

WESTERN AUSTRALIA

UNDERGROUND SUPERVISOR'S CERTIFICATE OF COMPETENCY

MINING LAW EXAMINATION

2 October 2013

Time Allowed: **Three (3) Hours**
Reading Time: **15 minutes**

Answers must be written in ink or ball point pen.

Note: An aggregate of 60 percent is required for a pass.

ADVICE TO CANDIDATES

Read the questions carefully before answering them in your own words.

Candidates are **not** expected to give the exact wording of the relevant sections or regulations but must include the main points contained in each of the respective sections or regulations of the Mines Safety and Inspection Act 1994 and Regulations which contain the answers to a question.

The terms “health and safety” and “safety and health” are interchangeable so far as this examination is concerned.

Beside each question are the marks allocated and the relevant section of the Act or Regulation.

SECTION 1

Questions 1 - 4 inclusive are **COMPULSORY**.

SECTION 2

Attempt **any twelve (12) of the fourteen (14)** questions.

SECTION 1 (COMPULSORY)

Act Part 2 - General Duties Relating to Occupational Safety and Health

1. The Act imposes a General Duty upon employers to provide, within the bounds of practicability, a working environment where employees are not exposed to hazards. In addition, the Act specifies particular matters which must be addressed.

Describe the duties of employers to their employees regarding these particular matters as prescribed in the Act. 10 s.9(1)

Act Part 4 - Management of Mines

2. The Act requires that a Registered Manager be appointed.

- | | | |
|---|-----|---------|
| (a) Who appoints the registered manager? | 1 | s.33(1) |
| (b) When is such an appointment required? | 1 | s.33(1) |
| (c) Who is notified of the appointment? | 1 | s.33(2) |
| (d) By what means is the notification made and what details are required to be notified? | 2 | s.33(2) |
| (e) What are the responsibilities of the registered manager? | 1 | s.33(3) |
| (f) Where must the registered manager reside? | 1 | s.33(3) |
| (g) What is the requirement for exploration operations with regard to a registered manager? | 1.5 | s.33(7) |
| (h) What are the requirements regarding the appointment of a registered manager for more than one mine? | 1.5 | s.33(5) |

Act Part 7 - Specific Duties Relating to Occupational Safety and Health

3. The Act requires that the District Inspector must be given immediate notice of certain occurrences, whether or not any bodily injury to any person or damage to the property resulted from the occurrence. Particulars of these occurrences must also be recorded in the record book.

List these 10 occurrences. 10 s.78(3)

4. What does the Act require in regard to:

- | | | |
|--|---|------|
| (a) Manager to report potentially serious occurrences? | 4 | s.79 |
| (b) Examination of accident location by trade union representatives? | 2 | s.80 |
| (c) Health surveillance of mine employees? | 4 | s.75 |

SECTION 2

From your knowledge of the **Regulations**, answer in your own words any **12 only** of the 14 questions which are taken from the respective parts as indicated. (Note: It is not necessary to include references to penalties in your answers).

Regulation Part 3 - Management of Mines

5. The Act requires that the district inspector is notified of commencement or suspension of mining. The Regulations list the information that is required in the notification.

In addition to the general details to be included in any notification, what **specific** details must be included in the notification of the suspension of a mining operation?

5 3.14

6. The Regulations require that certain information be provided when giving notification of commencement of mining including the provision of a Project Management Plan for the mining operation.

What do the Regulations require to be included in the Project Management Plan?

5 3.13(1)

Regulation Part 4 - General Safety Requirements

7. Safety signs are required to be posted in workplaces and travelways.

(a) What are the four reasons for such signs?

2 4.10(1)

Signs should comply, as far as possible, with the relevant Australian Standard in terms of certain criteria.

(b) List the five criteria.

2 4.10(2)

(c) What is required of the manager in terms of maintenance and positioning of the signs?

1 4.10(3)

8. The manager is required to take certain precautions to ensure the safety of underground personnel with respect to potential incidents occurring, such as fires, inrush of water, rockfalls, etc.

What are 5 of the 7 procedures or provisions that are required?

5 4.36(2)

Regulation Part 5 - Electricity in Mines

9. What do the Regulations require with regard to:

(a) Earth continuity protection and monitoring?

2 5.32(2)

(b) To what equipment does this Regulation apply?

3 5.32(1)

Regulation Part 6 - Safety in Using Certain Types of Plant in Mines

10. Under the Regulations an employer must identify all foreseeable hazards associated with plant at certain stages.
- Name those stages. 5 6.17(1)(a)-(c)
11. The employer must identify all foreseeable hazards and assess the risk of exposure. The assessment shall include one or more means of evaluation.
- List 5 of the methods that could be used. 5 6.17(2)

Regulation Part 8 - Explosives

12. The Manager of a mine must ensure that any underground explosives magazine meets a number of requirements.
- List these requirements. 5 8.5(1)
13. What is required with regard to firing warnings in an underground mine? 5 8.25

Regulation Part 9 - Ventilation and Atmospheric Contaminants

14. When asbestos contamination is found on the mine:
- (a) What action must the manager take? 2 9.33(1)(a)&(b)
- (b) What method should be used to assess the airborne exposure? 2 9.33(2)
- (c) What dimensions define a countable fibre? 1 9.33(3)
15. (a) What is required with respect to air doors? 3 9.20(4) &(5)
- (b) What is required of the manager if any fan or ventilation device breaks down? 2 9.20(1)

Regulation Part 10 - Specific Requirements for Underground Mines

16. The manager of an underground mine must make provision for an escape route other than the hoisting shaft or normal means of entry or exit.
- What conditions apply to the provision of the escape route? 5 10.10(2)-(5)

- | | | | |
|-----|--|---|---------|
| 17. | (a) What are the requirements regarding underground workers and their comprehension of the English language? | 3 | 10.3 |
| | (b) What is the minimum age that a person can be employed underground? | 1 | 10.4(1) |
| | (c) What exceptions are allowed to the minimum age requirement? | 1 | 10.4(2) |

Regulation Part 11 - Winding, Winding Ropes and Signals

- | | | | |
|-----|---|---|-------|
| 18. | What indicators and gauges are required for a winding engine? | 5 | 11.16 |
|-----|---|---|-------|

END OF PAPER

WESTERN AUSTRALIA
UNDERGROUND SUPERVISOR'S CERTIFICATE OF COMPETENCY
MINING LAW EXAMINATION

April 2013

Time Allowed: **Three (3) Hours**
Reading Time: **15 minutes**

Answers must be written in ink or ball point pen.

Note: An aggregate of 60 percent is required for a pass.

ADVICE TO CANDIDATES:

Read the questions carefully before answering them in your own words.

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Beside each question are the marks allocated and the relevant section of the Act or Regulation.

SECTION 1

Questions 1 - 4 inclusive are **COMPULSORY**.

SECTION 2

Attempt any 12 of the 14 questions (numbered 5-18).

SECTION 1 (COMPULSORY)

Act Part 2 - General Duties Relating to Occupational Safety and Health

1. The Act imposes a General Duty upon employers to provide, within the bounds of practicability, a working environment where employees are not exposed to hazards. In addition, the Act specifies particular matters which must be addressed.

Describe the duties of employers to their employees regarding these particular matters as prescribed in the Act.

10 s.9(1)

2. (a) What does the Act require with regard to the reporting of dangerous situations or occurrences by persons working in mines?

6 s.11(1)-(3)

(b) What must the manager do after receiving a report of any dangerous situation or occurrence?

4 s.11A(1)

Act Part 4 - Management of Mines

3. A principal employer, manager, or authorised person may appoint a person to perform duties imposed under the Act.

(a) What are the duties and responsibilities of the manager?

4 s.43(1)&(2)

(b) How is the appointment made?

1 s.44(1)

(c) What must the appointed person be given?

1 s.44(1)

(d) What must the registered manager do with regard to the appointment?

1 s.44(2)

The appointed person must acknowledge the appointment.

(e) Within what period is the acknowledgement required?

1 s.44(3)

(f) How is the acknowledgement made?

2 s.44(3)(a)&(b)

Act Part 6 – Resolution of Safety and Health Issues

4. The Act provides for the refusal by employee to work in certain cases.

(a) On what grounds may an employee refuse to work for safety and health reasons?

2 s.72(1)

(b) Who must be notified by such an employee of their refusal to work for safety or health reasons?

3 s.72(2)

(c) What arrangements may be made for the continuation of work under such circumstances?

1 s.73

(d) How is an employee to be paid if they refuse to work for safety or health reasons and what limitations apply to the payment?

4 s.74(1) & (1a)

SECTION 2

From your knowledge of the **Regulations**, answer in your own words any **12 only** of the 14 following questions (numbered 5-18) which are taken from the respective parts as indicated. (Note: It is not necessary to include references to penalties in your answers).

Regulation Part 3 - Management of Mines

5. What **general** details are required in the notification of commencement or suspension of mining operations? 5 3.12

Regulation Part 4 - General Safety Requirements

6. The Manager must provide guards and handrails in certain circumstances in a mine.
- (a) List these circumstances. 2 4.4(1)&(3)
- (b) What guarding must be provided for a ladder on a chimney stack or other elevated structure? 3 4.4(2)
7. Safety signs are required to be posted in workplaces and travelways.
- (a) What are the four reasons for such signs? 2 4.10(1)
- Signs should comply, as far as possible, with the relevant Australian Standard in terms of certain criteria.
- (b) List the five criteria. 2 4.10(2)
- (c) What is required of the manager in terms of maintenance and positioning of the signs? 1 4.10(3)

Regulation Part 5 - Electricity in Mines

8. What do the Regulations require regarding Isolation of equipment? 5 5.29
9. What do the Regulations require with regard to
- (a) Earth continuity protection and monitoring? 2 5.32(2)
- (b) To what equipment does this Regulation apply? 3 5.32(1)

Regulation Part 6 - Safety in Using Certain Types of Plant in Mines

10. Define the following
- | | | |
|----------------------|-----|-----|
| (a) Classified Plant | 2.5 | 6.1 |
| (b) Hoist | 2.5 | 6.1 |
11. The employer must identify all foreseeable hazards and assess the risk of exposure. The assessment shall include one or more means of evaluation.
- List 5 of the methods that could be used.
- | | | |
|--|---|---------|
| | 5 | 6.17(2) |
|--|---|---------|

Regulation Part 7 – Occupational Health

12. The principal employer and the manager must ensure that suitable places are provided for employees to eat their meals.
- What conditions apply to the provision of such places?
- | | | |
|--|---|-------------|
| | 5 | 7.17(2)&(3) |
|--|---|-------------|

Regulation Part 8 - Explosives

13. (a) What would constitute a misfire to have occurred or be suspected to have occurred? 3 8.43
- (b) What conditions govern the recharging of a hole that has been fired? 2 8.51
14. (a) What must a person do if the person suspects or confirms that a misfire has occurred in an underground mine? 3 8.44(1)&(2)
- (b) What remedial action may a person take in regards to a misfire if the charge consists of bulk AN-based explosive? 2 8.47(2)

Regulation Part 9 - Ventilation and Atmospheric Contaminants

15. What do the Regulations require with regard to compressed air underground? 5 9.24

Regulation Part 10 - Specific Requirements for Underground Mines

16. (a) What are the requirements regarding underground workers and their comprehension of the English language? 3 10.3
- (b) What is the minimum age at which a person can be employed underground? 1 10.4(1)
- (c) What exceptions are allowed to the minimum age requirement? 1 10.4(2)

17.	What is required of the underground manager when a development opening, stope, or other working, is approaching a place likely to contain a dangerous accumulation of water?	5	10.18
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Regulation Part 11 – Winding, Winding Ropes and Signals

18.	What do the Regulations require regarding		
	(a) Winding engine fire precautions?	4	11.29
	(b) Winding ropes – History	1	11.39

END OF PAPER

WESTERN AUSTRALIA
UNDERGROUND SUPERVISOR'S CERTIFICATE OF COMPETENCY
MINING LAW EXAMINATION

3 October 2012

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Reading Time: **15 minutes**

Answers must be written in ink or ball point pen.

Note: An aggregate of 60 percent is required for a pass.

ADVICE TO CANDIDATES:

Read the questions carefully.

Candidates are **not** expected to give the exact wording of the relevant sections or regulations but must include the main points contained in each of the respective sections or regulations of the Mines Safety and Inspection Act 1994 and Regulations which contain the answers to a question.

Beside each question are the marks allocated and the relevant section of the Act or Regulation.

SECTION 1

Questions 1 - 4 inclusive are **COMPULSORY**.

SECTION 2

Attempt any 12 of the 14 questions (numbered 5-18).

SECTION 1 (COMPULSORY)

Act Part 3 - Administration

1. The Act provides that a qualified Safety and Health Representative (SHR) may issue a provisional improvement notice (PIN) in respect of contraventions of the provisions of the Act –
 - (a) The qualified SHR is required to consult with certain people before issuing a PIN. What is meant by “consult” in this case? 2 s.31BH(1)
 - (b) With whom must the SHR consult before a PIN is issued? 3 s.31BH(2)&(3)
 - (c) What actions may an inspector take regarding a PIN referred for review after attending at the mine and inquiring into the circumstances of the notice? 3 31BN(4)(c), (d)&(e)
 - (d) What action must the manager of a mine take with regard to the maintaining of records of PINs issued with respect to the mine and the results of any review by an inspector? 2 s.31BO(1)&(2)

Act Part 4 - Management of Mines

2. In certain circumstances the principal employer must appoint an eligible person to act as the deputy of the underground manager. In your own words answer the following questions:
 - (a) In what circumstances such an appointment needs to be made? 2 s.36(3)
 - (b) Who is eligible to be appointed as a deputy underground manager? 3 s.36(6)
 - (c) What are the duties and responsibilities of manager? 4 s.43(1)
 - (d) Within what timeframe and in what manner must a registered manager notify the district inspector of their appointment as registered manager. 1 s.40(1)

Act Part 7 - Specific Duties Relating to Occupational Health and Safety

3. When a disabling accident occurs at a mine the manager is required to give notice of the accident.
 - (a) Who is required to be notified? 2 s.76(1)
 - (b) How is the notification to be given? 3 s.76(2)
 - (c) What is classified as a serious injury? 3 s.76(4)

The site of an accident on a mine shall not be disturbed, except under particular circumstances.

- (d) What circumstances permit the site to be disturbed? 2 s.81
- 4. Where a record book or log book is required to be kept on the mine to comply with the Act,
 - (a) What are the conditions which govern the maintenance of the book and the making of entries? 3 s.89(1)
 - (b) Who is required to keep the record books and for how long? 2 s.89(2)
 - (c) What is required with regard to the retention of the books when a mine is abandoned or operations suspended? 2 s.89(3)
- An accident log book is to be kept at the mine.
- (d) What does the Act require regarding the recording of accidents in a log book? 1 s.77(1)
- (e) Who may examine the log book, and when? 2 s.77(2)

SECTION 2

From your knowledge of the **Regulations**, answer in your own words any **12 only** of the following **14** questions (numbered 5-18) which are taken from the respective parts as indicated. (Note: It is not necessary to include references to penalties in your answers).

Regulation Part 2 - Administration

5. When a dispute arises over health and safety concerns and there are no agreed procedures to settle the dispute, the manager must arrange to meet with certain people.
- (a) Which person or group of people must the manager meet with to resolve the dispute? 4 2.5(2)
- (b) When must the meeting be held? 1 2.5(3)

Regulation Part 3 - Management of Mines

6. What **general** details are required in the notification of commencement or suspension of mining operations? 5 3.12

Regulation Part 4 - General Safety Requirements

7. What is required under the Regulations with regard to the fitting and use of seatbelts in vehicles? 5 4.16
8. A plan for dealing with emergencies is required to be prepared.
- (a) When is the plan to be prepared? 2 4.30(1)
- (b) What three general requirements should be included in the plan? 3 4.30(2)

Regulation Part 5 - Electricity in Mines

9. List the specific matters which the Regulations require each responsible person at a mine to ensure in relation to high voltage installations and operations. 5 5.18(2)(a)-(f)

Regulation Part 6 - Safety in Using Certain Types of Plant in Mines

10. What is required of the employer when plant with moving parts is assessed as presenting a risk of exposure to a hazard from those moving parts? 5 6.27

Regulation Part 7 - Occupational Health

11. (a) What information is a Material Safety Data Sheet (MSDS) to provide? 3 7.20
- (b) What is required under the Regulations regarding the provision of MSDS? 2 7.21
12. A register of hazardous substances must be kept at the mine.
- (a) What is to be set out in the register? 4 7.25(2)(3)
- (b) Who has access to the register? 1 7.25(4)

Regulation Part 8 - Explosives

13. The regulations specify that precautions must be taken when drilling in an underground mine. What are those actions that a person must not do? 5 8.21(1),(3)&(5)
14. What do the regulations require in regard to a person using a pneumatic loader to load bulk AN-based explosive into a hole? 5 8.41(3)&(4)

Regulation Part 9 - Ventilation and Atmospheric Contaminants

15. (a) What is required of the manager if any fan or ventilation device breaks down? 2 9.20(1)
- (b) What is required with respect to air doors? 3 9.20(4)&(5)
16. A person must not smoke in certain places.
List the places where smoking is prohibited. 5 9.31

Regulation Part 10 - Specific Requirements for Underground Mines

17. What is required of the manager when
- (a) Persons are working alone? 2.5 10.5(1)
- (b) Hazardous conditions exist in the workplace? 2.5 10.5(2)

Regulation Part 11 - Winding, Winding Ropes and Signals

18. What indicators and gauges are required for a winding engine? 5 11.16

END OF PAPER

WESTERN AUSTRALIA
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April 2012

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Beside each question are the marks allocated and the relevant section of the Act or Regulation.

SECTION 1

Questions 1 - 4 inclusive are **COMPULSORY**.

SECTION 2

Attempt any 12 of the 14 questions. [Numbered 5 – 18].

SECTION 1 (COMPULSORY)

Act Part 2 - General Duties Relating to Occupational Health, Safety and Welfare

1. (a) What are the general duties of employees as required under the provisions of the Act? 1.5 s.10(1)(a)
1.5 s.10(1)(b)
1 s.10(3)
- (b) List 4 specific means by which an employee could contravene the general duty of an employee. 6 s.10(2)

Act Part 4 - Management of Mines

2. (a) Before mining operations at a mine are commenced, suspended or abandoned, who is to be notified? 1 s.42(1)
(b) What evidence must be provided with the notification? 1 s.42(2)
(c) How is the evidence to be verified? 1 s.42(2)

The principal employer or manager must obtain approval before mining operations are commenced.

- (d) Who grants this approval? 1 s.42(3)
(e) By what means is the approval granted? 1 s.42(3)

An independent engineering report can be requested of the principal employer or manager.

- (f) Who is empowered to make the request? 1 s.45(1)
(g) In what areas of concern can the report be requested? 2 s.45(1)(a)&(b)
(h) When the request is made, what must be stipulated? 1 s.45(2)
(j) Who is required to prepare the report? 1 s.45(3)

Act Part 6 – Resolution of Safety and Health Issues

3. The Act provides for the refusal by employee to work in certain cases.
- (a) On what grounds may an employee refuse to work for safety and health reasons? 2 s.72(1)
- (b) Who must be notified by such an employee of their refusal to work for safety or health reasons? 3 s.72(2)
- (c) What arrangements may be made for the continuation of work under such circumstances? 1 s.73
- (d) How is an employee to be paid if they refuse to work for safety or health reasons and what limitations apply to the payment? 4 s.74(1) & (1a)

Act Part 7 - Specific Duties Relating to Occupational Safety and Health

- 4. The Act requires that the District Inspector must be given immediate notice of certain occurrences, whether or not any bodily injury to any person or damage to the property resulted from the occurrence. Particulars of these occurrences must also be recorded in the record book.

List these 10 occurrences.

10

s.78(3)

SECTION 2

From your knowledge of the **Regulations**, answer in your own words any **12 only** of the **14** following questions (numbered 5-18) which are taken from the respective parts as indicated. (Note: It is not necessary to include references to penalties in your answers).

Regulation Part 3 - Management of Mines

5. An underground workplace must be inspected at frequent intervals. In a non-coal mining operation:
- (a) What qualifications must the person carrying out the inspection possess? 1 3.21(1)
 - (b) How frequently must the inspections be carried out? 2 3.21(1)(a)(b)
 - (c) Who determines if the workplace requires a more frequent inspection? 1 3.21(2)
 - (d) How is a direction regarding this rate of inspection to be made? 1 3.21(3)

Regulation Part 4 - General Safety Requirements

6. What do the Regulations require regarding Fall arrest equipment? 5 4.5
7. What is required under the Regulations with regard to the induction and training of employees? 5 4.13

Regulation Part 5 - Electricity in Mines

8. What electrical records must the manager cause to be kept? 5 5.13
9. Each responsible person on a mine must ensure that an earth leakage protection device is provided.
- What are the operating requirements for the device? 5 5.24(2)

Regulation Part 6 – Safety In Using Certain Types Of Plant In Mines

10. When plant is dismantled, stored or disposed of, the employer is required to fulfil certain obligations.
- What is required of the employer when
- (a) Plant is dismantled? 2 6.24(1)
 - (b) Plant is stored ? 1 6.24(2)
 - (c) Plant is disposed of? 1 6.24(3)
 - (d) What are the requirements when registered classified plant is modified or repaired? 1 6.35

Regulation Part 7 – Occupational Health

11. The Regulations require that a change room is provided at each mine.
What must be included in a change room? 5 7.19(3)(a)

Regulation Part 8 – Explosives

12. (a) What would constitute a misfire to have occurred or be suspected to have occurred? 3 8.43
(b) What conditions govern the recharging of a hole that has been fired? 2 8.51
13. What do the Regulations require with regard to firing times underground? 5 8.27

Regulation Part 9 - Ventilation and Atmospheric Contaminants

14. (a) What is required of each responsible person at the mine when conditions in any workplace are, or are likely to be, hot and humid? 3 9.15(2)
When the wet bulb temperature reaches a certain level either in a working place underground or in a tunnel under a surge stockpile, the manager is required to ensure that a minimum air velocity is provided.
(b) What is the wet bulb temperature level and the air velocity required? 1 9.15(3)(a)
(c) What is required of each responsible person when extremes of heat or cold are experienced? 1 9.15(1)
15. What do the Regulations require with regard to the fumes produced during blasting? 5 9.22(1)-(5)

Regulation Part 10 - Specific Requirements for Underground Mines

16. What is required of the manager when
(a) Persons are working alone? 2.5 10.5(1)
(b) Hazardous conditions exist in the workplace? 2.5 10.5(2)
17. The manager of an underground mine must make provision for an escape route other than the hoisting shaft or normal means of entry or exit.
What **specific** requirements apply to the provision of the escape route? 5 10.10(2)-(5)

18. What do the Regulations require to be done in terms of geotechnical considerations, with respect to **workplaces, travelways** and **installations** underground?

5

10.28(2)

END OF PAPER