



Australasian Faculty of  
Occupational and Environmental Medicine

# **THE AUSTRALASIAN FACULTY OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE**

## **STAGE B – WRITTEN EXAMINATION**

### **Sample Questions and Marking Guide**

#### **Paper 2**



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# Sample Questions

## Question 1 (20 marks)

This question is made up of multiple parts that must be answered. Ensure that you provide responses to Parts A, B, C, D and E.

### Scenario

You provide occupational and environmental health management advice to companies with short- and long-term overseas contracts. A film crew of 20 is preparing for a 13-week expedition to a Himalayan republic to make a documentary on rebuilding efforts in the capital city and nearby mountain villages that were badly hit by a succession of earthquakes several months previously. Few roads are passable so most travel will be on foot. There is rudimentary sanitation and an erratic water supply, local health services are virtually non-existent and access to field hospitals run by foreign aid workers may be difficult.

The filming will occur in the dry season (November–February) at altitudes of 1350 metres in the capital to 2400 metres in the villages, with a temperature range of -2 °C to 23 °C.

It is 5 weeks prior to the film crew's departure. The crew's director has approached you seeking robust occupational and environmental health management advice for his team.

### Part A

Using the hazard classification system (1 mark), list six significant hazards the crew are likely to encounter during the expedition (3 marks).

**(4 marks)**

### Part B

What are four (4) **preventive health measures** that you should undertake before the deployment to minimise the likelihood of problems arising?

**(4 marks)**

### Part C

What are four (4) **organisational** measures that you should you put in place to minimise the impact of any health problems that might occur?

**(4 marks)**

## **Scenario (continued)**

The crew's director tells you that one of the cameramen had filmed the Sydney hostage crisis 10 months previously, and for a time afterwards experienced PTSD-type symptoms, for which he had medication and counselling. His skills are highly regarded, the director is very keen to take him and the crew member is enthusiastic about going.

### **Part D**

What are four (4) issues you should take into account in determining whether or not this person should be deployed?

**(4 marks)**

## **Scenario (continued)**

Although the villages of interest are considered too low for altitude sickness to be a problem, you have been asked to brief the team about this condition. This is because some people do not tolerate altitude well or there may be a need to go higher.

### **Part E**

Outline your advice in terms of general precautions, symptoms and signs, and management guidelines for altitude sickness.

- (a) What are two (2) general precautions for altitude sickness? (1 mark)
- (b) What are three (3) symptoms and signs you would expect with altitude sickness? (1.5 marks)
- (c) What are three (3) management guidelines for altitude sickness? (1.5 marks)

**(4 marks)**

**– END OF QUESTION 1 –**

## Question 2 (20 marks)

**This question is made up of multiple parts that must be answered. Ensure that you provide responses to Parts A, B, C, D and E.**

### Scenario

You are a full-time occupational physician (OP) in private practice, providing services to a number of large clients including Blue Telco, a telecommunications company. Wei has been referred to you to assess whether he suffered a work-related injury and his current fitness to work.

Wei Lung is a 30-year-old, full-time telecommunications technician who has been with his current employer for two years. He ceased work on the advice of his general practitioner for 2 months after an incident, and has been referred to you to address his fitness to work.

Wei emigrated from China with his family 6 years ago. He has worked as a telecommunications technician for 5 years. He is currently working in rural Queensland. He normally works within buildings, laying cables on each floor through ceilings and office spaces. This involves moderately heavy manual handling with awkward postures and climbing of ladders.

Wei and a colleague were involved in work that was unusual for them, laying cable on the roof of a building on a hot humid day, and in proximity to radiofrequency (RF) microwave telecommunications antennae. Wei and his colleague were not RF-trained, and no information was given to them by the building owner as to the power output of these antennae.

The workers both spent 2 days working approximately 1.5 metres below the antennae on the first day, and 20 metres or so below the antennae on the second day.

By the end of the second day, Wei developed new tension-type global headaches with a floating feeling, with loss of concentration. He has no nausea or vertigo. Wei has never had similar headaches or any psychiatric history of note.

You examine him and find him alert, well orientated and groomed, with normal speech. Sitting and standing blood pressure were 130/70 mmHg and pulse 80 beats per min and regular. He scored a perfect 30/30 on the Standardised Mini-Mental State examination with normal neurological examination and CT scan of the brain. Wei is very concerned about his exposure to microwave radiation.

**Part A**

Describe the precautionary principle as it applies to assessing environmental safety (1 mark).

Identify three considerations in applying the precautionary principle to an environmental health risk assessment (3 marks)

**(4 marks)**

### **Scenario (continued)**

You consider that RF radiation and heat are potential exposures in this situation.

#### **Part B**

Outline four (4) factors you consider relevant to assessing the health risk of RF radiation exposure in this situation.

**(4 marks)**

#### **Part C**

Identify four environmental factors and four potential health effects that would form part of your risk assessment for heat exposure in Mr Lung's role.

**(4 marks)**

### **Scenario (continued)**

You are asked by Blue Telco's insurer to perform a worksite visit and prepare a report.

#### **Part D**

Identify four key aspects you will consider in your report.

**(4 marks)**

### **Scenario (continued)**

Blue Telco asks you to develop a health and safety program to reduce the risk of any of their workers getting heat-related illnesses.

#### **Part E**

Describe four (4) key aspects of a health and safety program and give an example of how you would implement each of them in this case.

**(4 marks)**

**– END OF QUESTION 2 –**

### Question 3 (20 marks)

This question is made up of multiple parts that must be answered. Ensure that you provide responses to Parts A, B, C, D and E.

#### Scenario

You receive a call from the manager of a semiconductor research laboratory. The laboratory employs one researcher and two laboratory assistants. One of the assistants reported to the manager that he was concerned about being exposed to heavy metals due to inadequate clean-up procedures.

The assistant operates a vacuum chamber where a mixture of fine mercury, gallium, cadmium and arsenic powder is deposited on a substrate. The materials are manipulated through portals in the chamber. During maintenance, the assistants dismantle the chamber and hand scrub the contaminated parts. The laboratory floor is vacuumed with a standard vacuum cleaner. Due to lack of space, the lunch common room is adjacent to the open laboratory.

The laboratory has been in operation for 6 months and is currently closed pending further investigation.

#### Part A

- (a) What are the potential routes of absorption of heavy metals? (1 mark)
- (b) Considering the routes of exposure for the above scenario, please list and explain when/where the exposures are likely to occur. (3 marks)

**(4 marks)**

## Scenario (continued)

The laboratory assistant organises his own urinary tests through his general practitioner, with the following results:

Mercury	Not detected
Arsenic	Within normal range
Gallium	3 times above the normal range
Cadmium	Not detected

From your research, you discover very little is known of gallium toxicity. There is one case report of muscle spasms and a suggestion of genotoxicity in animal studies. The laboratory assistant is very anxious about the potential impact on his health, particularly cancer risk. You see him at your clinic.

### Part B

What are four (4) points relevant to medical history and four (4) points relevant to occupational history that you will need to obtain from the laboratory assistant?

**(4 marks)**

### Part C

Taking into consideration the laboratory assistant's anxiety, describe four matters that you would discuss with him?

**(4 marks)**

### **Scenario (continued)**

The laboratory manager wants to re-open the laboratory and seeks your advice on limiting the risk.

#### **Part D**

Identify eight components or aspects you would consider in establishing a health surveillance program.

**(4 marks)**

### Scenario (continued)

You review the other laboratory assistant, who is 60 years of age, and who produces the following test result from his general practitioner:

Creatinine	123 $\mu\text{mol/L}$
eGFR	55 mL/min

#### Part E

- (a) What are two (2) **common** occupational and two (2) non-occupational causes of chronic renal impairment that you should consider in this case? (2 marks)
- (b) What are four (4) further investigations that you should consider undertaking to determine the cause of his impaired renal function? (2 marks)

**(4 marks)**

**– END OF QUESTION 3 –**

## Question 4 (20 marks)

This question is made up of multiple parts that must be answered. Ensure that you provide responses to Parts A, B, C, D and E.

### Scenario

You are an occupational physician in private practice and consult to a number of industries. You are approached by the human resources (HR) manager for a local call centre. The HR manager is concerned about the high levels of sickness absence among employees at the call centre over the last year and asks for your help in addressing the problem.

He tells you that the call centre has 250 employees and that the work activity is sedentary office-based work. He describes that over the last 2 years there have been a number of changes, including restructuring of the teams and a new IT system, with performance measurement/management systems (including KPIs) built into the system. He reports that there is a planned review of staffing levels and that staff are aware that there will most likely be redundancies.

The HR manager has noted that the team leaders, who manage return to work as they see fit, have become increasingly frustrated by the high absences, which affect their performance measures.

The union has suggested that the new IT system is the main factor contributing to the sickness absence.

You start by identifying what further information you need.

### Part A

- (a) What are four (4) factors that might be contributing to the sickness absence since the introduction of the new IT system? (2 marks)
- (b) List four (4) other potential important organisational or workplace factors that might contribute to the sickness absence in this call centre. (2 marks)

**(4 marks)**

## **Scenario (continued)**

The HR manager tells you that he would like to initiate a wellness program to help address the sickness absence issue at the call centre. He tells you that, in the past, voluntary blood pressure checks were conducted by a nurse during Heart Week, but no other wellness initiatives have occurred in recent times. He advises you that the manager is reluctant to spend unjustified money.

### **Part B**

- (a) List four (4) potential benefits to the organisation from a wellness program.  
(1 mark)
- (b) Describe three (3) factors that contribute to a successful long-term wellness program explaining why each factor is important. (3 marks)

**(4 marks)**

## **Scenario (continued)**

You consult to a construction company that has a proud history of low accident and lost time injury rates. With a recent boom in construction, the company has grown rapidly from 200 to 300 employees and has recruited a number of casuals. The health and safety manager approaches you with a concern about an increase in minor accidents over the last 6 months. From her visits to the company's sites, she has identified that the 'safety culture' is not strong at two of the sites. On her visits, she observed that some workers appeared not to be wearing PPE and that the worksite was messy.

She outlines to you a number of pressures on the company, and that one of these is the time pressure associated with keeping to schedule.

### **Part C**

List four (4) factors from the scenario that might contribute to the increase in accidents at the two construction sites.

**(4 marks)**

## **Scenario (continued)**

The health and safety manager was impressed with your advice and returns with a request to help her develop a drug and alcohol policy. During her recent investigation into the increase in accidents, she has been told by some of the workers that there may be an issue with drug use in the workplace. She has discussed it with management, which has identified that the first step is to develop a robust drug and alcohol policy.

### **Part D**

- (a) List the types of legislation that need to be considered when developing a drug and alcohol policy. (1 mark)
- (b) What are six (6) important aspects you should cover in the development of a relevant drug and alcohol policy for this construction company? (3 marks)

**(4 marks)**

### **Scenario (continued)**

The drug and alcohol policy is accepted, procedures are developed and a program of testing (pre-employment, post-incident and random) is implemented. There is a campaign to promote the importance of a drug and alcohol-free workplace, and the offer of specialised rehabilitation support for addiction and abuse of drugs and alcohol for those that want support is provided.

The company has adopted a continuous quality improvement cycle (Plan – Implement – Review – Improve) in keeping with the company's demand for quality. The management team requests a 'quality assurance' process for the drug and alcohol policy, and seek your advice on what measures can be monitored to ensure that the program is effective; that is, delivering a drug and alcohol-free workplace.

### **Part E**

Identify four (4) important measures that can be monitored to assess the effectiveness of delivering a drug and alcohol-free workplace.

Explain why each measure is important.

**(4 marks)**

**– END OF QUESTION 4 –**

## Question 5 (20 marks)

This question is made up of multiple parts that must be answered. Ensure that you provide responses to Parts A, B, C, D and E.

### Scenario

In your private occupational medicine practice, one of your clients is the regional ambulance service. It employs ambulance officers and paramedics who are involved in first response healthcare services. The work tasks of both ambulance officers and paramedics include driving ambulances and other vehicles for which they are required to have an unrestricted private vehicle licence in Australia and New Zealand.

The company asks you to assess and provide an independent medical assessment report on Peter Williams, one of its station managers (a trained paramedic), who had a single, unprovoked generalised tonic–clonic seizure 6 weeks ago. There is no known cause, and all investigations to date have been within normal limits, including MRI and EEG. The company would like your opinion on Peter's fitness to return to full work tasks, as he is keen to return to employment immediately. He usually drives a command vehicle, which provides back-up to the ambulance crew or acts as a first response.

### Part A

What are four (4) important considerations with regards to assessing Peter's fitness for return to work, with this condition and in this role?

Your answer for each consideration should include a brief comment on why you consider it to be important.

**(4 marks)**

### Part B

Define:

- (a) legislation and regulations (2 marks)
- (b) medical standards (1 mark)
- (c) guidelines (1 mark)

as each are used to assess fitness to return to a safety critical task such as driving.

You should relate your answers to (a), (b) and (c) to the medico-legal framework in your jurisdiction.

**(4 marks)**

## **Scenario (continued)**

Six months later, the station manager, Peter, has a further seizure. His treating neurologist diagnoses epilepsy and commences Peter on sodium valproate (Epilim). The neurologist reports that the risk of further seizures associated with this diagnosis means that Peter is restricted from driving in any capacity for at least 12 months.

The company now request an assessment to provide an opinion about Peter's fitness for work in an alternative role that does not include driving.

### **Part C**

Consider the relevant factors in this case in the following framework:

- (a) individual
- (b) medico-legal
- (c) work task
- (d) workplace

For each of the four components of this framework, identify two pieces of information you would obtain during your assessment, to assist with forming your opinion on his fitness for work.

**(4 marks)**

## Scenario (continued)

Peter works in the control room in an alternative role for a year after his second seizure. He has no seizures during that period, remains on sodium valproate (Epilim), and has had his private driving licence reinstated via his usual general practitioner. As per the terms of his employment, Peter is only required to have a private driving licence to perform the driving aspects of his usual role.

His manager asks you whether, in your opinion, there should be changes to the ambulance standards so that all personnel in driving roles would be assessed against the commercial driving standards. This would mean all employees with a diagnosis of epilepsy would be restricted from driving. The relevant union groups are unhappy about the potential for changes as other medical conditions which would be considered using such an approach may exclude staff that are already employed. The manager asks you to prepare some notes on major points for him to take to a meeting with the union.

### Part D

- (a) Outline two (2) justifications for changing the medical standard for driving roles in the ambulance service. Provide a short justification for your reason under each heading. (2 marks)
- (b) What are two further organisational considerations in the introduction of a change in policy such as this? (2 marks)

**(4 marks)**

### Part E

Occupational medicine specialists are often requested to undertake independent medical examinations.

- (a) What are two (2) features of an **independent medical examination**? (1 mark)
- (b) As a physician, what are four (4) of your roles and responsibilities to the patient in this type of assessment? (2 marks)
- (c) As a medical provider, what are two (2) resources available to provide information on the proper conduct of an independent medical examination, should you require this? (1 mark)

**(4 marks)**

**– END OF QUESTION 5 –**

**– END OF PAPER 2 –**

# Marking Guide

## Question 1 (20 marks)

### Marking guide for Part A

- Use the hazard classification system

#### **Hazards:**

##### **Physical**

- Unstable terrain
- Falling objects
- Slips, trips and falls
- Aftershocks
- Cold
- Heat
- Altitude

##### **Chemical**

- Water pollutants
- Air pollutants

##### **Biological**

- Disease from poor sanitation (cholera, typhoid, dysentery, etc.)
- Infections (e.g. hepatitis, malaria, tuberculosis, encephalitis, STDs)
- Vermin

##### **Psychological**

- Mental stress from observing poverty, illness, devastation
- Fatigue/stress from long hours, isolation, personal circumstances, group dynamics

### Marking guide for Part B

- Perform thorough medical and including psychiatric examination of all personnel including immunisation status and travel history, pregnancy status of females
- Exclusion of those with significant cardiorespiratory disease, musculoskeletal problems, substance abuse disorders, conditions potentially needing hospital care, the immunosuppressed, etc.
- If cleared to deploy, specify restrictions (if any) on types of activities/exposures
- Ensure medical documentation and written self-management plan carried
- Identify any medication requirements and ensure enough are taken
- Identify diseases that may be prevalent in the area of operation and determine appropriate medication
- Ensure appropriate vaccinations (Hep A/B, typhoid, rabies, meningococcal meningitis, Japanese encephalitis, cholera, polio)
- Provide routine (e.g. loperamide, antibiotics, antimalarials, analgesics, sunscreen, insect repellent) and emergency (e.g. morphine, adrenaline) drugs, and medical supplies (needles, dressings, etc.), water purification tablets
- Identify a means of re-supply
- Any other reasonable response

### Marking guide for Part C

#### **Organisational measures** (4 required):

- Defined leadership roles and responsibilities
- Policies/procedures for dealing with illness and injury
- Prepare contingency plan for emergency medical evacuation and repatriation
- Pre-deployment briefing re hazards, disease and accident prevention, etc.
- Means of effective communication (including to friends/family)
- Review of local medical and hospital facilities and services
- Mechanism for payment of any medical care required
- Adequate health insurance cover
- Policies/procedures for victims of violence, theft, kidnap, etc.
- Post-deployment medical examination and debriefing
- Or other reasonable response

### **Marking guide for Part D**

#### **Issues (4 required):**

- The psychological and physiological demands are likely to be high
- Social and other support mechanisms are likely to be poor
- The feasibility of having a specific team member act as mentor/support person
- The feasibility of taking a supply of anxiolytic medication, and of re-supply
- The lack of medical/psychiatric facilities locally for urgent and follow-up care
- The access to medical evacuation
- The practicability of utilising a medical adviser at home
- The risks associated with PTSD relapse and lack of prompt recognition/treatment
- Last clinical assessment and treating psychiatrist's opinion as to current mental status
- Or other reasonable response

### Marking guide for Part E

**(a) General precautions (2 required):**

- Avoid flying in and climbing straight away
- Acclimatise slowly by gradual rate of ascent (including rest days, one for every 900 metres)
- Avoid overexertion, use porters to reduce load carrying, etc.
- Hydrate well, check by urine volume
- Encourage early reporting of symptoms (peer pressure not to divulge)

**(b) Symptoms/signs (3 required):**

- Headache
- Nausea, possible vomiting
- Loss of appetite
- Mild shortness of breath with minimal exertion, or at rest
- Difficulty sleeping
- Dizziness/light-headedness
- Mild weakness
- Swelling of the face and hands
- Resting pulse above 110/min
- Difficulty keeping up
- Impaired coordination (tandem walking, etc.)
- Impaired judgement/antisocial behaviour

**(c) Management (3 required):**

- Do not go higher with headache symptoms
- Acetazolamide (unlikely to be carrying oxygen)
- Minimise physical exertion
- Descend to below where symptoms first occurred, ascend again once acclimatised

Or other reasonable response.

**– END OF QUESTION 1 –**

## Question 2 (20 marks)

### Marking guide for Part A

**Description** – precautionary principle suggests that if there are threats of serious or irreversible environmental harm or damage, then the lack of full scientific certainty about whether the harm will occur, should not be used as a reasoning to avoid or postpone the implementation of controls or other measures to prevent the potential environmental harm.

**Considerations:**

Shifting of burden of proof is from demonstrating the presence of risk to demonstrating the absence of risk - responsibility of a proponent to demonstrate safety rather than the responsibility of a public authority to show harm.

Taking preventive action in the face of uncertainty.

Exploring a wide range of alternatives to possibly harmful actions.

Increasing public participation in decision-making.

## Marking guide for Part B

### Health risk assessment should consider

#### Potential health effects from the hazard (hazard assessment):

- RF EMR – thermal biological effects (tissue heating) with possible tissue dysfunction or damage (esp testes, eyes) or mild heat illness symptoms.
- Non thermal effects such as unclear links with carcinogenesis (2B IARC for some intracranial tumours)
- Psychological effects – anxiety from working with hazard

#### Assessment of potential exposure:

- Source of exposures is the microwave (< 300 GHz) antennae – how close were workers, were workers in line of exposure
- Data from company/building owner about power/other characteristics of the antennae
- Was other workers affected/do they have symptoms/concerns

#### Assessment of any controls/protection measures:

- Was it turned on at the time
- Is the source (the antenna) compliance with RF standards

*Other reasonable response will be considered.*

Candidate does not need to set answer out in same form/with same subheadings.

### **Marking guide for Part C**

#### **Environmental conditions (4 required):**

- Temperature
- Humidity
- Air movement
- Radiant heat (infrared EMR)
- Shade

#### **Possible health effects (4 required):**

- Heat:
  - skin irritation/prickly heat
  - heat exhaustion
  - heat syncope
  - heat stroke
  - cataract (not here but in furnace occupations)
  - aggravation of cardiovascular disease (not here) – related to length of time of exposure and effectiveness of barriers
- Do both workers have symptoms?
- Mental injury anxiety directly related to working with hazard

<b>Marking guide for Part D</b>
<ul style="list-style-type: none"> <li>• Permission</li> <li>• PPE</li> <li>• Safety</li> <li>• Personnel report: addressee, contents, etc.</li> </ul>
<p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>• Antennae sources</li> <li>• Service history</li> <li>• Output</li> <li>• Manufacturer's guidelines</li> <li>• RF training and SOP</li> <li>• Industry standards</li> <li>• Worksafe regulations</li> </ul>
<p><b>Work environment:</b></p> <ul style="list-style-type: none"> <li>• Antennae location and shielding</li> <li>• Distances</li> <li>• Actual RF measurements</li> </ul>
<p><b>Job tasks:</b></p> <ul style="list-style-type: none"> <li>• Location of work performed</li> <li>• Work schedule</li> <li>• Rest breaks and overtime</li> <li>• (Other exposures – manual handling/heat exposures/heights)</li> </ul> <p><i>Other reasonable answers will be considered.</i></p> <p>Candidate does not need to set answer out in same form/with same subheadings.</p>

<b>Marking guide for Part E</b>
<p><b>Education:</b></p> <ul style="list-style-type: none"> <li>• Hot outdoor work, main issues are individual risk (susceptibility) and providing heat respite (shade, rest), hydration (+salts), and self/other recognition of heat-related illness, and response to symptoms</li> <li>• Education/information/induction available for all workers/supervisors</li> <li>• Work-rest periods</li> <li>• Hydration protocols (urine colour, volume, etc.)</li> <li>• Hydration available on site</li> </ul>
<p><b>Monitoring:</b></p> <ul style="list-style-type: none"> <li>• Temperature monitoring and alert (daily weather, etc.)</li> <li>• Appropriate clothing</li> <li>• Pre-employment screening (exclusion of high-risk workers)</li> <li>• Self-buddy monitoring 'in the field'</li> <li>• Response to symptoms – stop work, cool down, what to drink, first aid, etc.</li> </ul>
<p><b>Response to incidents:</b></p> <ul style="list-style-type: none"> <li>• Incident and near-miss reporting (so that risk can be further reduced in future)</li> <li>• Investigation of events</li> <li>• Incorporation of 'heat illness' into key H&amp;S messages</li> <li>• Emergency response protocol</li> </ul>
<p><b>Implementation:</b></p> <ul style="list-style-type: none"> <li>• Education/information is accessible (e.g. pictures, translation)</li> <li>• Individual information given to all workers on induction</li> <li>• Reminders/urine colour charts in all toilets and other areas</li> <li>• Reminders/fluid volume protocol in all areas</li> <li>• Video or training sessions</li> </ul>

*Other reasonable answers will be considered.*

**– END OF QUESTION 2 –**

### Question 3 (20 marks)

#### Marking guide for Part A

(a) Inhalation, ingestion, dermal exposure

1 mark for identifying all three routes

(b) (i) **Inhalation:**

- During dismantling of the chamber and
- During use of a vacuum cleaner

(ii) **Ingestion:**

- Contamination of the adjacent lunch room
- Inadequate hand washing
- During smoking

(iii) **Dermal:**

- During hand scrubbing of parts especially if PPE not used
- Open wounds
- In the presence of skin disorders

One mark for at least one potential exposure pathway for each exposure route.

*Other reasonable options not listed here may be awarded marks.*

### **Marking guide for Part B**

#### **General medical history (4 points required):**

- Current symptoms specific to symptoms relating to substances in the question (mercury, arsenic, gallium, cadmium)
- Current health status
- Past medical history
- Medications
- Social history, including smoking and alcohol, hobbies
- Family history, including children, pregnancies

#### **Occupational history (4 points required):**

- How long in current job
- Description of current job, including duties and hours
- Where, when and to what he believes he may have been exposed
- Past occupational history including previous exposures
- Use of PPE
- Previous health surveillance and results

*Other reasonable options not listed here may be awarded marks.*

### **Marking guide for Part C**

#### **Advice (4 points required):**

- Explore further why he is so anxious about cancer and what he has read.
- Reassure him that his concerns are being taken seriously by management and yourself.
- Indicate that although you cannot entirely exclude an adverse health effect, this is highly unlikely based on the current medical evidence.
- Discuss the lack of medical evidence for an association with cancer.
- Advise him that his results will be stored for future reference in the event of further research.
- Offer him follow-up testing.
- Advise him that an investigation is underway and measures will be put in place to minimise and monitor the risk of further exposure.

*Other reasonable options not listed here may be awarded marks.*

## Marking guide for Part D

### Health surveillance program proposal (8 points required):

- Purpose of health surveillance – ensure controls effective and reinforce safe work practices
- What health surveillance will be undertaken? This will be determined by a walk through survey and results of hygiene monitoring. Also, whether there is a recognised valid and reliable form of health surveillance for a particular exposure.
- Decide on which tests and laboratory will be used
- Associated costs
- Legislative requirements/notification of abnormal results
- Practical considerations – who to screen, when, how will be implemented
- Storage of results
- Confidentiality
- Feedback of results to individual workers and de-identified results to employer unless informed consent from worker
- Follow-up of abnormal results
- Action to be taken in case of abnormal results
- Education of workforce, enlisting safety representative's assistance (may be regarded with suspicion)

*Other reasonable options not listed here may be awarded marks.*

### Marking guide for Part E

**(a) Common/occupational/non-occupational causes of chronic renal impairment (2 required from each):**

**Common causes**

- Hypertension
- Diabetes
- Polycystic disease
- heart failure, cirrhosis (reduced blood flow to kidneys)
- Intrinsic glomerular/interstitial/tubular diseases
- Obstruction from prostatic disease/metastatic cancer

**Occupational causes**

- Heavy metals e.g. lead, cadmium, mercury
- Carbon disulfide
- Organic solvents e.g. chloroform, carbon tetrachloride, ethylene glycol
- Silica

*Other reasonable responses will be considered.*

**(b) Further investigations(4 required):**

- Full renal function test including UEC
- Other bloods – FBC, ESR/CRP, iron studies, Ca, phosphate, lipids, serum electrophoresis
- MSU – blood/protein
- Quantify proteinuria – urine ACR/PCR
- Renal ultrasound +/- biopsy
- Blood sugar
- Renal doppler (renal hypertension)

*Other reasonable responses will be considered.*

**– END OF QUESTION 3 –**

## Question 4 (20 marks)

### Marking guide for Part A

#### (a) IT system contribution to sickness absence (4 factors required):

- Lack of consultation
- Lack of training
- Complicated or difficult system to learn or use
- Reluctance of members to change
- Physical aspects of the system (e.g. amount of keying/mouse use or size of font, navigating through different fields, doubling of actions)
- Reliability of system (e.g. glitches or freezing) possibly causing frustration
- KPIs may be unrealistic, or may result in perception of distrust, or in anxiety
- There may be changes to IT policy restricting computer use for private purpose

#### (b) Other potential organisational/workplace and other factors (not necessarily from description) (4 required):

##### **Organisational**

Change/uncertainty/stressors/consistency of treatment for individuals, clear policy and procedures, data monitoring

##### **Workplace**

Sick day culture, availability of alternative or modified duties, tasks – do they allow a return to work if not fully fit?

Temperature/air quality, desk, support for safe working methods – i.e. micro pauses/stretches

*Other reasonable responses will be considered.*

### Marking guide for Part B

**(a) Potential benefits (4 required):**

- Enhanced recruitment and retention of healthy employees
- Reduced healthcare costs
- Decreased rates of illness and injuries
- Reduced employee absenteeism
- Improved employee relations and morale
- Increased productivity

**(b) Contributing factors (3 required):**

- Maintain confidentiality
- Multilevel leadership – CEO/middle managers/wellness campaign manager/workplace champion
- Alignment – planning and patience – carrots, not sticks – compliment business priorities
- Scope relevance quality – individualised/fun/high standards
- Accessibility – on-site integration/online access
- Partnerships
- Communications
- Organisational policies and management support aligned with program goals
- Effective resourcing, communication and marketing of programs
- Involving workers in design and implementation of programs
- Tailoring programs to employee needs and attain high participation rates
- Ensuring programs evaluated and results reported back to participants
- Control potential liability e.g. screening failure or exercise-related injuries, etc.

### Marking guide for Part C

**Factors (4 required):**

- Rapid growth of company
- Casuals
- Lack of strong safety culture at the sites
- Failure to follow safety practices – PPE
- Housekeeping
- Time pressure

*Other reasonable responses will be considered.*

## Marking guide for Part D

### (a) Types of legislation

- WHS/HSE legislation
- Privacy legislation
- Anti-discrimination legislation
- must identify these above three to get one mark

### (b) Important steps (6 required):

- Gather information – accidents and absenteeism, low productivity or the use of alcohol as part of the workplace ‘scene’
- Raise awareness of the issues – posters or pamphlets, information session for staff
- Ask for interested persons to be involved in helping develop a policy for drugs and alcohol
- Draft a written policy that:
  - contains a clear statement commitment to a drug and alcohol-free workplace – this is necessary for it to be an effective policy
  - contains a clear statement of the behaviour expected of employees and apply equally to all personnel
  - forms part of an overall health and safety program.
- Address issues in the work environment that increase the use of drugs and alcohol
- Provide an atmosphere of support for problems, and be as non-punitive as possible
- Circulate the draft policy to all employees for comment – finalise the policy and set a date for its introduction
- Inform all employees of the policy
- Include details of the policy in orientation for new staff
- Set a date for review of the policy – e.g. 12 months after implementation date
- Engage stakeholders’ consultation – union, client’s legal advisor
- Determine whether it’s purely pre-employment or random as well, or post incident – fair system of identifying random employees
- Scope: Applies only to safety critical workers? Or everyone including executives?
- Identify who is responsible and steps taken to interpret results
- Outline clear plan if an individual tests positive
- Integration into other systems in workplace, e.g. ISO. Consider any existing policies or procedures within the company, or if multinational, whether such policies exist elsewhere/headquarters.

*Other reasonable responses will be considered.*

### **Marking guide for Part E**

#### **Measures that could be monitored (4 required):**

- Accident/incident rates – why – based on the assumption that D&A use affects safety, the ultimate measure is accident/incident rates. Multiple contributors to this rate – indirect measure.
- Proportion of positive test results – post-incident and random – need ratio or proportion, not just pure number. Need comparative rate i.e. increasing, decreasing. Why – measures extent of problem, whether improving or not.
- Testing rates – how often they test – is this frequent enough? – have a benchmark.
- EAP utilisation – why – indicates that employees are seeking help.
- Pre-employment testing – positive rate trend indicative of whether the company has well-established reputation for not accepting those with D&A issues
- Absence rate

*Other valid measures that a candidate adequately justifies.*

**– END OF QUESTION 4 –**

## Question 5 (20 marks)

### Marking guide for Part A

#### **Nature of condition – why?**

- Significant condition, incapacitating
- Exclude underlying cause (nil found in info, but consider other possibilities, e.g. AOD-related, other comorbid medical conditions)
- Evidence-based risk of recurrence of seizures following initial unprovoked
- Consequences of a seizure while driving or operating in an emergency care role, such as physical risk to self and others
- Single seizure, no current diagnosis of epilepsy

#### **Legislative requirements related to driving – why?**

- Relevant driving medical standards and obligations of medical practitioners applicable for the state/country that is operated in with regards to stand-down periods from driving post seizure and threshold for return to driving
- Who can clear him to return driving (if specified)?

#### **Nature of his usual role – why?**

- What does it involve (driving, what kind – solo or with others, working alone, etc.)?
- Important to fully understand full usual role requirements in order to be able to appropriately advise on fitness

#### **Relevant medical standards (if any) for the workplace OR if none, workers in other ambulance services, OR comparable first response roles e.g. firefighters if no specific organisational standards exist – why?**

- Need to understand this standard for your assessment and whether it is met
- May need to liaise with company medical personnel if they exist
- Also consider any professional requirements for the employee (professional body)

#### **What is the alternative work available, if any – why?**

- To attempt to maintain the employee at work in suitable role while increased risk exists as beneficial medically, socially, financially and professionally.

#### **Do you have relevant consent to obtain complete information – why?**

- Important as incomplete information may lead to an inappropriate, unsafe or unjustifiable assessment outcome.

### Marking guide for Part B

**(a) Regulations/legislation** – government-produced law. Often under umbrella of Act, e.g. Work Health and Safety Act. Criminal and other offences can occur if legislation not followed. Legislation is passed by a parliament and regulations are a detailed set of legal requirements to support legislation.

**(b) Medical standards** – policy and protocols. Usually determined by an industry-based group or employer in a specific industry in consultation with experts and interest groups. Can be more detailed interpretation of legislation or employment-specific and developed by experts. Possible employment-related consequences if standards not met, e.g. Austroads driving standards.

**(c) Guidelines** – recommendations for ‘best practice’ or meeting Health and Safety **requirements**. Not enforceable, unless called up by legislation and then lawful. Collection of expertise and often input from industry groups, e.g. medical aspects of fitness to drive in NZ, guidance for medical practitioners.

<b>Marking guide for Part C</b>
<p><b>(a) Individual</b></p> <ul style="list-style-type: none"> <li>• Epilepsy control</li> <li>• Comorbid factors medically, including any cognitive concerns secondary to seizures or medication</li> <li>• Willingness of the employee to return to alternative role</li> <li>• Transferable skills of the employee for an alternative role</li> </ul>
<p><b>(b) Medico-legal</b></p> <ul style="list-style-type: none"> <li>• Whether any medical standards exist or relevant legislation for work in other areas of the workplace (i.e. potential alternative roles) that need to be considered</li> <li>• Whether there are liability issues for the employer to consider</li> <li>• Whether the employee's treating medical practitioner is supportive of return to work and will provide certification</li> </ul>
<p><b>(c) Work tasks</b></p> <ul style="list-style-type: none"> <li>• Is the work alone or with others?</li> <li>• What would be the consequences for another seizure in an alternative role – i.e. is it work with machinery or at heights, etc.?</li> <li>• Is shift work involved?</li> <li>• Is adequate training available for an alternative role?</li> <li>• Are there potential triggers for seizure in the work environment (e.g. strobe lighting)?</li> <li>• Are cognitive tasks of the role suitable?</li> </ul>
<p><b>(d) Workplace</b></p> <ul style="list-style-type: none"> <li>• Are there concerns from other employees about a return to work of this individual?</li> <li>• Are there any current employment issues/distress among other staff?</li> <li>• What are the policies on redeployment?</li> </ul>

*Or other reasonable response for any of the above factors.*

### Marking guide for Part D

(a)

- **Public safety** – passenger carrying driving activity requires speed and accuracy when driving in emergency situations, often under stress, at night, in traffic etc. Other public carrying vehicles (e.g. taxi) have higher driving standards. Consequences of accident are high.
- **Driver/employee safety** – some medical conditions may be made worse by stress of driving and should be more carefully assessed against a higher standard. (Need a better argument, or really the same as line above!)
- Other reasonable response

(b) **Considerations:**

- Negotiate/communication with employees, unions, other stakeholders
- Will new standards be introduced for all employees or only new entrants
- What will be process for current employees who do not meet medical standard – what are redeployment options.
- Are there legal risks for company if current employee's employment is terminated because of new medical standards.
- Is there potential for a large number of current staff to not meet standard and be either temporarily or permanently unable to continue driving – how will this impact service delivery
- Other reasonable response.

There is a likely range of answers, so if they are appropriate under each heading, then the mark will be achieved as per the marking guide comments.

## Marking guide for Part E

### (a) Features of an IME (2 required):

- An IME is not a treating doctor assessment but an independent assessment, usually a 'one off' but may include review if required
- Consideration of all relevant prior facts of the case and assessment of clinical information presented at the time of the assessment by the patient (history and clinical examination), presented as a report outlining consent, sources of information, relevant facts of history and observations.
- Should be an expert opinion which is as objective as possible and not having consideration of a doctor-patient relationship, advocacy or the desire (actual or perceived) of the referring party.
- Should be undertaken by an expert in the area being assessed
- Other reasonable response

### (b) Responsibilities to patient (4 required):

- Conduct assessment with respect and dignity
- Advise upfront the independent nature of the IME and that no treatment advice will be given
- Explain context of referral and information sighted
- Explain to whom the report will be addressed and the nature of what it will contain (e.g. answers to questions patient may have asked)
- Provide information on your specialty and expertise
- Obtain consent to continue with the assessment on the basis of the above
- Conduct assessment as per professional standards/with proper care
- Other reasonable response

### (c) External agencies (2 required):

- Practising body:
  - New Zealand – NZMC
  - Australia – AMA/AHPRA
- Medical indemnity provider
- Senior/experienced colleague who works in medicolegal field
- Other responses may include some referring bodies (Worker's compensation insurers or regulators, ACC in NZ, legal professionals)
- Other reasonable response

– END OF QUESTION 5 –

– END OF PAPER 2 –