



**Model (No 12)**  
**Course Specification : Phytotherapy**  
**2020/2021**

Faculty of Pharmacy

Farabi Quality Management of Education and Learning - 15/1/2021

**University :** Mansoura University

**Faculty :** Faculty of Pharmacy

**Department :**

**1- Course data :-**

<b>Code:</b>	PG417				
<b>Course title:</b>	Phytotherapy				
<b>Level:</b>	Four				
<b>Program Title:</b>	• pharmaceutical sciences				
<b>Specialization:</b>	Major				
<b>Teaching Hours:</b>	<b>Theoretical:</b>	2	<b>Tutorial:</b>		<b>Practical:</b> 1

**2- Course aims :-**

1. At the end of the course, the student will be able to identify the concepts of phytotherapy, complementary and alternative medicines, and describe different types of complementary and alternative medicine as Phytotherapy and herbal remedies.
2. At the end of the course, the student will be able to recognize the mechanism of action, therapeutic uses and adverse drug reactions of plants used in phytotherapy.
3. At the end of the course, the student will be able to determine the principles and methods used in the quality control of herbal drugs and formulations.

**3- Intended learning outcomes of course (ILO'S) :-**

**a- Knowledge and understanding**

1. [a14] Classify the pharmacological properties of drugs including mechanism of action, therapeutic uses, dosage, contraindications, adverse drug reactions and drug interactions.
  - a14.1-Explain the mechanism of action, therapeutic uses and adverse drug reactions of plants used in phytotherapy.
2. [a16] List the bases of nutrition, nutraceuticals, complementary and alternative medicines.

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- a16.1-Identify the different types of complementary and alternative medicines.
  - a16.2-Recognize the concept of phytotherapy, complementary and alternative medicine
3. [a24] Identify the principles of quality assurance (QA) in education and of quality assurance of pharmaceutical processes and products.
- a24.1-Identify the principles and methods of quality control of herbal drugs and formulations.

### **b- Intellectual skills**

1. [b3] Determine suitable methods of analysis and QC of drugs as raw material, in dosage forms and in biological fluids.
- b3.1- Predict the suitable methods for evaluation of herbal drugs in herbal formulations.
2. [b9] Apply the pharmacotherapeutic principles in the proper selection and use of drugs from synthetic and natural origin in various disease conditions.
- b9.1-Select drugs from natural origin to be used for treatment of diseases of the different systems.
3. [b11] Assess possible drug interactions, adverse drug reactions, pharmacovigilance and other drug-related problems, as essential issues in implementing pharmaceutical care.
- b11.1-Evaluate the possible drug interactions and adverse reactions of herbal drug formulations used in phytotherapy.
4. [b16] Predict the physical and chemical properties and biological activity of natural and synthetic compounds based on molecular structure.
- b16.1-Estimate biological activity of natural compounds based on their chemical structures.

### **c- Professional and practical skills**

1. [c10] Counsel patients when dispensing OTC and prescription drugs and herbal formulations to ensure safe and proper use of medicines.
- c10.1-Utilize naturally occurring drugs for preparation of herbal formulations that can be used safely for treatment of different body systems diseases.
2. [c13] Assess risks concerning drug-drug interaction, adverse reaction and incompatibilities in different pharmaceutical preparations.
- c13.1-Illustrate adverse reactions and drug-drug interaction of herbal formulations.

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3. [c14] Apply different qualitative and quantitative analytical, chemical, microscopical, and biological methods for identification, quality control (QC) and assay of raw materials as well as pharmaceutical preparations.
    - c14.1-Apply different qualitative and quantitative analytical, chemical, microscopical and biological methods for the quality control of herbal drugs and formulations.

#### **d- General and transferable skills**

1. [d1] Communicate clearly by verbal and written means with patients and other health care professionals.
  - d1.1-Interact effectively in a scientific language.
2. [d3] Interact effectively in team working.
  - d3.1-Promote working effectively in team.
3. [d5] Practice independent learning needed for continuous professional development.
  - d5.1-Apply independent learning needed for continuous professional development.
4. [d9] Promote critical thinking, problem-solving, decision-making, and time managing capabilities.
  - d9.1-Demonstrate critical thinking, problem-solving, decision-making, and time managing capabilities.

#### **4- Course contents :-**

<b>No</b>	<b>Topics</b>	<b>Week</b>
1	Aim of the course and Introduction.	1
2	Traditional systems of herbal medicine: Chinese, Ayurveda, Roman and Greek; Islamic contribution; regulations of herbal medicine; Pharmacological and therapeutic activity of the plants' constituents.	2
3	Phytotherapy of disorders of gastrointestinal system.	3
4	Phytotherapy for disorders of cardiovascular system.	4
5	Phytotherapy for disorders of respiratory system and disorders of endocrine system.	5
6	Phytotherapy for disorders of reproductive system and disorders of musculoskeletal system.	6
7	Phytotherapy for disorders of the central nervous system, disorders of renal system, disorders of cutaneous system.	8
8	Phytotherapy for disorders the eye, ear, nose and orthopharynx; Supportive Therapies for Stress, Aging and Debility; Herbal drugs for treatment of obesity	9

9	Formulation of herbal drugs; Herb-drug interactions; Quality control of herbal drugs	10
10	Quality control of herbal drugs	11-12

#### 5- Teaching and learning methods :-

S	Method	Knowledge and understanding	Intellectual skills	Professional skills	General skills
1	Lectures using white board, data show and power point presentations; online lectures.	a14.1,a16.1,a16.2,a24.1	b3.1,b9.1,b11.1,b16.1	c10.1,c13.1,c14.1	d9.1
2	Practical sessions using laboratory equipment.	a14.1,a24.1	b3.1,b9.1,b11.1	c10.1	d1.1,d3.1,d5.1
3	Research assignments and group discussions.	a14.1	b9.1,b11.1	c10.1,c13.1	d3.1,d5.1

#### 6- Teaching and learning methods of disables :-

1. No.

#### 7- Student assessment :-

##### a- Student assessment methods

No	Assessment Method	Knowledge and understanding	Intellectual skills	Professional skills	General skills
1	Written exam	a14.1,a16.1,a16.2,a24.1	b3.1,b9.1,b11.1,b16.1		d9.1
2	Practical exam and activity.	a14.1,a24.1	b3.1,b9.1,b11.1	c10.1	d1.1,d3.1,d5.1
3	Oral exam	a14.1,a16.1,a16.2,a24.1	b3.1,b9.1,b11.1		d9.1

##### b- Assessment schedule

No	Method	Week
1	Midterm exam.	7
2	Practical exam.	13

3	Written exam.	15
4	Oral exam.	15

### c- Weighting of assessments

No	Method	Weight
1	Midterm exam.	10
2	Written exam.	50
3	Oral exam.	15
4	Practical exam (and semester work).	25
Total		100%

### 8- List of references

S	Item	Type
1	Michael Heinrich, Joanne Barnes, Simon Gibbons and Elizabeth M. Williamson; "Fundamentals of pharmacognosy and phytochemistry" 2nd edition 2012 Elsevier Ltd.	Books
2	Kerry Bone and Simon Mills, "Principles and practice of phytotherapy" 2013 Elsevier Ltd.	Books
3	Phytotherapies: Efficacy, Safety, and Regulation edited by Iqbal Ramzan, 2015	Books
4	Lectures notes prepared by staff members.	Course notes

### 9- Matrix of knowledge and skills of the course

S	Course contents	Knowledge and understanding	Intellectual skills	Professional skills	General skills
1	Aim of the course and Introduction.	a16.1,a16.2			d1.1
2	Traditional systems of herbal medicine: Chinese, Ayurveda, Roman and Greek; Islamic contribution; regulations of herbal medicine; Pharmacological and therapeutic activity of the plants' constituents.	a16.1,a16.2			d1.1
3	Phytotherapy of disorders of gastrointestinal system.	a14.1	b9.1,b11.1,b16.1	c10.1,c13.1	d1.1,d3.1,d5.1
4	Phytotherapy for disorders of cardiovascular system.	a14.1	b9.1,b11.1,b16.1	c10.1,c13.1	d1.1,d3.1,d5.1

5	Phytotherapy for disorders of respiratory system and disorders of endocrine system.	a14.1	b9.1,b11.1,b16.1	c10.1,c13.1	d1.1,d3.1,d5.1
6	Phytotherapy for disorders of reproductive system and disorders of musculoskeletal system.	a14.1	b9.1,b11.1,b16.1	c10.1,c13.1	d1.1,d3.1,d5.1
7	Phytotherapy for disorders of the central nervous system, disorders of renal system, disorders of cutaneous system.	a14.1	b9.1,b11.1,b16.1	c10.1,c13.1	d1.1,d3.1,d5.1
8	Phytotherapy for disorders the eye, ear, nose and orthopharynx; Supportive Therapies for Stress, Aging and Debility; Herbal drugs for treatment of obesity	a14.1	b9.1,b11.1,b16.1	c10.1,c13.1	d1.1,d3.1,d5.1
9	Formulation of herbal drugs; Herb-drug interactions; Quality control of herbal drugs	a14.1,a24.1	b3.1,b11.1	c13.1,c14.1	d1.1,d3.1,d9.1
10	Quality control of herbal drugs	a24.1	b3.1	c14.1	d1.1,d3.1,d9.1

**Course Coordinator(s): -**

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**Head of department: -**

Mona Goudah Mohamed Zaghlol