

**REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF MINERALS AND ENERGY
EXAMINATION FOR THE MINE SURVEYOR'S CERTIFICATE OF COMPETENCY**

DATE: 15 APRIL 2004 (Thursday)
TIME: 12:30 – 14:30 (2 hours)

TOTAL MARKS: 100
TO PASS: 60

MINING LEGISLATION

PART A – MINERALS ACT, 1991 (ACT 50 OF 1991) AS AMENDED.

QUESTION 1

- a) Define “prospecting” in terms of the Act. (3)
 - b) Name 6 places on land where no prospecting permits may be issued. (6)
- [9 marks]

QUESTION 2

- a) Define “rehabilitation” in terms of the Act. (3)
 - b) Who must carry out the rehabilitation of the surface of land where prospecting or mining takes place? (2)
 - c) What are the 4 provisions of the Act with regard to the rehabilitation of the surface of land where any prospecting or mining operations are carried out? (4)
 - d) Who must approve an environmental management programme, prior to the commencement of opencast mining operations? (1)
 - e) Pending the approval of the above-mentioned programme, who may require that an environmental impact assessment be carried out in respect of the intended mining operations? (1)
 - f) Who will be liable for the costs incurred in respect of the environmental impact assessment called for in question 2(e) above? (1)
- [12 marks]

PART B – THE MINE HEALTH AND SAFETY ACT, 1996 (ACT 29 OF 1996) AS AMENDED.

QUESTION 3

Define the following in terms of the above-mentioned Act:

- a) “employee”
- b) “employer”
- c) “hazard”
- d) “risk”
- e) “health”

[5 marks]

QUESTION 4

State 5 objects of the above-mentioned Act.

[5 marks]

QUESTION 5

State 5 functions of the Chief Inspector of Mines.

[5 marks]

PART C – REGULATIONS IN FORCE IN TERMS OF SCHEDULE 4 OF THE MINE HEALTH AND SAFETY ACT, 1996 (ACT 29 OF 1996) AS AMENDED.

QUESTION 6

- a) Define “shaft” in terms of the Regulations. (4)
- b) State the requirements of the Regulations whenever a shaft is being sunk through ground, which contains, or is likely to contain, an accumulation of water, which may constitute a danger. (5)

[9 marks]

QUESTION 7

As an Assistant Section Surveyor on a mine, you are responsible for the surface surveying of the property and the correctness of the surface plan and the surface contour plan. Discuss the requirements of the regulations in the event of when these plans are to be brought up to date by aerial photography methods.

[9 marks]

QUESTION 8

- a) Discuss the action issues when the management of two adjacent underground mines decide to mine their common boundary pillar. (5)
- b) What are the requirements of the regulations with regard to boundary pillars to be left standing on:
- (i) coal mines
 - (ii) metalliferous mines
 - (iii) diamond mines, and
 - (iv) open cast workings?

(8)
[13 marks]

QUESTION 9

- a) State the provisions in respect of accurate representation on plan, of any point. (3)
- b) State the provisions of the relevant regulation where difficulties incidental to the accurate representation of any workings on a plan are such that the mine surveyor cannot accept responsibility for their accuracy within the prescribed limits. (3)
- c) State the limits of error in respect of a closed traverse. (3)
- d) State the limits of error in level between any two survey stations. (2)

(2)
[11 marks]

QUESTION 10

What are the requirements of the regulations with regard to:

- a) Departmental copies of prescribed plans; (3)
- b) Updating, return and delivery of Departmental copies: and (3)
- c) Prescribed mine plans and copies, in the event of closing down of a mine? (4)

(4)
[10 marks]