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English -

(7/11) 64%

Quiz 3 (conceptual questions)

10 questions | 11 participated

1.]	To which	ones of the	following	is Euler a	ssociated? (Multiple	Choice) *
------	----------	-------------	-----------	------------	--------------	----------	-----------

11/11 (100%)	answ	ered			

Necessary condition that serves as the differential equation \

The concept of variation (3/11) 27%

Variational derivative (10/11) 91%

Sufficient condition for calculus of variations problems (1/11) 9%

2. Functions that serve as state variables should belong to... (Multiple Choice) *

11/11 (100%) answered

Sobolev space (8/11) 73%

Banach space (4/11) 36%

Hardy space (0/11) 0%

C1 (space of differentiable functions) (4/11) 36%

3. Functions that serve as the optimization variables should belong to... (Multiple Choice) *

11/11 (100%) answered



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Sobolev space	(2/11) 18%
CO (continuous functions)	(4/11) 36%
C1 (differentiable functions)	(0/11) 0%
4. Is norm of a vector space a functional? (Single Choice) *	
11/11 (100%) answered	
Yes	(11/11) 100%
No	(0/11) 0%
May be	(0/11) 0%
Never	(0/11) 0%
5. Which one of the following is a vector space? (Multiple Choice) *	
11/11 (100%) answered	
Sobolev space 🗸	(10/11) 91%
Banach space 🗸	(9/11) 82%
Lebegue space	(8/11) 73%
Hilbert space	(10/11) 91%

6. Which one of the two is a stronger than the other: Gateaux variation and Frechet differential? (Single Choice) *

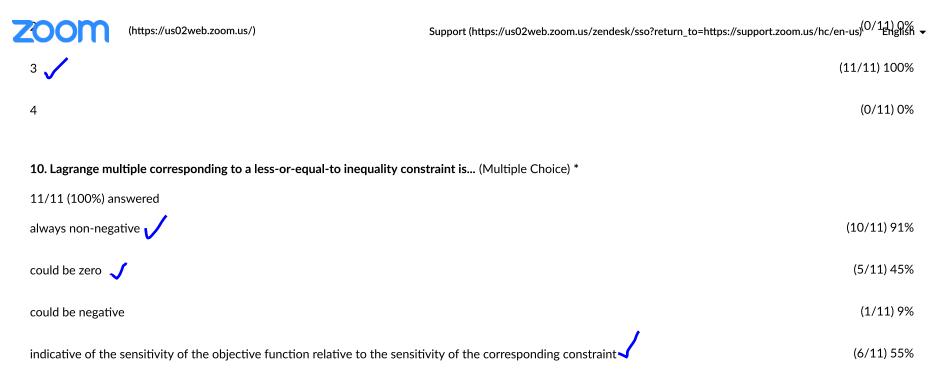
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11/11 (100%) answered

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Tar: up a la jon (hetso/) (see then best differential	Support (https://us02web.zoom.us/zendesk/sso?return_to=https://support.zoom.us/hc/en-us/ + 18% →
Frechet differential is stronger than Gateaux variation	(9/11) 82%
Cannot be concluded from their definitions	(0/11) 0%
7. Which one of these equivalent to virtual displacement? (Multiple Choice	ce) *
11/11 (100%) answered	
Variation of the displacement \checkmark	(9/11) 82%
Weak variable corresponding to the displacement (as in the finite element	method) (10/11) 91%
Lagrange multiplier corresponding to the governing differential equation	√ (2/11) 18%
The inverse function of the displacement	(0/11) 0%
8. Which ones of the following are equivalent? (Multiple Choice) *	
11/11 (100%) answered	
Newton's second law 🗸	(10/11) 91%
Hamilton's principle	(9/11) 82%
D'Alembert's principle	(9/11) 82%
Maxwell's reciprocity theorem	(0/11) 0%
9. A vertex in 3D trusses has this many degrees of freedom. (Single Choice	ce) *
11/11 (100%) answered	
1	(0/11)

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