

Revision questions for NGC2 element 8

As well as covering the NGC2/8 subject areas - noise, vibration, radiation, stress - these revision questions and answers also address a couple of other areas which, although not specifically mentioned in NGC2/8, can be said to have only been fully addressed once all thirteen syllabus elements have been completed, namely ergonomics and ppe / rpe. We also ask a few questions on the thermal environment, a subject which appears in the syllabus in element NGC2/1 but belongs naturally with the other physical agents of NGC2/8

You will recall that, in the NGC2/1 questions, we asked you to bring together the various 'ergonomics' threads to be found running through the syllabus; here, at the end of your studies of the eight elements in NGC2 is the question again - you may wish to review your earlier response.

Question 1 Provide a focus on 'ergonomics' and make a few notes for the following syllabus elements (and any others you care to add). Some of the subject areas are very obviously 'ergonomic', for example display screen equipment. Others may not appear to have immediate ergonomic implications, but there will be, in every case.

- NGC2/2, 3, 4 PUWER
- NGC2/2 and 3 safeguarding of machinery
- NGC2/3 manual handling
- NGC1/4 confined spaces
- NGC2/6 fire fighting equipment
- NGC2/7 air monitoring of dusts, gases and vapours
- NGC2/7 control of exposure to hazardous substances
- NGC2/1–8 personal protective equipment
- NGC2/8 musculoskeletal disorders
- NGC2/1, 8 display screen equipment
- NGC2/1 welfare factors in health and safety
- NGC1/4, NGC1/5 and NGC2/7 safe place and safe person concepts

Question 2 Two noise sources independently give a sound pressure level of 92 dB, what will be the overall sound pressure level if they operate at the same time?

Question 3 Briefly outline the response of the 'normal' (ie young and undamaged) ear to different frequencies of sound. Briefly explain how this response will change with ageing; typically, what might be the effects of noise damage on the ear's response?

Question 4 Isolation, insulation, absorption, damping, silencing - the engineering noise control terms that NEBOSH require you to be able to explain and illustrate with examples; several times in the last ten years, this has formed the basis of a Certificate question. Accordingly, provide explanations and examples for each of these terms.

Question 5 Using examples of your own choosing, explain how different noise sources can have very different noise characteristics (sometimes called noise 'profile'). As a challenge, you might like to extend your answer to encompass the sorts of noise control measures that might be appropriate for the different noise profiles that you have identified.



Question 6 Outline the two main types of personal hearing protection together with their advantages and disadvantages.

Question 7 Personal hearing protection is of course the last option in the hierarchy of control of noise - outline the steps that should be taken before deciding on this option.

Please make sure that you have also attempted the sample noise questions given at the end of the noise part of the NGC2/8 book.

Question 8 Outline typical uses of the following members of the electromagnetic family of radiations

- radiowaves
- microwaves
- infra-red
- lasers
- ultraviolet
- X-rays and gamma-rays (γ -rays)

Question 9 Give one or two uses for alpha (α) and beta (β) radiation sources.

Question 10 Explain, in terms of the human body, the significance of the process of ionisation.

Question 11 outline the meaning of the terms:

- somatic effects
- genetic effects

Question 12 ... probably more than you will need for your Certificate examination, but as part of your general knowledge ... outline the three main requirements of The Ionising Radiations Regulations 1999.

Make sure that you have also attempted the questions which we asked at the end of the ionising and non-ionising radiation section of NGC2/8

And now some ppe / rpe questions. As you'll recall, we introduced ppe in NGC1/4 and we have returned to it on many occasions in other elements.

Question 13 Present the case for personal protective equipment in a positive way (ie don't use phrases such as 'in the last resort', 'the last option in the hierarchy of control ...' and so on).

Question 14 What are the main requirements of The Personal Protective Equipment at Work Regulations 1992?

Question 15 Provide 10–15 examples of the use of different types of ppe to protect different parts of the body and the body as a whole.

Question 16 Identify some hazards which may be created by the use of ppe.

Question 17 There are hundreds of different types of rpe but they can all be classified as being in one (or occasionally both) of two main categories - what are these?

Question 18 Under what circumstances do you think it will be necessary to use air-supplied rpe devices?



And now for four more thermal environment questions - remember that in 'syllabus 2010', thermal environment appears in NGC2/1

Question 19 We have asked this before in your study material ... Make a list of some possible 'heat-in' and 'heat-out' mechanisms for the human body - some mechanisms can act in both directions, some one way only.

Question 20 Outline some illnesses associated with heat.

Question 21 Outline some illnesses associated with exposure to cold.

Question 22 In addition to climatic conditions, outline some other factors which might be of importance in determining the level of heat stress on an individual.

And finally ...

Question 23 As regards stress and violence, the crucial sentence in our study material was the one which said:

The examiners will be looking to see that you are able to propose general approaches to the identification and control of stress and violence workplace hazards alongside the identification and control of all other workplace hazards.

As a reminder of the points we made in the study material, make a few notes on the identification and control of hazards in relation to the following elements in the syllabus:

NGC1/2 Health and safety management systems - Policy

NGC1/4 Health and safety management systems - Planning

NGC1/5 Health and safety management systems - Measuring, audit and review

