NEBOSH CONSTRUCTION CERTIFICATE



NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 1

Name:

Date Submitted:

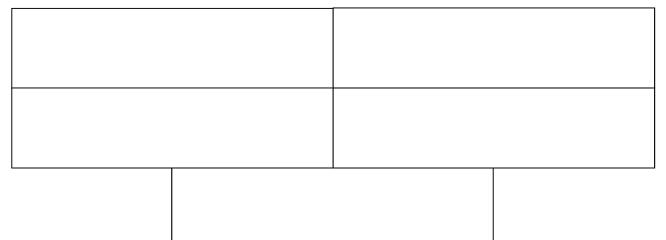
Element 1 – Construction Law

1. Name the four main parties involved in CDM giving three responsibilities for each party.

2. When does a construction project become reportable under CDM?

3. Give eight items which would be included in a pre-construction information pack on a project which involves an extension to an existing three storey office block on a busy industrial estate. 4. Identify the typical contents of a health and safety file produced after the completion of a newly built hospital.

5. Identify five different records which could be reviewed when assessing the health and safety competence of a sub-contractor.



6. Outline the legal requirements relevant to construction employers under HASAWA 1974 to their employees and others.

7. Give the main pieces of information which must be included on the form F10 and who is responsible for completing this form.

8. Are the following statements true or false?

- A. Lighting must be provided to enable all tasks to be completed safely.
- B. The Construction Design and Management Regulations 2015 give details on the welfare facilities which must be provided on site.
- C. Segregation of people and vehicles should be the first option to reduce the risks where vehicles are in the workplace.
- D. The HSE publishes a guidance note on excavation safety
- E. The safety file is provided to contractors at the beginning of a project
- F. All construction projects involving 20 people or more must be notified to the HSE
- G. Construction sites are covered by the Workplace (Health, Safety and Welfare) Regulations
- H. Employers have a common law duty to provide a safe place of work.
- I. Excavation work includes earthwork, trench digging and working in tunnels
- J. A structure includes only structures built of masonry.
- K. All construction projects involving more than one contractor are notifiable
- L. CDM 2015 has a new role given to the CDM Co-ordinator
- M. The F10 must be completed for all construction related projects
- N. Construction work involves work on structures which includes buildings, towers, bridges and electricity pylons
- O. Projects which involve more than one contractor must have a principal contractor appointed by the client
- P. CDM 2015 does not apply to domestic projects
- Q. Construction H&S standards are enforced by the local authority environmental health officer
- R. The principal designer should manage the early communication and ensure the design incorporates the principles of prevention.
- S. The construction phase plan must be in place before construction work starts.
- T. The principal contractor is responsible for setting site rules and providing induction training.
- U. CDM 2015 requires construction risk assessments to be undertaken
- V. Companies can be sued for not complying with CDM
- W. All information provide under CDM 2015 must be comprehensible
- X. Construction sites have H&S standards enforced by local authorities
- Y. All demolition work must be notified to the HSE

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NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 2

Name:

Date Submitted:

Element 2 – Construction Site Hazards

1. Give three reasons why slips and trips may occur on construction sites.

2. Outline four welfare requirements from the Construction Design and Management Regulations 2015 including ways in which these could be met by an employer.

3. Working outside in cold and hot weather conditions may cause a range of ill health effects. In the first four boxes identify four possible temperature related ill health effects which could be encountered by the workers. In the second set of boxes state up to eight typical control measures which could enable this type of work to be completed safely.

N		

4. Identify six factors which will need to be considered prior to starting work on a brown field site which is to be developed into a new leisure park.

5. Outline six controls which a construction site manager could implement to reduce the risk of children trespassing on a construction site that he is responsible for.

6. Outline the controls which could be used to reduce the risk of verbal abuse and violence to construction workers working on an inner city project.

7. Give five typical contents of a company policy on managing the risk of alcohol and substance abuse at work.

8. True or False

- 1. Mandatory signs are blue in colour and triangular in shape
- 2. Asbestos may contaminate land and needs to be considered before construction work starts on site
- 3. Public rights of way can be blocked off when construction work starts on site
- 4. If there is a hazard and risk which cannot be eliminated signage may need to be displayed
- 5. If children gain entry to a construction site they do so at their own risk, their parents may not be able to sue if they get injured.
- 6. Every site must have at least one first kit
- 7. The number of workers on site will determine how many first aiders are needed
- 8. First aid boxes are red with a white sign
- 9. Warning signs are triangular and green in colour
- 10. Signage should use pictograms where possible

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NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 3

Name:

Date Submitted:

Element 3 - Transport

1. Outline the features of a well-designed and maintained traffic management system on a busy construction site. (8)

2. As part of a mains drainage project on a public highway with a speed limit of 40mph it will be necessary to leave the trench open for several days. Temporary traffic lights will be used during these works. The depth of the excavation will not exceed 1.2m. Permission for the works to be carried out has been obtained from the Highways Authority: Outline the traffic control measures that would be required in order to ensure compliance with the requirements of the New Roads and Street Act 1991 (8)

3. Approximately one quarter of all accidents on construction sites are associated with plant, machinery and vehicles. Outline possible control measures which may prevent such accidents. (8)

4. Outline eight factors could increase the risk of a mobile crane driver having a motor vehicle accident on the public highway.

5. Identify four issues which a company policy of safe driving might cover.

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NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 4

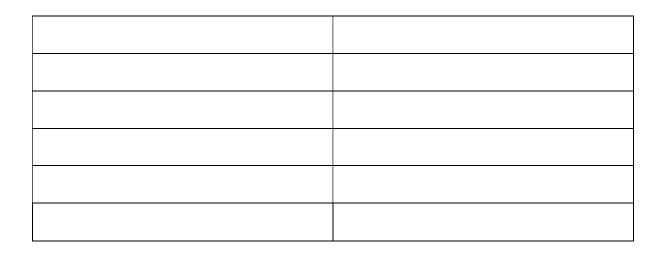
Name:

Date Submitted:

Element 4 – Musculoskeletal hazards and risk control

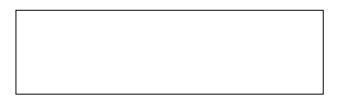
1. Define the term manual handling.

2. A rolled steel joist (RSJ) is to be used in the support of the second floor of a town house that is being refurbished. The layout of the house and the arrangements of the supports are such that mechanical means cannot be used to move them to their final position. Outline twelve factors that would need to be considered when undertaking a MH assessment of this task.



3. Give three pieces of manually operated equipment which could be used to reduce the risk of MH injuries on a construction site.

4. Give four issues which must be considered before a MEWP, such as the one depicted below, is put in to use on site.





5. When must a crane be thoroughly examined?

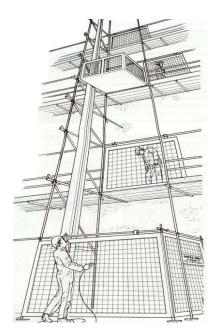
6. Describe four defects that might be identified in a wire rope sling during a routine inspection prior to use.

7. Identify four factors which may have contributed to this crane overturning.



8. An audit by Senior Management on lifting operations identified that lifts were not planned, defective accessories were being used during lifting and the statutory testing of lifting equipment had not been carried out. **Outline** the issues that could be included in a lifting plan.

9. Identify six control measures which could reduce the risk of accidents involving goods hoists on site.

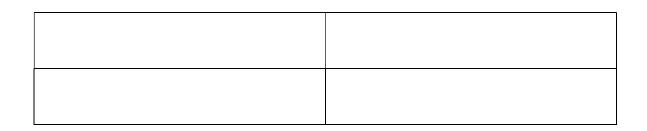


10. Concrete blocks are to be moved by hand on a construction site. Outline the key issues to be addressed during a risk assessment of this activity.

11. Outline the factors relating to workstations which could contribute to ill health effects in regular computer users.

12. Identify the minimum standards which DSE workstations should meet under the DSE Regulations.

- 13. Define the term work related upper limb disorder.
- 14. Identify the factors which could increase the risk of WRULD(s) occurring in brick layers.



15. True or false?

- A. Hoists should be fitted with over run devices
- B. The MH Regulations give a maximum weight limit for loads.
- C. Every FLT must be marked with its SWL
- D. LOLER and PUWER both cover equipment used to lift people and loads.
- E. Where people are lifted by MEWPs or FLTs, there needs to be a close boarded platform and two guard rails to prevent the risk of falls.
- F. Manual handling only involves lifting heavy objects
- G. Tenosynovitis is an example of a repetitive strain injury
- H. All lifting tackle must be inspected every 6 months.
- I. Records of thorough examinations of all lifting equipment must be recorded
- J. The manual handling risks associated with the TASK include the frequency, duration, speed, repetition, distance of travel and hazardous body movements such as twisting and stooping
- K. CDM covers manual handling on site
- L. Mechanical lifting equipment which lifts people must be thoroughly examined at least every 6 months

NEBOSH CONSTRUCTION CERTIFICATE



NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 5

Name:

Date Submitted:

Element 5 – Work Equipment

1. Define the term work equipment giving two examples which might be used on a construction site.

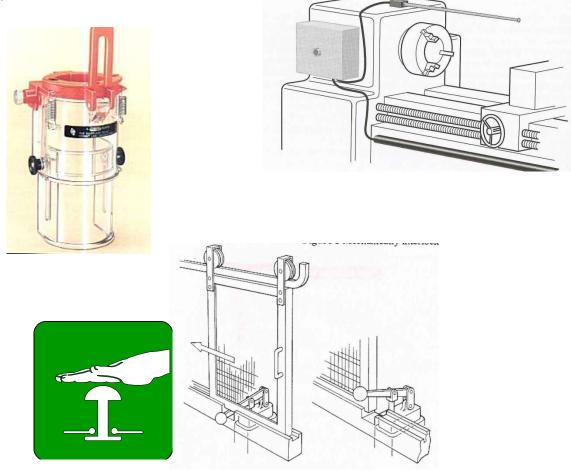
2. Identify six hazards associated with the use of the excavator depicted below



3. Give six hazards associated with the use of a pedestrian operated plate compactor being used on the highway.

4. Sketch and label diagrams showing the following mechanical hazards: Drawing in, Shearing, Cutting and Crushing.

5. Identify the four types of guards and safety devices shown in the following pictures.



6. A petrol-driven cement mixer is to be used on a site. **Describe six** control measures which will enable an operative to use the mixer safely.



7. Identify four hazards associated with this circular saw and eight control measures designed to reduce the risks involved.

8. Give four hazards and their corresponding risks associated with this sander.



9. Indicate if the following statements are true or false.

- A. Ejected particles are classified as a mechanical hazard.
- B. The PUWER hierarchy of control starts with Eliminate.
- C. Interlocks can be mechanical, electric or magnetic.
- D. Guarding can also reduce the risk from non-mechanical hazards e.g. noise or heat.
- E. Fixed guards must not have any moving parts.
- F. A trip guard stops the machine when the danger area is entered.
- G. A hold to run device (dead man's handle) can be used to improve equipment safety as when it is released the power to the equipment is stopped.
- H. Once a trip device is activated the machine should not restart until it is reset.
- I. Emergency stops should be red and mushroom shaped.
- J. Manufacturers must provide user manuals in the language of the user.
- K. HASAWA section 5 covers the responsibility of importers, manufacturers and suppliers of machinery.
- L. BS EN ISO 12100 covers machinery safety and guarding.
- M. The main stages of obtaining CE marking are identifying essential safety requirements, producing a technical file and then the CE mark can be affixed.

N. NEBOSH O. CONSTRUCTION CERTIFICATE P.



NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 6

Name:

Date Submitted:

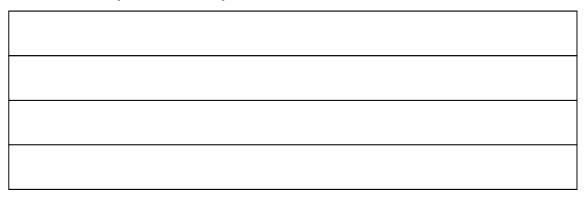
Element 6 – Electricity

1. Explain difference between current, voltage and resistance

2. Identify the relationship between the three factors.

3. Outline four injuries which could result from an electric shock

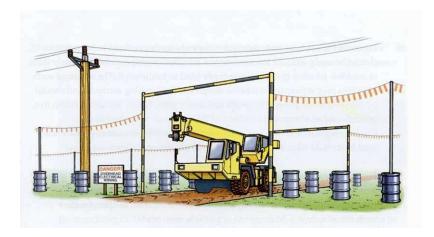
4. You have just discovered someone who looks like they have received an electric shock from a mains cable. Outline the first aid procedures which should be followed to ensure their and your own safety.



5. Explain how the following technical solutions can reduce the risks of electrical accidents.

Fuse
RCD
Earthing
Double insulation
110V centre tapped earth

6. Using the diagram below, identify the control measures which can be taken to reduce the risks when working near overhead high voltage cables.



7. What is depicted in the image below and what is its primary use?





8. Indicate if the following statements are true or false.

- A. A fuse protects users from electric shock.
- B. Electricity is a major cause of fires in the home.
- C. An RCD monitors for earth leakage.
- D. There is a legal requirement on employers to carry out PAT testing.
- E. HSG107 suggest that all portable appliances should be visually inspected prior to use.
- F. Obtaining plans and drawings is essential when excavating near buried services.
- G. Electricity can arc through the air.
- H. Standing on a rubber mat prevents the flow of electricity to earth and can prevent a person suffering an electric shock.
- I. Electricity is a physical hazard.
- J. Amps is the measure of the current flowing through an electric circuit.
- K. 110V centre tapped earth electrical equipment reduce the risk because the maximum voltage which someone can come into contact with is 55v
- L. Double insulated tools can be used on site
- M. Earthing provides a quick easy route for electricity to flow away in a fault situation.

9. Fill in the blanks in the table from HSG 141

Equipment	User Check	Formal Inspections	Combined
Hire	No	Before/after	
Construction 110V			
Office equipment	No		No
Hand held double insulated eqt Class II			no
Cables and extension leads		3 months	
Class I earthed eqpt i.e. kettles	Yes		1 – 2 years

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NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 7

Name:

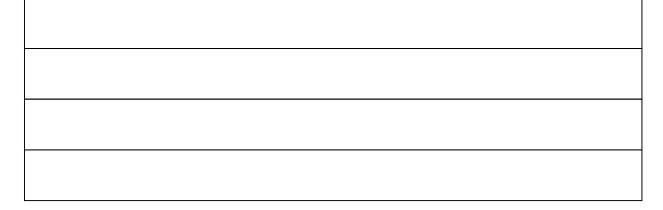
Date Submitted:

Element 7 – Fire

1. With the aid of a sketch outline the four ways in which heat and fire can spread within a partially completed new building.

2. Explain the meaning of the term 'means of escape'.

3. What factors would determine if the 'means of escape' on a construction site was satisfactory.



4. Fill in the gaps

Class of Fire	Example of	Suitable	Any problems or
	materials involved	extinguisher	disadvantages
A			
В			
С			

D		
F		
Electrical	Electrical	
	equipment &	
	cabling	
Vehicles	Fuel, flammable	
	metals, foam and	
	plastics	

5. The picture below shows an employee welding - Identify six hazards and their associated risks.



6. Why might a permit to work system need to be established to reduce the risk from hot work such as welding?

7. Give eight ways in which the risks to welders may be minimised.

8. Outline the main precautions to ensure that LPG tanks on a construction site do not create a fire and explosion risk.

9. Outline the main stages of a fire risk assessment, giving fire related issues which would be considered at each stage.

- 10. Indicate if the following statements are true or false.
 - A. A fire door is a fire prevention method.
 - B. All fires are started by naked flames.
 - C. Removing the fuel is one method which can be used to extinguish a fire.
 - D. Fire mitigation measures are required to minimise the spread of a fire.
 - E. Fire alarms must be tested regularly.
 - F. The Dangerous Substances and Explosive Atmospheres Regulations require risk assessments to be completed where there are flammable gases or explosive dusts.
 - G. Fire can be a hazard and a risk.
 - H. A fire presents a risk of asphyxiation and burns if it comes in contact with an individual.
 - I. The Regulatory Fire Reform order requires all employers to complete fire risk assessments on construction sites.
 - J. Flammable and explosive substances are covered by COSHH.
 - κ. A fire extinguisher is a fire protection measure.
 - L. CDM 2015 sets standards for fire precautions on construction sites and temporary structures
 - M. Fire drills enable fire wardens to practice their duties.
 - N. Intumescent coatings protect buildings and structures from fire.
 - O. The fire risk assessment must be recorded if there are more than 5 employees on site
 - P. Eliminating sources of fire in the workplace should be the first consideration.
 - Q. CDM requires construction sites to ensure they have emergency procedures to prevent and mitigate the effects of fire and floods.
 - R. Fire risk assessments require the identification of heat sources and fuel supplies which could increase the risk.
 - S. Conduction is a method of heat spread where the heat rises up through open voids
 - T. Storage compounds for LPG should be outside, protected from sunlight and well ventilated
 - U. Shouting "Fire" is an acceptable method of sounding the alarm on large construction sites

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NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 8

Name:

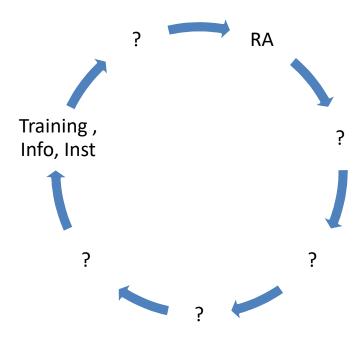
Date Submitted:

Email Address:

NEBOSH CONSTRUCTION CERTIFICATE (NCC1)

Element 8 – Occupational Health, Chemical and Biological Hazards, Environmental Issues

1. Fill in the gaps to show the main requirements of the COSHH Regulations

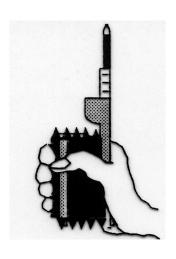


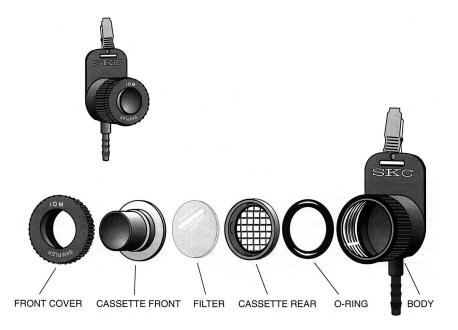
2. Identify the following chemical classifications, look around your workplace and see if you can have an example of a substance for each.



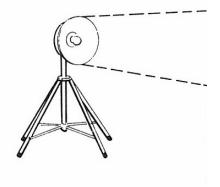
3. Your employer is about to install a new flooring system which has a base layer of epoxy resin. Identify the six essential main factors which must be considered when completing a suitable and sufficient COSHH assessment.

4. Name each device and give the name of a substance each could be used to detect.









5. Draw and label a sketch showing the main components of local exhaust ventilation (LEV).

6. Give the legal requirements for the thorough examination of LEV.

7. Outline four types of PPE required when: a) cutting medium density fibreboard (MDF) using an electric saw in a site workshop and b) cutting up very old painted metal work using gas cutting equipment.

8

Substance	Work activity which may expose construction worker	III Health Effects	Two specific typical control measures
Cement			
Tetanus			
Legionella			
Asbestos fibres			

Isocyanates		

9. Indicate if the following statements are true or false.

- A. WELs are published in EH40.
- B. COSHH covers biological hazards.
- C. WELS are measured in ppm and mgm³
- D. Acute effects are always reversible.
- E. Cement can burn the skin and irritate the lungs.
- F. Asbestos can cause mesothelioma.
- G. Elimination and substitution are the first two controls in the COSHH hierarchy of control.
- H. If a WEL is exceeded it is a breach of COSHH.
- I. Hazardous waste includes fluorescent tubes and soil contaminated with lead waste.
- J. Grunerite is a type of asbestos.K. Lead can be ingested, inhaled and absorbed through the skin.
- L. Blood poisoning, kidney damage and brain damage can be caused by lead.
- M. The symbols and risk phrases used on chemical labels will be changing in the next three vears.
- N. Weils disease leads to leptospirosis.
- O. Immunisations are available for some forms of hepatitis.
- P. Allergic dermatitis is caused by substances which are harmful
- Q. A chronic effects is one which becomes immediately apparent after a single exposure
- R. A target organ is where a substance causes harm
- S. LEV must be examined at least every 12 months
- T. Health surveillance checks can only be undertaken by doctors
- U. Asbestos targets the lungs
- V. Synergistic effects increased the risk of injury
- W. Nasal cancer caused by hard wood dust is a reportable ill health condition
- X. Legionella is associated with stagnant water



NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 19

Name:

Date Submitted:

Element 9 – Physical and psychological health – hazards and control

1. Explain the difference between dB(A) and dB(C).

2. All the following levels are part of the Control of Noise at Work Regulations, explain each one.

80

85

135

137

140

87

3. Explain how the following technical controls work to reduce noise and give a practical example of where each would be applicable.

Silencers

Absorption

Insulation

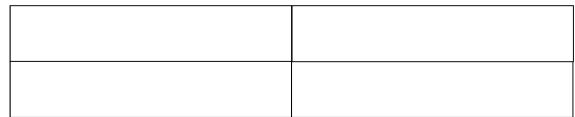
Damping

Isolation

Baffles

4. Outline four factors which may be contributing to stress related ill health in construction workers.

5. CHANGE is one of the HSE Stress Management standards, give the names of four others.



6. Fill in the missing words

Ionising radiation comes in the form of Gamma rays, _____ rays,

______ and ______ particles. Gamma rays can pass straight through solid material, alpha and beta particles can only penetrate minimally into the skin, they present a greater risk when ______ or inhaled into the body. Legal limits on radiation exposure are set in the ______

2017

A ______ worker is an employee who is likely to receive a dose of 1/3 of any dose limit. Every workplace with ionising radiation must have a named and

radiation	
laulauon	

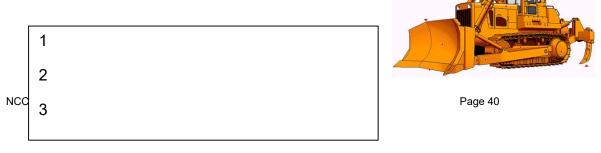
where IR is used must have a ____

responsible for local radiation safety.



7. Identify the symptoms which may be experienced by the above worker due to vibration. Give four examples of technical controls which could be taken to reduce the risks.

8a. As well as bulldozers list construction machines or vehicles which may cause whole body vibration.



8b. Identify four typical ill health effects of whole body vibration.

9. Outline measures which could be taken to reduce whole body vibration from the use of the above bulldozer.

10. Indicate if the following statements are true or false.

- A. Increasing the distance from any radiation source reduces the risk of injury.
- B. Stress is not a reportable injury under RIDDOR.
- C. The tone of sound is measured in hertz.
- D. VWF results from the tiny capillaries in the fingers being damaged by vibration.
- E. Noise induced hearing loss is where the nerves in the inner ear are damaged but they then repair themselves.
- F. Ionising radiation can bring about changes in matter at the atomic level.
- G. Stress may result from home and work pressures.
- H. UV light can cause skin cancer.
- I. F2508 is the form which must be completed if a case of occupational ill health needed to be reported under RIDDOR.
- J. Microwaves and radio waves are examples of ionising radiation.
- K. Legal limits for exposure to hand and whole body vibration are established in UK law.
- L. LASERS can burn and cause fires.
- M. Ionising radiation types are X Rays, Gamma Rays, Alpha & Beta Particles and Radon Gas
- N. dB(A) is a measure of the loudest noise in the workplace



NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 10

Name:

Date Submitted:

Element 10 – Work at Height

1. Draw a labelled sketch of an independent scaffold showing its Standards, Transoms, Sole boards, Base plates and Ledgers and Bracing.

2. Give six of the main requirements of the Work at Height Regulations.

3. Identify three different ways in which independent scaffolding can be tied to a building

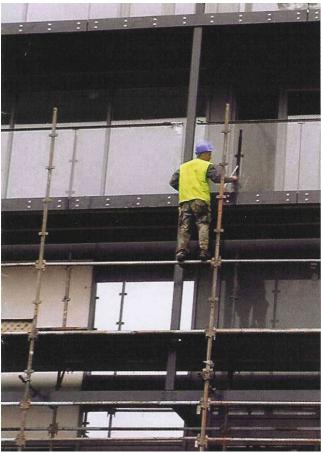


4. If this scaffold tower was used on site why could the visiting HSE inspector serve a prohibition notice?

5. A temporary boatswain's chair is to be used to undertake inspection work on the external façade of a four-storey block of flats – outline the factors to be considered in the installation and use of the chair to reduce the risk to the user and others who may be affected by the work.



6. Identify five hazards associated with the activity pictured along with five control measures to prevent or reduce the risks involved.



7. What could be the implications for an organisation if the above activity was allowed on their site?



NCC1 REVIEW

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NCC1 ELEMENT 11

Name:

Date Submitted:

Element 11 – Excavations

1. Suggest the steps that will need to be taken prior to employees working in or near this excavation.

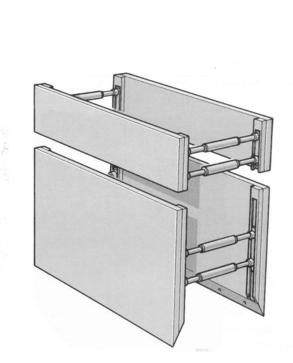


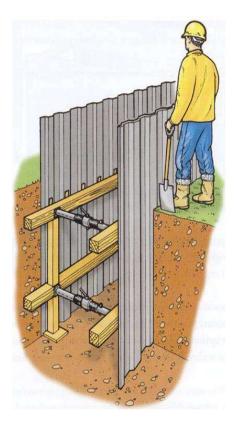
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2. Identify six steps which could be taken to prevent the accident depicted below.



3. What trench protection systems are depicted below?





4. Identify eight issues which would be included in a PTW for entry into a confined space.

5. Define the term confined space and give three examples of confined spaces which may exist on a construction site.



6. What is this? What could it be used to sample?

7. Describe the main hazards that exist, and the precautions which are needed, when excavation work is to be carried out near to an existing building or structure.

8. Give eight requirements of CDM which cover site safety standards.

- 9. Indicate if the following statements are true or false.
 - A. All construction work is covered by the Construction (Design and Management) Regulations.
 - B. Mobile scaffold must not be moved with people on it.
 - C. All construction projects which will last over 30 days must be reported to the HSE.
 - D. Domestic clients now have some duties under the CDM Regulations.

 - E. Scaffolding must be inspected daily and weekly.F. Putlog scaffolding can be used on new builds and does not have inner standards.
 - G. Where mobile scaffolding has brakes and outriggers fitted, they must be used to ensure stability.
 - H. A cable scanner can assist in finding underground services.
 - I. Couplings are used to fix scaffolding to the building.
 - J. CDM covers management standards and specific site safety such as minimising the risk of drowning and collapse of excavations.
 - K. Ladders should only be used for short duration work or as a means of access
 - L. Excavations have to be inspected daily
 - M. Spoil can be left at the edge of the excavation
 - N. Different soil types present a different risk of unexpected collapse
 - O. Trench boxes provide a safe place of work
 - P. Battering is a form of excavation protection which involves using metal sheets driven into the around
 - Q. Backfilling can damage pipes and cables in an excavation
 - R. Rats present a risk of leptospirosis
 - S. Digging too near to an adjacent structure may cause it to collapse
 - T. Standing next to a deep trench is not deemed to be work at height



NCC1 REVIEW

Please complete in hand writing and provide answers in the spaces provided

NCC1 ELEMENT 12

Name:

Date Submitted:

Element 12 – Demolition

1. Identify the hazards and their associated risks which may be encountered when carrying out the demolition task depicted below.



Hazard	Risk
Asbestos	Asbestosis

2. Identify six specific precautions which must be taken to ensure the safe demolition of this structure.

3. What specific requirements of CDM apply to demolition processes?

4. Identify the typical contents of a method statement covering demolition work.

5. What is the difference between demolition and deconstruction?