that $f(1)=-1,\ f(3)=3$, then according to Lagrange's mean value theorem, $c=$
((OPTION_A)) THIS IS MANDATORY OPTION	0
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	1

((OPTION_C)) This is optional	2
((OPTION_D)) This is optional	3
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	C
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x^2$ defined in $[1,\ 5]$ such that $f(1)=1,\ f(5)=25$, then according to Lagrange's mean value theorem, $c=$
((OPTION_A)) THIS IS MANDATORY OPTION	0
((OPTION_B))	1

THIS IS ALSO MANDATORY OPTION	
((OPTION_C)) This is optional	2
((OPTION_D)) This is optional	3
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	D
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x(x-1)$ defined in $[1,\ 2]$ such that $f(1)=0,\ \ f(2)=2$, then according to Lagrange's mean value theorem, $c=$
((OPTION_A)) THIS IS MANDATORY	$\frac{1}{2}$

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OPTION	
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	$\frac{3}{2}$
((OPTION_C)) This is optional	$-\frac{3}{2}$
((OPTION_D)) This is optional	$\frac{3}{4}$
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	B
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x^2-3x+2$ defined in $[-1,\ 2]$ such that $f(-1)=6,\ f(2)=0$, then according to Lagrange's mean value theorem, $c=$

((OPTION_A)) THIS IS MANDATORY OPTION	$\frac{1}{2}$
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	1
((OPTION_C)) This is optional	$\frac{3}{2}$
((OPTION_D)) This is optional	2
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	A
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER	If $f(x)=x^2$, $g(x)=x^3$ defined in $[0,\ 1]$ such that $f(0)=0,\ f(1)=1,\ g(0)=0,\ g(1)=1$, then according to Cauchy's

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CONTENT. QTN CAN HAVE IMAGES ALSO	mean value theorem, $\frac{f'(c)}{g'(c)} =$
((OPTION_A)) THIS IS MANDATORY OPTION	0
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	1
((OPTION_C)) This is optional	-1
((OPTION_D)) This is optional	2
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	B
((EXPLANATION)) This is also optional	

((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2	1

OR 3 UPTO 10)	
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=x^2+1,\ g(x)=x^3+1$ defined in $[0,\ 1]$ such that $f(0)=1,\ f(1)=2,\ g(0)=1,\ g(1)=2$, then according to Cauchy's mean value theorem, $\frac{f'(c)}{g'(c)}=$
((OPTION_A)) THIS IS MANDATORY OPTION	0
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	1
((OPTION_C)) This is optional	2
((OPTION_D)) This is optional	0.5
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	B
((EXPLANATION)) This is also optional	

((MARKS))	1

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QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=2x^2$, $g(x)=3x^3$ defined in $[0,\ 1]$ such that $f(0)=0,\ f(1)=2,\ g(0)=0,\ g(1)=3$, then according to Cauchy's mean value theorem, $\frac{f'(c)}{g'(c)}=$
((OPTION_A)) THIS IS MANDATORY OPTION	$\frac{2}{3}$
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	$\frac{3}{2}$
((OPTION_C)) This is optional	$-\frac{2}{3}$
((OPTION_D)) This is optional	$-\frac{3}{2}$
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	A
((EXPLANATION)) This is also optional	

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((MARKS)) QUESTION IS OF HOW MANY MARKS? (1 OR 2 OR 3 UPTO 10)	1
((QUESTION)) ENTER CONTENT. QTN CAN HAVE IMAGES ALSO	If $f(x)=3x^2,\ \ g(x)=4x^3$ defined in $[0,\ 1]$ such that $f(0)=0,\ \ f(1)=3,\ \ g(0)=0,\ \ g(1)=4$, then according to Cauchy's mean value theorem, $\frac{f'(c)}{g'(c)}=$
((OPTION_A)) THIS IS MANDATORY OPTION	0
((OPTION_B)) THIS IS ALSO MANDATORY OPTION	0.5
((OPTION_C)) This is optional	0.75
((OPTION_D)) This is optional	1
((OPTION_E)) This is optional. If optional keep empty so that system will skip this option	
((CORRECT_CHOICE)) Either A or B or C or D or E	C
((EXPLANATION)) This is also optional	