

## WESTERN AUSTRALIA

### FIRST CLASS MINE MANAGER'S CERTIFICATE OF COMPETENCY

#### MINING LAW EXAMINATION

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2 October 2013

Time Allowed:

**Three (3) hours**

Reading Time:

**15 minutes**

**Answers must be written legibly in ink or ball point pen.  
Check that you have the correct paper**

**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 in their answer the main concepts and ideas contained in each respective clause of the Mines Safety and Inspection Act 1994 and Regulations.

The terms "health and safety" and "safety and health" are interchangeable.

#### **SECTION 1 - Mines Safety and Inspection Act 1994 (Total 40 marks out of 100)**

Answer **ALL FOUR (4) QUESTIONS** in this section

#### **SECTION 2 - Mines Safety and Inspection Regulations 1995 (Total 60 marks out of 100)**

Attempt **ANY 12 of the 14 QUESTIONS** of your choice

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**SECTION 1 - MINES SAFETY AND INSPECTION ACT 1994**

**All questions are compulsory**

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**QUESTION**

**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.

In your own words, 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. 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)

**In addition** explain:

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

4 s.43

(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 5 - Safety and Health Representatives and Committees**

3. The Act requires establishment, in certain circumstances, of a Safety and Health Committee.

(a) List any 5 of the 7 functions of a safety and health committee established in accordance with the MSIA?

5 s.63(2)

(b) When is an employer obliged to establish a safety and health committee?

3 s.65(1)

(c) What must an employer do if an employee who works at a mine requests an employer at the mine to establish a safety and health committee?

2 s.66(2)

### **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 an occurrence must also be recorded in the record book.

List these occurrences

10 s.78(3)

## SECTION 2 - MINES SAFETY AND INSPECTION REGULATIONS 1995

### Attempt any twelve (12) questions

Based on your understanding of the Regulations; **answer** in your own words **any twelve (12)** of the following fourteen (14) questions. Do not include references to penalties in your answers.

#### **QUESTION:**

#### **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 which needs to be included 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

#### **Part 4 - General Safety Requirements**

6. The manager of, and each employer at a mine must ensure that any personal protective clothing and equipment supplied for use at the mine meet certain requirements.

Name these requirements

5 4.1(2)

7. Appropriate first aid equipment, facilities and services must be provided at the mine at all times when persons are working at the mine.

What must be considered when determining what first aid equipment, facilities and services are appropriate?

5 4.24(2)

#### **Part 5 - Electricity**

8. The Regulations require that an electrical maintenance system is in place at the mine to ensure that electrical equipment and installations are maintained in safe working order.

What must be included in this maintenance system?

5 5.27(2)

#### **Part 6 - Safety in Using Certain Types of Plant in Mines**

9. Where the design of existing plant is altered what are the employer's duties? 5 6.23

### Part 7 - Occupational Health

10. The Regulations require that a change room is provided at each underground mine.

What must be included in a change room? 5 7.19(3)(a)

11. The risk of exposure to hazardous substances must be prevented. If prevention is not practicable, this risk must be minimised.

List the measures which must be taken to minimise the risk of exposure to hazardous substances 5 7.28.(2)&(3)

### Part 8 - Explosives

12. The manager of the mine must ensure that any underground explosives magazine meets a number of requirements.

List these requirements 5 8.5(1)

13. What is required by the regulations regarding –

Drilling precautions – surface mining operations? 5 8.22

### Part 9 - Ventilation and Control of Dust and Atmospheric Contaminants

14. For the purpose of regulations contained in Part 9 define the following:

- (a) **Short Term Exposure Limit** or **STEL** 1 9.1  
(b) **TWA** (time weighted average) concentration 2 9.1  
(c) **Peak** in relation to an exposure standard 2 9.1

15. The manager of an underground mine must ensure that ventilating air provided for the mine is of sufficient volume, velocity and quality.

What criteria are used to define sufficient volume, velocity and quality of air in an underground mine? 5 9.14

**Part 10 - Specific Requirements for Underground Mines**

16. A person must not travel or work underground in an underground mine unless the person is wearing a cap lamp that is in good working condition.

Name the situations in which this regulation does not apply. 5 10.6(5)

**Part 11 - Winding, Winding Ropes and Signals**

17. The regulations impose a limit on the working time of a person in charge of a manually operated winding engine.

How long can such a person work in any 24 hour period:

(a) under normal circumstances?

(b) in emergency situations?

5 11.13(1)&(2)

**Part 13 - Surface Mining Operations**

18. The manager of a mine must ensure that the design and construction of each road and other vehicle operating area at the mine meets two criteria.

Name these criteria.

5 13.7.(2)

**END OF PAPER**

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**WESTERN AUSTRALIA**  
**FIRST CLASS MINE MANAGER'S CERTIFICATE OF COMPETENCY**  
**MINING LAW EXAMINATION**

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April 2013

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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:**

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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).

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# **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. (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 5 - Safety and Health Representatives and Committees**

3. The safety and health representative is required to perform certain functions under the Act.

List 5 of these functions.

10

s.53(1)

4. (a) The Act provides that safety and health representatives may be elected under a “scheme” that includes representation in a slightly different form than that provided for a mine in general. What additional types of representation can apply under such a “scheme”? 2 s.55B(2)
- (b) What two actions can trigger an election for safety and health representatives at a mine? 2 s.56(1)
- (c) What is the length of the term of office of a safety and health representative? 1 s.57(1)
- (d) Under what circumstances does a person cease to be a safety and health representative? 5 s.57(2)(a)-(d)

## SECTION 2

From your knowledge of the **Regulations**, answer in your own words any **12 only** of the **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 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)
15. What do the Regulations require with regard to compressed air underground? 5 9.24

### **Regulation Part 4 - General Safety Requirements**

7. 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**

8. 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)
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 reasonably foreseeable hazards associated with plant at certain stages.
- Name those stages. 5 6.17(1)(a)-(c)

11.	What do the Regulations require in respect to the duties of the employer in relation to installation, maintenance, etc of plant?	5	6.20
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**Regulation Part 7 - Occupational Health**

12.	(a) What is required of each responsible person with regard to sewage and septic tank systems and waste disposal sites?	1	7.14(1)
	What do the Regulations require with regard to		
	(b) Waste timber and other material underground?	2	7.15
	(c) Stagnant water underground?	2	7.16

**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.	(a) What do the Regulations require with regard to fly rock in surface mining operations?	3	8.30(1)-(3)
	(b) What conditions govern the recharging of a hole that has been fired?	2	8.51

**Regulation Part 10 - Specific Requirements for Underground Mines**

15.	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 <b>specific</b> requirements apply to the provision of the escape route?	5	10.10(2)-(5)
16.	What do the Regulations require regarding		
	(a) Communication - surface to underground?	3	10.15
	(b) Shaft entrances?	2	10.17
17.	What is required of the manager when an open dam or plug is constructed to restrict or close off water flow underground?	5	10.19

## **Regulation Part 13 - Surface Mining Operations**

18. What do the Regulations require regarding Geotechnical Considerations with respect to quarry operations?

5

13.8

**END OF PAPER**

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**FIRST CLASS MINE MANAGER'S CERTIFICATE OF COMPETENCY**  
**MINING LAW EXAMINATION**

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3 October 2012

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

**Answers must be written in ink or ball point pen.**

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**SECTION 1**

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

**SECTION 2**

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

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# **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 3 – Administration**

2. (a) The Act provides that an inspector may issue an improvement notice under certain circumstances. What are those circumstances?

2 s.30(1)

(b) When an inspector issues an improvement notice, who must be provided with a copy?

3 s.30(3)

(c) Where an inspector is of the opinion that a mine, mining practice or substance at or related to a mine is dangerous or is likely to become dangerous so as to constitute a hazard to any person, that inspector may issue a prohibition notice. Who may the notice be issued to?

2 s.31AD(1)

(d) What are the requirements of the Act regarding the maintaining of records of the issue of an improvement or prohibition notice?

1 s.31AT(a)&(b)

(e) The Act provides that the State mining engineer may do certain things with respect to an improvement or prohibition notice that has been referred for review. What are those things?

2 s.31AZ(1)(a)-(c)

## **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** 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. The Regulations require that certain information be provided when giving notification of commencement of mining operations 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)

6. The principal employer and each employer must ensure that a health assessment is carried out.

(a) How frequently should the assessment be carried out? 1 3.26(1)

(b) What must the assessment include? 2 3.26(2)(a-d)

(c) What is defined as designated work? 1 3.23

(d) What extra assessment should a person doing designated work be given? 1 3.26(2)(e)

### **Regulation Part 4 - General Safety Requirements**

7. 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**

8. Cables installed in a mine are required to be protected by a metallic covering.

What are the five exceptions to this requirement? 5 5.20(3)

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

9. (a) Define a pressure vessel. 2 6.1
- (b) What is required of the employer when plant has hot or cold parts? 3 6.28

## Regulation Part 7 - Occupational Health

10. (a) What are the action levels for noise? 1 7.3
- (b) What methods of noise reduction must be considered by the manager when the action level is exceeded, or is likely to be exceeded? 2 7.5
- (c) What do the Regulations require with regard to personal hearing protection? 2 7.6
11. 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

12. What must a shotfirer do if repriming and refiring has failed to explode all explosive in a misfired hole in a surface mining operation? 5 8.49
13. (a) What do the regulations require with regard to the suspension of work when a misfire is suspected to have occurred in an underground mine? 3 8.44(1)&(2)
- (b) What do the Regulations require with regard to the suspension of work in surface mining operations if a misfire is suspected to have occurred? 2 8.45

## Regulation Part 9 - Ventilation and Atmospheric Contaminants

14. The manager is required to appoint a ventilation officer.
- (a) Is the manager allowed to appoint more than one ventilation officer? 1 9.3(2)
- (b) Who does the manager notify, and by what means? 2 9.3(3)
- (c) Who may grant exemption from the requirement to have a ventilation officer? 1 9.3(4)
- (d) On what grounds may the exemption be granted? 1 9.3(4)

- |     |   |   |         |
|-----|---|---|---------|
| 15. | (a) What is the manager required to do if there is a risk of exposure to a toxic or asphyxiant substance in excess of the peak or STEL exposure standard? | 2 | 9.12(2) |
|     | (b) What is the manager required to do if the level of an atmospheric contaminant exceeds the peak or STEL exposure standard?                             | 3 | 9.12(4) |

**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. | (a) What is required of the person in charge of the underground mine at the time when any part of the mine becomes dangerous from any cause?          | 2   | 10.12(1) |
|     | (b) What must the underground manager ensure before allowing any person to enter the part of the mine considered dangerous?                           | 1.5 | 10.12(4) |
|     | (c) Under what circumstances can personnel be allowed into the part of the mine considered dangerous prior to resumption of normal mining operations? | 1.5 | 10.12(6) |

**Regulation Part 13 - Surface Mining Operations**

- |     |  |   |         |
|-----|--|---|---------|
| 18. | What do the Regulations require regarding:   |   |         |
|     | The manager's responsibilities with respect to the design, layout, construction and maintenance of dumps and stockpiles? | 5 | 13.5(1) |

**END OF PAPER**

**April 2012**

**WESTERN AUSTRALIA**

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**SECTION 2**

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# **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 principal employer must appoint a quarry manager when any person is employed in a quarry.

What qualifications are required of the quarry manager in charge of  
(a) a quarry employing 25 or more persons?  
(b) a quarry employing less than 25 persons?

2 s.37(2)(b)  
2 s.37(3)(b)

The number of persons employed in the operation of the quarry includes certain areas of activity.

(c) List the various areas.

1 s.37(2)

Some quarries may be operated without a certificated quarry manager.

(d) What are these two categories of quarry, and the conditions which govern their management?

3 s.37(4)

(e) If a certificated quarry manager is not required, who is responsible for the control and supervision of the quarry?

1 s.37(5)

(f) What conditions apply to exploration operations with regard to management appointments?

1 s.37(6)

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

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 **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. General details are required in the notification of commencement, suspension and abandonment of a mining operation.  
(Please note this is in addition to the general details required under 3:12)

What details are required in the notification of abandonment of a mine 5 3.16

### **Regulation Part 4 - General Safety Requirements**

6. (a) When must appropriate first aid equipment, facilities and services be provided at the mine? 1 4.24(1)  
(b) What must be considered when determining what first aid equipment facilities and services are appropriate? 4 4.24(2)
7. What do the Regulations require with regard to self rescuers in underground mines 5 4.34

### **Regulation Part 5 - Electricity in Mines**

8. Cables installed in certain parts of a mine are required to be protected in a specific fashion.  
What are the conditions that apply to the covering of the cable? 5 5.20(1)(2)

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

9. The principal employer and every other employer must ensure that guarding is provided for plant and its operation.  
Describe the three types of physical barrier that are allowed and the optional system if the physical barriers are not practicable. 5 6.2(f)
10. Where the design of existing plant is altered what are the employer's duties? 5 6.23

## Regulation Part 7 - Occupational Health

- |     |   |   |            |
|-----|---|---|------------|
| 11. | (a) What is required of each responsible person with regard to sewage and septic tank systems and waste disposal sites? | 1 | 7.14(1)    |
|     | What do the Regulations require with regard to  |   |            |
|     | (b) Waste timber and other material underground?  | 2 | 7.15       |
|     | (c) Stagnant water underground?   | 2 | 7.16       |
| 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) |
|-----|--|---|-----------------|

## Regulation Part 10 - Specific Requirements for Underground Mines

- |     |   |   |          |
|-----|---|---|----------|
| 14. | What do the Regulations require to be done in terms of geotechnical considerations, with respect to <b>workplaces, travelways</b> and <b>installations</b> underground? | 5 | 10.28(2) |
| 15. | What do the Regulations require regarding Remote Controlled Equipment?  | 5 | 10.45    |

## Regulation Part 11 - Winding, Winding Ropes and Signals

- |     |   |   |       |
|-----|---|---|-------|
| 16. | What do the Regulations require regarding |   |       |
|     | (a) Winding engine fire precautions?      | 4 | 11.29 |
|     | (b) Winding ropes - History?              | 1 | 11.39 |

## Regulation Part 13 - Surface Mining Operations

- |     |  |   |         |
|-----|--|---|---------|
| 17. | What do the Regulations require regarding:   |   |         |
|     | The manager's responsibilities with respect to the design, layout, construction and maintenance of dumps and stockpiles? | 5 | 13.5(1) |

18. (a) What has to be taken into consideration when faces and benches are being designed in a quarry? 1 13.9(1)
- (b) What are the requirements regarding scaling of bench faces? 2 13.9(2) &(9)
- (c) What must a manager ensure when a bench or series of benches are left unworked? 2 13.9(3)

**END OF PAPER**