


Question 2

Not yet answered

Marked out of 2.00

 Flag question

What allowance for linear expansion must be made for a pipe made from copper that handles coolants and must undergo temperature changes.

Copper pipe length= 137 m Temperature difference= 217 °C


Answer:

Choose... 

Question 3

Not yet answered

Marked out of 2.00

 Flag question

Find the thickness of the material that will allow heat transfer of 6706.8×10^6 kcal during the 5 months through the rectangle heater made from copper whose dimensions are 450 cm by 518 cm. Outside and inside temperature are 30°C and 50°C respectively.


Answer:

Choose... 

Question 4

Not yet answered

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 Flag question

Find the specific heat capacity of 20.1 Kg of UNKNOWN material if the energy required to raise its temperature by 150°C is 293912.5 calories.


Answer:

Choose... 

Question **5**

Not yet answered

Marked out of 1.00

 Flag question

Looking at the value of the previous question
the unknown material will be:

Select one:


a. Nonmetal

b. Metal

Question 6

Not yet answered

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 Flag question

As a process engineer, you are asked to design a heat exchanger made of Brass pipe of length 115 m to carry hot and cold fluids from one heat exchanger to the other. While designing it you have to make consideration for expansion or contraction of the pipe. If the diameter of the pipe is 4.5 cm and the maximum temperature differential that can be expected in the pipe is **34** °C. Calculate how much will be the linear expansion of the pipe after the temperature changes.


Answer:

Choose... 

Question 7

Not yet answered

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 Flag question

Calculate the resistance of a aluminium wire of length 304 km and diameter 5 cm.


Answer:

Ohm.m Ohm

Question 8

Not yet answered

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 Flag question

Find the thermal conductivity of a material used to manufacture a cover of a radius of 264.5 cm and 80 mm thickness for cylindrical barrel, that will allow heat transfer of 1162123200000 J, during period of 1 week, while it will undergo the temperature change from 150° C to 115 ° C.


Answer:

Choose... 

Question 9

Not yet answered

Marked out of 1.00

 Flag question

Depending on the answer from the previous question select correct answer on the following question.

Choose...




is the name of the material that was use to manufacturer the cylindrical barrel cover.

Question 10

Not yet answered

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 Flag question

A light alloy specimen has a diameter of 11 mm and a gauge length of 12 cm. When tested in tension, the load extension graph proved linear up to a load of 7 kN. Find the stress.


Answer:

Pa MPa GPa

Question **11**

Not yet answered

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 Flag question

Find the % change in the length of the steel wire of cross section area of 6.5 mm^2 , on which is hanging the object of the mass 208 kg.


Answer:

%

Question **12**

Not yet answered

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 Flag question

What would be the minimum diameter in mm of alloy wireline cable of tensile strength 765.2 MPa in order to support a load of 76.9 KN?


Answer:

Choose... 

Question 13

Not yet answered

Marked out of 2.00

 Flag question

Consider a wooden bar of 6 meters long and with following dimensions 14 cm in height and 10 cm in width. It is subjected to a pulling force of 4084 KN. As a result change in length of the wood is 10 cm. Find the Young's modulus of elasticity of the wood.


Answer:

Pa MPa GPa

Question **14**

Not yet answered

Marked out of 1.00

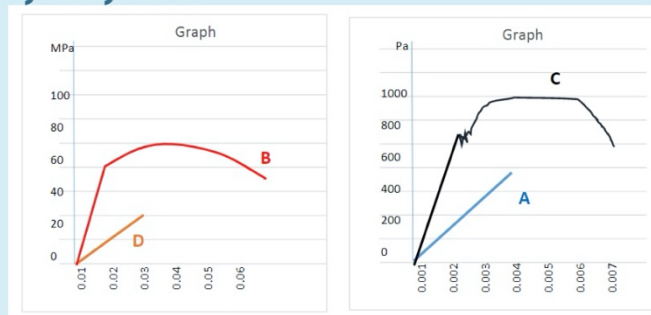
 Flag question

A large crane has a steel lifting cable diameter of 41.8 mm. The unstretched length of the cable is 42.1 m. Find the extension of the cable in mm when the crane is used to lift 72 KN.

Answer:

Choose... 

Answer the questions by looking at the stress and strain diagram presented below, for 4 different materials A, B, C, D.

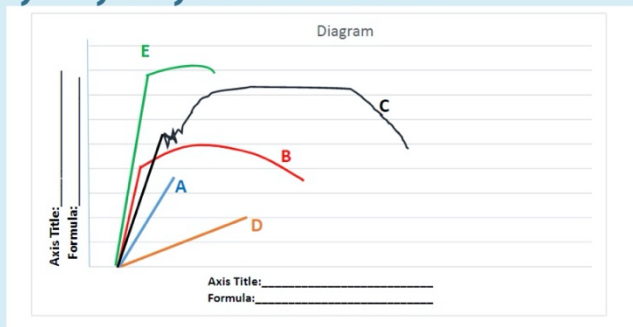


Rich text editor toolbar with icons for: bold, italic, text color, background color, bulleted list, numbered list, link, unlink, redo, undo, and insert image.

1. Which material is more rigid A or D, explain your answer? (1 mark)

2. Which material is more strong B or C, explain your answer? (1 mark)

Answer the questions by looking at the stress and strain diagram presented below, for five different materials A, B, C, D and E.



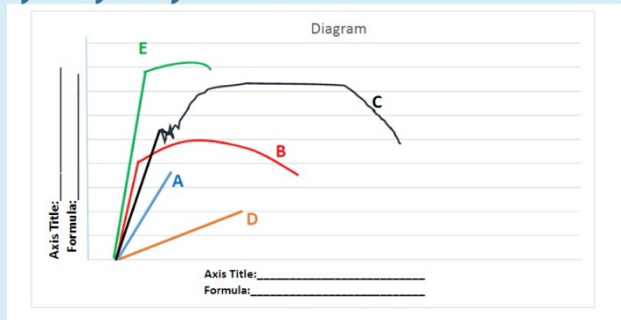
Rich text editor toolbar with icons for bold, italic, text color, background color, bulleted list, numbered list, link, unlink, and image insert.

1. Write the letter from the graph that represents brittle materials. (1 mark)

2. Write the letter from the graph that represents ductile materials. (1.5 marks)

3. Which material has the highest strength? (0.5 mark)

questions by looking at the stress and strain diagram presented below, for five different materials A, B, C, D and E.



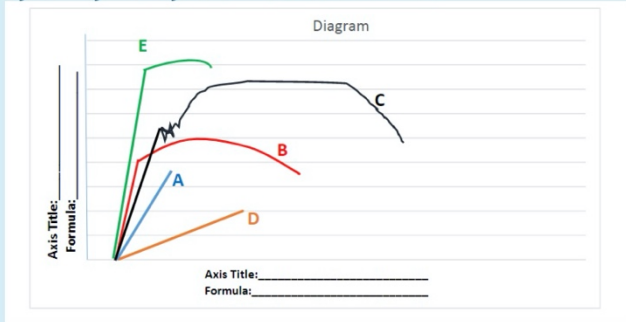
Rich text editor toolbar with icons for bold, italic, text color, background color, bulleted list, numbered list, link, unlink, and image insert.

4. Which material has the highest ductility?
(0.5 mark)

5. Which material is the toughest? (0.5 mark)

6. Write the letter of the material which is most rigid. (0.5 mark)

questions by looking at the stress and strain diagram presented below, for five different materials A, B, C, D and E.



Rich text editor toolbar with icons for bold, italic, text color, background color, bulleted list, numbered list, link, unlink, and insert image.

7. Write the letter of the material which is most flexible. (0.5 mark)

8. What is the X axis stands for and write the formula representing it. (0.5 mark)

9. What is the Y axis stands for and write the formula representing it. (0.5 mark)
