

A

HOW TO PREPARE BOOKLET

FOR THE

ENVIRONMENTAL SCIENTIST

20614

WRITTEN EXAMINATION

State of Alabama
Personnel Department
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NOTE

**IF YOUR APPLICATION MEETS THE MINIMUM REQUIREMENTS
FOR ENVIRONMENTAL SCIENTIST (20614)
YOU WILL BE SCHEDULED TO TAKE THE EXAMINATION.**

**YOU WILL RECEIVE A TEST CARD APPROXIMATELY
TWO WEEKS BEFORE THE TEST.**

INTRODUCTION

Applicants meeting the minimum requirements for *Environmental Scientist* will be scheduled to sit for the written examination. To be placed on the register, you must complete an examination. Your performance on the examination will make up 100% of your final score.

This booklet has been designed to help you prepare for the *Environmental Scientist (20614)* examination. It contains a description of the exam, study suggestions, and example test questions. Read this booklet carefully so that you will know what is expected of you at the test site and during the exam.

REASONABLE ACCOMMODATIONS

If you would like to request special testing accommodation or have any questions concerning the test site or testing conditions, please contact the State Personnel Department at (334)242-3389.

GENERAL INFORMATION ABOUT THE EXAM

The examination for this classification is a multiple-choice exam. A multiple-choice exam is designed to measure specific knowledges and abilities. As an applicant for *Environmental Scientist*, you are expected to have some of the knowledges and abilities necessary to carry out the duties of the job. The purpose of the exam is to measure those knowledges and abilities necessary for an applicant to possess **before** employment. The specific knowledges and abilities that will be measured on this exam include:

- ❖ **The knowledge of Biology**
- ❖ **The knowledge of Chemistry**
- ❖ **The knowledge of physical science**
- ❖ **The knowledge of Algebra**
- ❖ **The knowledge of basic math**
- ❖ **The knowledge of English language to include spelling, grammar, and punctuation**
- ❖ **The ability to communicate in writing, by creating general correspondence and documents, to include arranging material in a logical order, clarity and conciseness, and use of standard grammar, spelling, punctuation, and sentence structure**
- ❖ **The ability to arrange data in a logical order**
- ❖ **The ability to proofread**
- ❖ **The ability to schedule work/time**
- ❖ **The ability to read maps such as topographical, county, raised relief, and road maps**

The exam consists of **84** multiple choice questions and is divided into eleven sections. Each section will measure one of the knowledges listed above. You will be presented with a test question and four possible responses to that question. You will then select the BEST possible response to the question.

You will have 3 hours to complete the exam.

WHAT TO DO BEFORE YOU COME TO TAKE THE EXAM

- Be well rested. Get a good night's sleep for several nights before the exam.
- Allow plenty of time to get to the exam location. Plan to get there approximately 10 minutes before the scheduled time to avoid feeling rushed and late.
- Come to the exam dressed comfortably.
- Read this booklet. You may want to practice using the example items.
- Do **not** bring this booklet or any other study materials to the exam location. You will not be permitted to bring them into the testing room.
- You must bring several sharpened #2 pencils with good erasers. It is also recommended that you bring at least one (1) highlighter pen.
- You must bring the NOTIFICATION CARD that you received from the State of Alabama Personnel Department. This card lists the examination title; location of exam; and date, day, and time of examination.
- You must also bring a form of PICTURE IDENTIFICATION to the exam location. This may be your driver's license, a military identification card, or passport. You will not be allowed into the testing location without your NOTIFICATION CARD and PICTURE IDENTIFICATION.
- You may bring a calculator to use for the Environmental Scientist examination. Small solar powered or battery operated calculators that perform basic functions such as addition, subtraction, multiplication, division, square roots, or percentages are allowed. Calculators that plug-in, utilize tape, have word processing, spelling, thesauruses, or other storage and retrieval capabilities (except basic memory functions) are not allowed. ***Calculators that are a feature on a cell phone are not permitted.*** Calculators are subject to inspection by exam monitors. Applicants may not borrow or share calculators at the exam site.

DURING THE EXAM

When you report to the exam, a test monitor will check you in and provide specific instructions on where to sit for the exam. The test monitor will be in the testing room and will be available to assist you if you have any problems; however, the monitor **will not interpret exam questions for you.**

The general exam instructions that you will receive during the exam are included on the following pages.

HOW TO TAKE THE EXAM

- Use your time efficiently. The exam is not a test of how quickly you can answer questions; however, you should pace yourself to ensure that you have enough time to complete it. In the section(s) of the test that require reading, try to keep a steady pace. Try to finish as much of the test as you can.
- As on most tests, you will find some of the exam items to be harder than others. Even if you do not know an answer, it will be to your advantage to guess since your score will be based on the number of correct answers. It is suggested that you first work through the test without spending too much time on any one item. After you have gone through the test once, go back to those items you may have skipped, or of which you were unsure. Remember: it is to your advantage to answer every item.
- When you take the exam, you will be given an exam booklet and a separate answer sheet. The person giving the exam (the exam monitor) will explain how to complete the answer sheet and how to mark your answers. **The most important thing to remember is that you should always be sure the item number in the exam booklet is the same as the number you are marking on the answer sheet, and that you mark only one answer per item.** Items with more than one answer will be counted as incorrect.

SCORING

Your education and experience have already been reviewed to determine if you meet the minimum qualifications for this position. You will not receive additional credit for your education and experience. Your score on the multiple-choice exam will make up 100% of your final score.

When the written examination is graded, the scores will be grouped into bands. When you receive notification of how you did on the exam, you will not be given a numerical score (e.g., You will not receive a score of 95 out of 100.). Rather, you will be informed into which band your score fell.

Approximately four to six weeks after completing the exam, you will receive a Notice of Examination Results postcard in the mail. This postcard will identify your score, or Band placement, for the written exam. If you have not received your score within four to six weeks, you should call State Personnel Department.

In addition to your Band placement, you may also obtain your standing, or rank on the register, online at www.personnel.alabama.gov. From the home page, you should click on “Applicants” and then “Register Standings”, and follow the instructions. For security purposes, you must now create an online profile in order to access your standing.

The following page will provide you with information to help you understand the banding procedure.

WHAT IS BANDING?

Banding is one way to reduce the impact of fluctuations in test scores that do not provide meaningful information about differences in the ability to do the job. One important purpose of testing is to identify the differences in test scores that reflect real differences among candidates. Banded scoring is a statistical procedure for grouping raw test scores that statistically are not meaningfully different from one another. In banded scoring, bands are set objectively and mathematically. They are not manipulated arbitrarily.

MISCONCEPTIONS ABOUT BANDING

There are many misconceptions about banding and the use of banded scores. Some of the most common misconceptions are listed below. Each misconception is followed by a clarification.

1.) Misconception: Each band should have the same number of people.

The people in a band are similar to each other in that statistically there is no meaningful difference in their scores. Sometimes Band 1 may be very large and at other times it may be small. We do not force bands to be a certain size. The size of the bands is based on the scores people make.

2.) Misconception: Band numbers have no meaning. I don't have a score.

Think of a band as a group of tied scores. Think of a band as a group of scores that statistically are not meaningfully different. In school, two students with average grades of 94.5 and 94.3 would both be grouped into a band called "A" because the teacher cannot be sure that .2 of a point is a real difference in achievement. Think of scores on achievement tests children take in school. The fine print on the tests always cautions you not to focus on the numerical score but rather on the comparative score which uses some grouping technique such as percentiles, stanines, standard deviations, grade levels, etc. These grouping techniques are considered forms of banding.

3.) Misconception: Band numbers are the same as letter grades.

Band 1 does not equate to an "A," Band 2 to a "B," etc. In school a predetermined numerical score (e.g., 92-100) equals an A. In banding, scores are banded only in relation to one another. Unlike grade school bands, the width of bands is not set in advance. You compete against your peers only. Your scores are set in relation to your peers only.

4.) Misconception: A band score on one test has the same value as a band score on another test.

Banded scores are test specific and cannot be compared to banded scores on other tests.

5.) Misconception: People who have been on the job longest should be in the top bands.

Time spent in a job may not be the same as skill in doing the job. The people with the strongest skills (or who did best on the exam) should be in the top bands. Some of these people will have been in the job longer than others. Years of service do not always equal proficiency.

6.) Misconception: A standing in Band 4 or below automatically indicates failure or ineligibility for jobs.

This statement is false. A band score of 4 or lower is not automatically equated with failure. The true test of your employment opportunities is whether or not you can be certified and considered for a job vacancy.

7.) Misconception: Banding replaced the “Rule of 10.”

Banding did not replace the “Rule of 10.” The “Rule of 10” determines the number of bands to be certified. In the past, tied scores referred to an actual numerical score (e.g., two candidates with a score of 98.98 were considered tied) while now all of the scores within a band are considered tied.

8.) Misconception: People in a band do not differ.

When several people are placed in the same band, it does not mean that those people do not differ. Instead, it means that their scores on the exam do not differ enough to be separate scores.

STUDY SUGGESTIONS

In preparing for the exam, you may wish to employ some of the following strategies to help you study:

- ✓ Pretend that you are in a real testing situation and try not to talk to anyone else while you are answering the sample test items.
- ✓ Practice following instructions. Read sections of how-to books or instruction manuals you may have at home and practice taking notes or highlighting important aspects of the sections.
- ✓ Practice using a hand-held calculator to add, subtract, multiply, and divide.
- ✓ Study the Sample Test Items in this How to Prepare Booklet.

Other strategies not listed above, that you have used in the past, may also be helpful in preparation for the exam.

SAMPLE TEST ITEMS

BIOLOGY

1. The microscopic pores that allow carbon dioxide to pass into leaves and water vapor to pass out of them are referred to as _____.
 - A. stigma
 - B. stomata
 - C. stroma
 - D. none of the above
2. All arthropods have _____.
 - A. single appendages
 - B. exoskeletons
 - C. endoskeletons
 - D. all of the above

CHEMISTRY

3. The molecule ozone is expressed in Periodic Table symbols as _____.
 - A. NO_2
 - B. O_3
 - C. NaO
 - D. O_2
4. A(n) _____ is when two or more substances are combined, but not chemically joined.
 - A. element
 - B. compound
 - C. mixture
 - D. none of the above

PHYSICAL SCIENCE

5. Which of the following is not a physical science?
- A. Chemistry
 - B. Physics
 - C. Astronomy
 - D. Biology
6. _____ contains low concentrations of dissolved [salts](#) and other total dissolved solids.
- A. Brackish water
 - B. Brine
 - C. Freshwater
 - D. Saline water

ALGEBRA

7. If $x^2 = 129 + 15$, then the value of x is _____.
- A. 4
 - B. 12
 - C. 144
 - D. 114
8. Simplify the following equation: $2y^2 + 2y(11y+6)$
- A. $24y^4 + 12y$
 - B. $24y^2 + 12y$
 - C. $12y^2 + 24y$
 - D. none of the above

MATH

9. Add $1/4 + 2/3 + 7/12 - 3/8 =$ _____.
- A. $9/12$
 - B. $3/16$
 - C. $1 \frac{1}{12}$
 - D. $1 \frac{3}{24}$

10. Calculate $534 + 63 - (12 \times 11)$ _____.

- A. 339
- B. 465
- C. 475
- D. 597

ENGLISH

11. Which of the following sentences represents STANDARD English grammar?

- A. Can you attend the water conservation meeting on Thursday, May 5, 2008.
- B. Can you attend the water conservation meeting, on Thursday May 5, 2008?
- C. Can you attend the water conservation meeting on Thursday, May 5 2008?
- D. Can you attend the water conservation meeting on Thursday, May 5, 2008?

12. Which of the following words is spelled correctly?

- A. comittee
- B. committe
- C. commitee
- D. none of the above

ABILITY TO COMMUNICATE IN WRITING

Each of the following sentences is preceded by the identifying letters A, B, C, or D. The sentences are arranged so that the proper sequence of events has been scrambled. The questions following the sentences deal with when each event occurred during the complaint investigation.

- A. He called the main facility to request more supplies to be delivered to the sampling site.
- B. The clerk at the facility stated that the shipment would be there tomorrow.
- C. Chris needed additional supplies to setup the sampling event.

13. What happened first?

14. What happened second?

15. What happened last?

PROOFREADING

Determine how many errors are in each sentence.

16. The puppy trembling with exhaustion, lied on the floor.

- A. The line contains no errors.
- B. There is one (1) error in the line.
- C. There are two (2) errors in the line.
- D. There are three (3) or more errors in the line.

17. I herd him panting for breathe.

- A. The line contains no errors.
- B. There is one (1) error in the line.
- C. There are two (2) errors in the line.
- D. There are three (3) or more errors in the line.

18. Susan run to the store to by a bag of sugar

- A. The line contains no errors.
- B. There is one (1) error in the line.
- C. There are two (2) errors in the line.
- D. There are three (3) or more errors in the line.

ARRANGING DATA

19. Arrange the following names in alphabetical order.

- 1. Nichols
 - 2. Nickels
 - 3. Nichol
 - 4. Nabors
-
- A. 2, 4, 3, 1
 - B. 4, 2, 1, 3
 - C. 4, 1, 2, 3
 - D. 4, 3, 1, 2

20. Arrange the following in ascending numerical order.

- 1. 69,458.09
- 2. 69,485.08
- 3. 68,635.85
- 4. 68,485.08

- A. 2, 3, 1, 4
- B. 4, 2, 3, 1
- C. 4, 3, 1, 2
- D. 4, 3, 2, 1

SCHEDULING

Read the scenario. Then read and respond to each item. Base your responses on the situation only, not on previous experience. Select the MOST APPROPRIATE choice. Consider each question to be a separate situation and answer each question independently of the others.

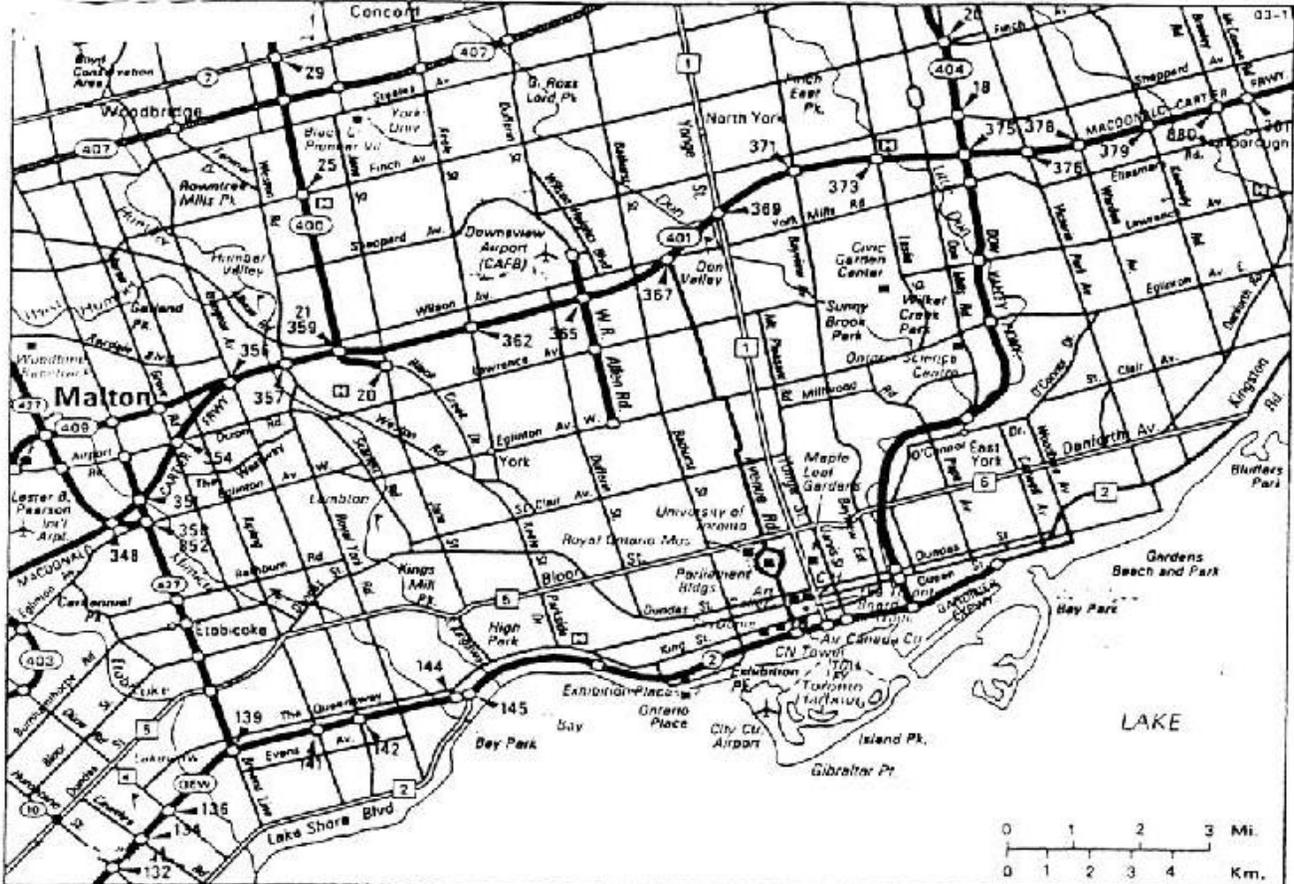
Sally works from 8:00 am to 5:00 pm daily. She needs to schedule a two-hour conference today. According to her schedule below, when will she be able to schedule it? Please note that she must attend the briefing session prior to the conference and she may not rearrange her schedule.

8:00 am		1:00 pm	
9:00 am		2:00 pm	Review applications
10:00 am	Briefing Session	3:00 pm	
11:00 am		4:00 pm	
12:00 pm	Lunch	5:00 pm	

21. When can Sally schedule the two-hour conference today?

- A. 8:00 am – 10:00 am
- B. 10:00 am – 12:00 pm
- C. 1:00 pm – 3:00 pm
- D. 3:00 pm – 5:00 pm

ABILITY TO READ MAPS



22. If you are traveling north on Highway 400 where could you be going?

- A. Lake Shore Boulevard
- B. Malton
- C. Civic Garden Center
- D. None of the above

23. Finch Avenue is _____ to Sheppard Avenue.

- A. Perpendicular
- B. Parallel
- C. South of
- D. None of the above

ANSWER KEY

BIOLOGY

1. B
2. B

CHEMISTRY

3. B
4. C

PHYSICAL SCIENCE

5. D
6. C

ALGEBRA

7. B
8. B

MATH

9. D
10. B

ENGLISH

11. D
12. D

ABILITY TO COMMUNICATE IN WRITING

13. C
14. A
15. B

PROOFREADING

16. B
17. C
18. D

ARRANGING DATA

19. D
20. C

SCHEDULING

21. D

ABILITY TO READ MAPS

22. D
23. B

REMEMBER!!!

Be sure to bring your NOTIFICATION CARD and a form of PICTURE IDENTIFICATION when you come to the exam, as you will not be allowed into the testing location without them.