



EXAMINATION PAPER

SUBJECT: CHAMBER OF MINES OF SOUTH AFRICA - EXAMINATION FOR THE CERTIFICATE IN MINE ENVIRONMENTAL CONTROL PAPER 6 THE MINE HEALTH AND SAFETY ACT AND REGULATIONS SUBJECT CODE: COMMEC EXAMINATION DATE: 16 MAY 2017 Time: 08:30 to 11:00	Examiner: JJ Beukes Moderator: R McIntyre TOTAL MARKS: [100] PASS MARK: 60%
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NUMBER OF PAGES: 5

Examination Instructions:

1. Answer all the questions in *English*.
2. Put your identity number on the outside cover of each book used, and on any graph paper or other loose sheets handed in.

NB: Your name must NOT appear on any answer book or loose sheets.
3. This is an **OPEN BOOK EXAM**. References, including guidance notes, guidelines for mandatory codes of practices, the Mine Health and Safety Act and Regulations and Regulations in force in terms of Schedule 4 of the Mine Health and Safety Act are permitted. **NO OLD PAPERS FROM PREVIOUS EXAMS WILL BE ALLOWED.**
4. Write in ink on the **right hand page** only – the left hand page **will not** be marked.
5. Illustrate your answers by means of sketches or diagrams wherever possible.
6. Please quote all the relevant regulation numbers.
7. Keep your answers short and to the point, it is not necessary to provide word-perfect reproductions of the regulations. In many cases a single word or phrase will suffice.
8. Please note that you are not allowed to contact your examiner or moderator regarding this examination.
9. Cell phones are NOT allowed in the examination room.

QUESTION 1 - Guidelines and Guidance Notes**A. Guidance Note for Multiblasting Operations - Re-Entry interval after blasting and permission to blast more than once in 24 hours in terms of Regulation 9.2(1)."****1.1 Define**

1.1.1 Time-blasting: (1)

1.1.2 Multi-blasting (2)

1.1.3 Fixed-time Multi-blasting (3)

B. Guideline For The Compilation Of A Mandatory Code Of Practice For The Prevention Of Fires At Mines**1.2 Define**

1.2.1 Fire Detection System (2)

1.2.2 Flame Retardant (3)

1.2.3 Hot Work (3)

C. Guideline For The Compilation Of A Mandatory Code Of Practice For An Occupational Health Programme On Thermal Stress**1.3 Define**

1.3.1 Abnormally hot environment for underground operations (1)

1.3.2 Abnormally hot environment for surface operations (3)

1.3.3 Hot environment (3)

1.4 Describe the Formal Monitoring Period for Cold Stress (4)

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QUESTION 2 – General Regulations

- 2.1 List any twelve (12) requirements of a Mine Ventilation and Rescue Plan. (6)
- 2.2 What is the requirement for the grid that must be displayed on the Mine Ventilation and Rescue Plan? (2)
- 2.3 The employer must take reasonably practicable measures to ensure that every refuge bay is examined to ensure compliance, by whom and at what intervals must these examinations be done? (6)
- 2.4 Define hazardous location (9)
- 2.5 What must the employer do to prevent employees from being trapped in any underground excavation? (1)
- 2.6 Where it is not practicable to provide the option in Question 2.5, what else must the employer do? (1)

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QUESTION 3 - Regulations

- 3.1 The employer must report to the Principal Inspector of Mines in a manner prescribed by the Regulations, any dangerous occurrences at the mine. List the four (4) that will be applicable to you as the Section 12.1 appointee and elaborate under which conditions this must be done. (12)
- 3.2 Discuss the regulation in which the employer must ensure that a competent person reports to the employer relating to explosions, fires and flooding. (3)
- 3.3 In terms of Question 3.2 above, define the requirements for the competent person that must report to the employer relating to explosions, fires and flooding. (6)
- 3.4 The employer must establish and maintain a system of medical surveillance as contemplated in section 13, for all employees who are exposed to health hazards. State the limits or requirements at which these systems must be implemented for the following health hazards:
- 3.4.1 Asbestos dust (1)
- 3.4.2 Coal Dust (2)
- 3.4.3 Crystalline Silica Dust (1)

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QUESTION 4 - Regulations

- 4.1 Define booster fan (4)
- 4.2 Define main fan (2)
- 4.3 The employer must take reasonably practicable measures with regards to a mobile diesel engine powered unit when not in use. List the regulation number and state what measures must be taken. (4)
- 4.4 The employer must take reasonably practicable measures regarding conveyor belt installation. List the regulation number and state what measures must be taken. (5)
- 4.5 A flammable gas measuring instrument or a flammable gas warning device being used on a mine must comply to a certain standard, state the standard to which it must comply and the regulation that stipulates this requirement. (2)
- 4.6 As the Section 12.1 appointee, you must submit reports to the Regional Principal Inspector of Mines. State the regulation number, list the relevant form numbers that must be submitted and within which what period this must be done. (5)
- 4.7 The employer of every underground mine must take reasonable measures for the prevention of flammable gas and coal dust explosions during blasting operations. State the regulation number and list these requirements. (3)

[25]**TOTAL MARKS: 100**