

QUESTIONS AND ANSWERS

SMART MATERIALS

PART ONE

This mobile revision pdf is based on detailed work found in the 'MATERIALS' and 'EQUIPMENT' sections.

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Tap the blue button to view all work covered by this Revision PDF



QUESTIONS AND ANSWERS

SMART MATERIALS

PART ONE

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HOW TO USE THIS REVISION PDF

Read and attempt answering each question, before following the link to a potential answer. Also, consider working in pairs.

QUESTIONS ONE TO FIVE

QUESTIONS SIX TO TEN

QUESTIONS ELEVEN TO FIFTEEN

**TAP / CLICK THE LINK
BUTTON FOR ALL
MOBILE APPS**



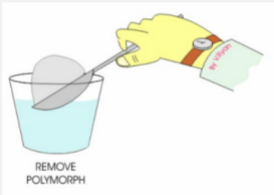
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QUESTION 1a

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**What is polymorph?
How is it prepared for use?**

Tap the image a potential answer



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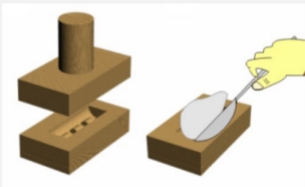


QUESTION 1b

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Describe how a mould can be used to shape and form polymorph.

Tap the image a potential answer



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QUESTION 2a

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**What is an alternative name for Shape Memory Alloy?
It is composed of two metals,
what are they?**

Tap the image a potential answer



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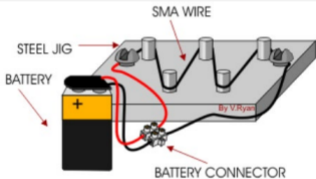


QUESTION 2b

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How is SMA programmed?

Tap the image a potential answer



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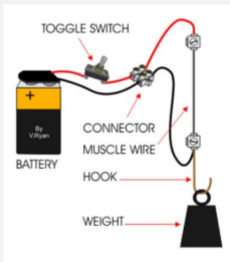


QUESTION 2c

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**How does muscle wire work?
Include a practical
application.**

Tap the image for a potential answer



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QUESTION 3

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**What are hydrochromic Inks?
Include a practical example.**

Tap the image for a potential answer



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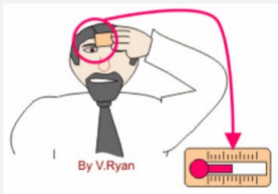


QUESTION 4a

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**What are thermochromic inks?
Include a practical example.**

Tap the image for a potential answer



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Tap the red button to return to the
Contents page



QUESTION 4b

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Describe a second practical application of thermochromic inks.

Tap the image for a potential answer



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QUESTION 5a

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Photochromic inks have a special property. What is it?

Tap the image for a potential answer



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Tap the red button to return to the Contents page



QUESTION 5b

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Describe a practical application of photochromic inks.

Tap the image for a potential answer



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QUESTION 6a

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What is a Hydromorphic Polymer?

Describe a practical application.

Tap the image for a potential answer



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QUESTION 6b

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Describe a second practical application of hydromorphic polymers.

Tap the image for a potential answer



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QUESTION 7

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Describe how Hydrocarbon Encapsulating Polymers can be useful.

Tap the image for a potential answer



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QUESTION 8a

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How could Aroma Pigments be applied to a greetings card, such as a Christmas card?

Tap the image for a potential answer



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QUESTION 8b

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Describe two more practical applications of aroma pigments.

Tap the image for a potential answer



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QUESTION 9

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This watch has a Phosphorescent Pigment applied to it.

Why?

Tap the image for a potential answer



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QUESTION 10

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Why are Phosphorescent pigments useful for signs, such as road signs?

Tap the image for a potential answer



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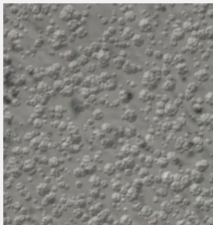


QUESTION 11

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Briefly, what are Self-Healing Materials?

Tap the image for a potential answer



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QUESTION 12

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How does a self-healing polymer help prevent corrosion / rust?

Tap the image for a potential answer



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QUESTION 13

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**What is self-healing concrete?
How does it work?**

Tap the image for a potential answer



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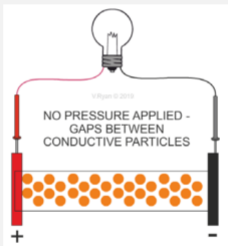


QUESTION 14

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Quantum Tunnelling Composite
has a special property.
What is it?

Tap the image for a potential answer



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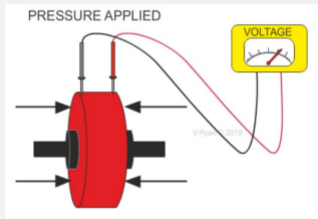


QUESTION 15

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**What are the properties of Piezoelectric Materials?
Include a practical application.**

Tap the image for a potential answer



Tap the red button to return to the
Contents page

