



OFFICE OF TRAINING
PROCEDURES

OTP 5.02 REV. 0
Effective Date 4-6-89

TITLE: FORMULATING TESTS FROM QUESTION AND ANSWER BANKS AND ADMINISTERING TESTS

1.0 PURPOSE

The purpose of this procedure is to provide directions for formulating a test using the questions from a question and answer bank. In addition it establishes the administrative controls for administering tests.

2.0 SCOPE

This procedure establishes the methods and outlines the responsibilities for creating, administering and grading written and oral tests. This procedure does not address the administration of job performance measures. The licensed Reactor Operator and Senior Reactor Operator programs may use Nuclear Regulatory Commission exams when exam banks do not exist.

3.0 DEFINITIONS

3.1 Alternative Exam - The questions in the alternative exam, while the same as in the regular exam, appear in a different order. Alternative exams are administered when seating in the classroom designated for testing cannot appropriately accommodate students (i.e., students separated by a empty desk or the equivalent space).

4.0 DISCUSSION

Tests are designated confidential by the Office of Training. Unauthorized duplication or distribution of their contents is subject to disciplinary action up to and including dismissal.

5.0 RESPONSIBILITY AND AUTHORITY

5.1 The instructor responsible for administration of a particular course also has responsibility for selection/development of exam questions and for scoring of exams.

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5.2 The appropriate section supervisor is responsible for review and approval of examinations.

5.3 The administration section is responsible for inclusion of drawings/figures into exams, and for exam reproduction.

6.0 REFERENCES

NUREG 1021, Operator Licensing Examiner Standards;
October 1987

7.0 ACTIONS

7.1 Developing Tests Using an Exam Bank of Questions

7.1.1 The instructor assigned the responsibility for creating a written or oral test should request a hard copy of the question and answer bank for the appropriate program from the administration section.

7.1.2 The instructor reviews Appendix 8.1; Objective/Test Matrix for the program or course, and selects the objectives to be covered by the test being created. Consideration should be given to covering all lesson enabling objectives in a series of tests administered over the term of the course or program. The instructor selects test questions, based upon the objectives to be covered, from the program question and answer bank by writing the record number of the question in the appropriate box on Appendix 8.1. Appendix 8.1 is then transmitted to the administration section.

7.1.3 In preparing for the administration of an oral examination the examiner may request question from the question bank or choose to formulate other questions. When formulating questions they must be based upon the approved objectives.

- 7.1.3.1 In the case of oral exams it is the responsibility of the instructor to provide the training supervisor with a copy of the exam questions for approval. They shall be prepared in the form of an official oral exam guide which indicates the objectives or the questions that will be used. The questions should be written such that they are grouped by objectives. Space should be allotted below each question to permit evaluator comments.
- 7.1.3.2 The training section supervisor shall indicate approval by signing the cover page of the oral exam guide.
- 7.1.4 The administrative section shall provide a hard copy printout of the exam with the requested exam questions/answers or objectives in the case of an oral test, to the instructor. In addition Appendix 8.1 is returned to the instructor.
- 7.1.5 The instructor shall review the printout(s) to ensure that the appropriate questions/objectives have been selected, and indicate such by signing the printout.
- 7.1.6 When satisfied that the appropriate questions and objectives have been selected, the instructor shall forward the exam and Appendix 8.1 to the section supervisor for approval.
- 7.1.7 The training section supervisor shall review and approve for adequacy and distribution of questions with regard to the established objectives. Approval is indicated by signing the cover page of the examination.
- 7.1.8 The section supervisor shall forward the entire exam package to the training administration section for inclusion of drawings/figures.

7.1.9 The Office of Training administration section shall forward the exam, with drawings/figures included, to the originating training instructor.

NOTE: All examination cover sheets are to include the following statement to be signed by the examinees: "All work done on this examination is my own. I have neither given nor received aid."

7.1.10 The training instructor shall review the approved exam with drawings/figures attached and, when satisfied with the quality and appropriateness of the drawings/figures, shall sign the exam.

7.2 Preparing Exams for Administration

7.2.1 The training instructor responsible for administering approved exams completes the appropriate request form to indicate number of exam copies and date needed. This form, with the signed copy of the exam attached, is forwarded to the administration section.

7.2.2 Exam hard copies (original and copies) are to be transmitted in a sealed envelope.

7.3 Administering Exams

7.3.1 Exams are administered at appropriate times during the lesson or course.

7.3.2 Exams are administered following accepted guidelines for exam administration, including the following:

- o Exams are administered in classrooms with adequate space (students separated by an empty desk) for all being tested, to assure test integrity.
- o When students are unable to be appropriately accommodated in the designated testing space, an alternative test is administered, as necessary.

NOTE: In the case of NRC licensed operator examinations, the administration of alternate exams may not be acceptable to the NRC. A ruling should be obtained from the NRC prior to selecting this option.

- o Student desks are cleared of all extraneous material during testing.
- o All references not approved for use during the examination are removed from the view of the examinee.
- o An examination proctor shall be present at all times and maintain surveillance of the examinees during the examination period.
- o Oral examinations may be administered at on-the-job locations. Special care should be taken in this case to ensure that the exam is not affected by the environment in which it is administered such as, noise, work activity, area accessibility.
- o When additional or spontaneous questions are generated during an oral exam, they must be related to the objectives tested. Each additional question and an evaluation of the response shall be entered by the instructor beneath the referenced objective.

7.3.3 Administering and Scoring a Test

- 7.3.3.1 In the administration and scoring of the test, the aim is to emphasize objectivity.
- 7.3.3.2 The following are a few practices to aid instructors in administering a test. Prepare the test far enough in advance so that
 - o clear copies can be assured for each student.

- o time estimates can be made for completing each section, and this information added to the test.
- o directions for completing the different types of items can be tried out on peers or a supervisor to eliminate ambiguity and modify as needed; and
- o an explicit key for scoring can be completed.

7.3.3.3 When the test is being administered, create an atmosphere that allows students to concentrate on taking the test. See that the room is quiet and free from distractions, that the temperature is comfortable, and that the lighting is adequate. Give any instructions prior to the test. Explain the purpose of the test, how it will be graded, and any instructions for taking it that are not included in the written directions. You want to have students raise their hands when help is needed.

7.3.3.4 In scoring the test, you can be more efficient if you check the whole test, one section at a time (the same way you constructed it). For example, if the test is composed of 30 multiple-choice items, 20 matching items, and 10 essay items, correct all of the multiple-choice items, then the matching items, and finally each of the essay items one-by-one.

7.4 Examination Grading

- 7.4.1 Written examinations containing other than essay type questions are graded strictly in accordance with the answer key formulated from the question answer bank.
- 7.4.2 Written examinations containing essay type questions are scored for consistency according to an explicit examination key, one question at a time, before subsequent essay questions are scored.
- 7.4.3 Oral examinations are scored such that the response to a question or series of questions related to an objective is evaluated as being from 0% to 100% correct. The questions asked can be hand written following the associated objective on the oral examination guide along with the instructor's evaluation of the response in percent correct. The instructor should include comments with respect to incorrect responses to oral questions on a section of the guide that contains the specific question in order to substantiate scoring.

7.5 Test Storage

- 7.5.1 The administration section maintains the approved original copy of the exam in the appropriate program file.

8.0 APPENDICES

8.1 Objective/Test Matrix

