-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- **7210011** **-Session- 1991-92**
-Superclass- **PE**

-Title- **PHARMACEUTICS 1 (X1$^{1}/_{2}$)**

-DESCRIPTION-

Purpose

This module enables the student to acquire the knowledge of the principles of pharmaceutical practice. It is intended to support Pharmaceutics 2 and 3 and is primarily for student pharmacy technicians.

Preferred Entry Level

A general science background is recommended.

Outcomes

The student should:

1. describe the basic pharmaceutical principles and procedures and perform the relevant calculations necessary for the effective preparation, dispensing and safe handling of pharmaceutical preparations;

2. describe the professional and contractual responsibilities which determine pharmacy practice;

3. describe the basic legal controls over the sale and supply of medicines and poisons.

Assessment Procedures

Acceptable performance in the module will be satisfactory achievement of all the Performance Criteria specified for each outcome.

The following abbreviations are used below:

PC Performance Criteria
IA Instrument of Assessment

Note: The Outcomes and PCs are mandatory and cannot be altered. The IA may be altered by arrangement with SQA. (Where a range of performance is indicated, this should be regarded as an extension of the PCs and is therefore mandatory).

OUTCOME 1 **DESCRIBE THE BASIC PHARMACEUTICAL PRINCIPLES AND PROCEDURES AND PERFORM THE RELEVANT CALCULATIONS NECESSARY FOR THE EFFECTIVE PREPARATION, DISPENSING AND SAFE HANDLING OF PHARMACEUTICAL PREPARATIONS**

PCs

(a) The basic arithmetic calculations are correct.
(b) The description of the use and limitations of measurement equipment is correct.
(c) The description of the basic dispensing procedures is correct in terms of legal requirements and safe working practices.
(d) The definition of the requirements for packaging and labelling pharmaceutical preparations is correct.
(e) The identification of the factors which affect the stability and storage of pharmaceutical preparations is correct and identifies the need for stock rotation and stock control.
(f) The selection and use of a range of reference sources is appropriate for a given situation.

IA Assignment

The student should be presented with an assignment to test the knowledge and skills involved in describing the basic pharmaceutical principles and procedures necessary for the effective preparation, dispensing and safe handling of pharmaceutical preparations.

The assignment will consist of 3 parts:

(i) the student will be set 10 calculations related to performance criteria (a);
(ii) the student will be set 20 restricted response questions in total for performance criteria (b), (c), (d) and (e), which should be allocated as follows:

3 questions for PC (b).
7 questions for PC (c).
6 questions for PC (d).
4 questions for PC (e).

The restricted response questions will require the student to describe the use and limitations of measurement equipment, basic dispensing procedures, define the package and labelling requirements and identify the factors affecting the stability and storage of pharmaceutical preparations.

(iii) the student will be presented with a problem-solving exercise which would test the knowledge involved in the selection and use of a range of reference sources.

Satisfactory achievement of the Learning Outcome will be based on the student completing 8 out of the 10 calculations correctly for PC (a).

For PCs (b) - (e), a total of 16 questions must be correct.

For PC (b), 2 questions must be correct.

For PC (c), 6 questions must be correct.

For PC (d), 5 questions must be correct.

For PC (e), 3 questions must be correct.

For PC (f), the student must find the correct solution to the problem set.

OUTCOME 2 **DESCRIBE THE PROFESSIONAL AND CONTRACTUAL RESPONSIBILITIES WHICH DETERMINE PHARMACY PRACTICE**

PCs

(a) The description of the role of the Royal Pharmaceutical Society's Inspectors is accurate in terms of their major functions.

(b) The description of the Scottish Drug Testing Scheme is relevant in terms of working practices.

(c) The description of the relative roles of the pharmacist and the pharmacy technician in terms of professional responsibilities is correct.

(d) The description of the main duties and responsibilities of the chemist contractor to the health board is correct.

(e) The description of the administrative procedures for endorsing and pricing prescription forms is correct.

IA Restricted Response Questions

The test will consist of 12 restricted response questions which will test the student's knowledge of the professional and contractual responsibilities which determine pharmacy practice.

Satisfactory achievement of the Outcome will be based on the student answering 10 out of 12 questions correctly meeting PCs(a) to (e).

OUTCOME 3 DESCRIBE THE BASIC LEGAL CONTROLS OVER THE SALE AND SUPPLY OF MEDICINES AND POISONS

PCs

(a) The interpretation of current legislation affecting the sale and supply of a medicine and a poison including consumer protection is correct.

(b) The interpretation of current legislation affecting safe handling and storage of medicines and poisons is correct.

(c) The interpretation of current legislation affecting health and safety at work is correct in terms of pharmaceutical working practice.

IA Restricted Response Questions

The test will consist of 15 restricted response questions which will test the knowledge of basic legal controls over the sale and supply of poisons follows:

PC (a) 10 questions
(b) 2 questions
(c) 3 questions

Satisfactory achievement of the Outcome will be based on the student answering 12 questions correctly meeting the PCs.

The student should answer at least:

8 questions correctly for PC(a)
1 question correctly for PC(b)
2 questions correctly for PC(c)

The following sections of the descriptor are offered as guidance.
They are not mandatory.

CONTENT/CONTEXT

Safety regulations and safe working practices and procedures should be observed at all times.

Corresponding to Outcomes 1-3:

1. Arithmetic calculations should include percentages, dilutions, triturations.

   Measurement equipment refers to measuring cylinders, balances, syringes, tablet counters and pipettes.

   Dispensing procedure relates to private and NHS prescriptions and maintenance of patient records.

   Labelling of medicines - dispensed, counter-prescribed, manufactured and assembled.

   Materials used for containers and closures and their relative merits.

   Chemical, biological and physical factors affecting storage and stability.

   Information sources refer to the British National Formulary (BNF), British Pharmacoepia (BP), British Pharmaceutical Codex (BPC), European Pharmacoepia (EP), Martindale, Data sheet compendium, information departments (hospital and drug manufacturer), Drug Tariff, MIMS, Chemist and Druggist.

2. The pharmacist technician's role put into perspective with reference to the statutory ethical and contractual responsibilities of the pharmacist. Reference should also be made to the Guide to Good Manufacturing Practice and the Guide to Good Dispensing Practice.

3. Legal controls refer to appropriate information from the following list or the current appropriate legislation.

   Medicines Act 1968 and Regulations
   Misuse of Drugs Act 1971
   Poisons Act 1972
   Control of Substances Hazardous to Health (COSHH)
   Health and Safety at Work Act and regulations
   Consumer Protection Act
   Data Protection Act
   Limited List ("White list and black list)
   Methylated Spirits (Scotland) Act.
   NHS (Scotland) Act 1974 and Regulations.

SUGGESTED LEARNING AND TEACHING APPROACHES

The main principles, procedures and information should be introduced by exposition, re-inforced by handouts and worksheets which should incorporate problem-solving exercises. Worksheets should be designed to encourage students to use a wide range of text books and reference sources to solve problems. Student-centred practical exercises and the use of case studies and role play should be incorporated when appropriate to re-inforce teaching.

It is recommended that this module be taught by a pharmacist.