NEBOSH

UNIT IG1 and IGC1:
MANAGEMENT OF INTERNATIONAL HEALTH AND SAFETY

For: NEBOSH International General Certificate in Occupational Health and Safety NEBOSH International Certificate in Construction Health and Safety NEBOSH International Certificate in Fire Safety and Risk Management

All learner are requested to provide the following information on First page:

- Name of the Examination: Unit code (e.g. IG1)-
- Examination date -
- Surname -
- First name -
- NEBOSH learner number (your learner number can be found on the initial log in detail email) -
- Learning Partner name-
- Learning Partner Number-
- Page numbering and question numbers next to each of your responses. You do not need to copy out the questions.
- Word count (should not exceed 3000)-

Note: Please mention the page number on each page of total page and write your answer as per the sequence given into the Examination paper (this will help the examiner to mark them in the correct order).

Total Marks: 100

Scenario A :

International Group Development (IGD) Company had planned to contract the demolishing activity during the shutdown. This contract was awarded to XYZ Company. The XYZ Company's workers were engaged to demolish redundant oil storage tanks in a tank farm on an oil blending and storage site. A pump house was still in operation in the vicinity of the redundant tanks and the occupier was aware of the fire risk. A method of work was agreed with the XYZ Company which involved cold cutting those parts of the tanks nearest to the pump house and taking them to a safe place on site for hot cutting into smaller pieces. A permit-to-work was not issued and the agreed procedures were not documented.

Site manager, who was overall in charge of work site matters, and site supervisor, who was responsible for safety, work progression and quality were employed by IGD Company. Site manager instructed site supervisor to engage to demolish redundant oil storage tanks in a tank farm on an oil blending and storage site. To do this, a permit-to-work (PTW) had to be issued by Site Manager before any demolition work. Site supervisor checked the license of contractor before carry out this job and did not discuss about Permit to Work System. Site supervisor given green signal to XYZ company to go ahead to demolish the redundant oil storage tank.

The XYZ Company did not follow the agreement and begun hot cutting the tanks close to the pump house. Flammable vapours from the pump house were ignited and the resulting fire caused considerable damage to the plant. Five contractor's workers were taken to hospital suffering from the effects of the fumes.

IGD Company informed to enforcement authority that a permit-to-work had been issued for this job and the agreed work method also was monitored by the IGD Company. There is a pure negligence of contractor who had not followed the permit to work system.

Investigations revealed that several people had signed a backdated permit form after a meeting at IGD Company headquarters a day after this incident. They include workplace Site manager and site supervisor from IGDC. The XYZ Company's supervisor also signed the permit as Permit Holder.

Investigations revealed that this was intended to give the false impression that a PTW was not issued before demolition activity. Investigation agency added that before commencing any demolition activity, Site manager and Site supervisor ought to have applied for the safety permit and ought to have evaluated by safety coordinator and approved by workplace safety and health officer.

"The falsification of PTW was uncovered following separate interviews conducted by Enforcement authority with the five employees involved in the falsification."

"By signing the PTW, the five employees falsely declared that the necessary safety measures were put in place before demolition work began,". These safety measures entailed steps such as briefing workers involved on safe work procedures and ensuring they were wearing the required personal protective equipment. "Not only did they fail to do so, they also wilfully misled to enforcement authority by submitting a falsified PTW form."

After a detailed investigation of incident, five people were fined for falsifying a safety permit after this incident. Site manager, site supervisor, company's director from IGD Company were sentenced to imprisonment and fined. IGD Company's Director was fined for failing in its duties as an employer. XYZ Company's supervisor and director have also been charged for failing in its

duties as an occupier of premises.

After this incident, the IGD Company formed a PTW department to implement and effective monitoring of all high risk activities and you have been appointed as Safety specialist and in-charge of that department.

By reading the above Scenario give the answer of the following Questions:

Task 1: Role of Permit

IGDC Director asked to you what the role of Permit to work system is and why is it a good idea to use a permit-to-work system for some work activities? As a Safety Specialist, prepare the answer for IGDC Director. **(10 marks)**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 2: Implementation of Permit to Work system.

You told to IGDC Director that we must implement the Permit to work control system so that we can prevent the reoccurrences of these types of incident in future. Prepare the notes on what general factors to be consider for developing Permit to Work System? And what do you need to have in place for a permit-to-work system to work in practice? **(10 marks)**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 3: Role and Responsibilities in Permit to Work system.

You are allocating the roles and responsibilities to all concerned for safe and effective execution of Permit to work system, As a Safety Specialist, What roles should be allocated in a permit-to-work system? **(10 Marks)**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 4: How the Permit to Work system look like?

You have developed the written procedure for PTWS and informed to everyone that written procedure will be followed for all high risk activities. As a Safety specialist, what are main elements and contents that should be included on a permit-to-work form? **(10 marks)**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 5: Limitation of Permit to Work system.

IGDC Director asked the Safety specialist that after effective implementation of PTWS, there will not be any such incident. As a Safety Specialist, Explain the limitation of a Permit to Work System. **(10 marks)**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Scenario B:

On March 15, 2018, at approximately 1:45 p.m., a pedestrian bridge under construction in Miami, Florida, collapsed. The bridge at the present stage of construction consisted of a single concrete truss spanning approximately 174 feet and weighing approximately 930 tons. The concrete pedestrian bridge was constructed by ABC Company.

One month before this incident, H&S Inspector informed the susceptibility of bridge strength and informed to Project manager and sent a written report to Project Director also. H&S Safety Inspector stated that he cannot comment on the designing of the bridge but lot of cracks had been developed after drying of cement and site worker had been filled that cracks next day.

The site inspector mentioned in his report that this construction work may be stopped and strengthen the foundation of bridge before restarting the work. During his various inspection report, he mentioned that bridge had some cracks which may be cause of collapse. Project Director had studied the executive summary report of the H&S Inspector and immediately appointed one Internal Auditor to give the independent feedback. This Internal auditor was an Ex- project in-charge of an construction company and was having the vast experience.

This internal auditor visited the site and discussed with H&S Inspector and reassured to Project Director that Inspection report is okay and report is based on the evidence provided by the H&S Inspector. Project director realized to make one more independent opinion from Third party to get more confidence about his project safety. Project Director appointed a Third party Inspection agency which had inspected many Construction projects successfully.

Third party Inspection agency visited the site and discussed with H&S site Inspector, Internal Auditor and he has checked all previous internal inspection & audit reports.

Third party inspection agency checked that previous inspections was done by using a simple checklist methodology and no scope was there to check the complete bridge strength as it was not part of Health and Safety Inspection. It was the competence of H&S inspector who identified the cracks in the bridge.

Third party inspection agency checked that internal audit reports were based on inspection reports and required legal requirements were also not considered during the inspection and audit of this Construction project. And Third party Inspection agency submitted the report to the Project Director. Project Director had deployed a Risk Assessment team which included Project in-charge, Design Manager, Civil Engineer, H&S Inspector and a Bridge construction Technical Expert. This team also visited the under construction bridge site and identified the cracks and instructed to the construction workers to repair the cracks.

Design manager acknowledged that his computations could not replicate the cracks and therefore, he did not know why the cracks were occurring. Civil Engineer suspected the quality of material may be substandard and early drying of cement may also be a reason for developing cracks in the under construction Bridge. H&S Inspector again reiterated these cracks may be indication of risk for all worker's safety at Construction Bridge. Technical expert informed to Risk Assessment team that a detailed analysis should be done on priority to avoid any major failure of this Bridge.

On the morning of the incident, H&S inspector held a meeting with project participants and did his routine inspection of under Construction Bridge.

After this incident, the enforcement agency has taken the legal action against the ABC Company. ABC Company's project director given the evidence that he had applied all best possible monitoring mechanism to identify the Risk and formed a Risk Assessment team to effectively implementing the control measure. As a result of the investigation, Health and Safety Executive (HSE) concluded that that the bridge was in danger of collapsing even before inspection. The ABC Company held responsible for their gross negligence and levied heavy penalties on them.

After this incident you have been appointed as External Auditor for doing the regular Audits at the site and to give critical feedback on all Health and Safety issues & construction activities.

By reading the above Scenario give the answer of the following Questions:

Task 1: Documents to be examined during the Audit and Inspection

As an External Auditor, Project Director advised to prepare a list of documents and handover to him to keep a track of that.
As an Auditor, What are the documentation that is likely to be inspected in a health and Safety audit? **10 Marks**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 2: Purpose of a 'health and safety audit'.

Project Director asked from External Auditor , Explain why and how Audit is used to evaluate a management system. **10 Marks**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 3: Strength and weakness of Audit

The Project Director was unaware the role of Internal and external auditor. For Project Director, explain what are the advantages and limitations of an internal auditor carrying out a health and Safety audit. **10 Marks**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 4: Features of Health and Safety Audit

What are the preparations required before carrying out the audit, during the Audit and after the Audit? **15 Marks**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

Task 5: **Using checklist for inspection and Audit purposes**

Explain to the Project Director what are the advantages and disadvantages of using a checklist to carry out a health and safety inspection? **5 Marks**

Note: *You should support your answer, where applicable, using relevant information from the scenario.*

End of examination

Now follow the instructions on submitting your answers in the *Open Book Examination Learner Guide*.
