

MANIPAL UNIVERSITY

M. PHARM. PART-I DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: ADVANCED PHARMACOGNOSY AND PHYTOCHEMISTRY (PCO 601)
(SPECIALIZATION: PHARMACOGNOSY)

Friday, May 24, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions. All questions carry equal marks.

✍ Draw neat labeled-diagrams wherever necessary.

- 1A. Discuss the endogenous factors that influence the production of crude drugs.
- 1B. Classify plant growth regulators. Discuss auxins and their role as plant growth regulators.

- 2A. Describe the various types of pests that infest medicinal plants and discuss the methods used for pest control.
- 2B. Describe the method of cultivation and post harvest care for Senna.

- 3A. What is Chemotaxonomy? Discuss its principle and give its applications. Explain the methods used for chemotaxonomic investigation.
- 3B. Briefly discuss anticancer phytopharmaceuticals.

- 4A. What are alkaloids? Discuss their occurrence, distribution, properties and functions.
- 4B. Describe the structural elucidation of amygdalin.

5. **Write short notes on the following:**
 - 5A. Endangered medicinal plants
 - 5B. Cardiovascular agents of marine origin
 - 5C. Phospholipids
 - 5D. Role of Vitamin C as a dietary antioxidant



MANIPAL UNIVERSITY**M. PHARM. PART-I DEGREE EXAMINATION – MAY/JUNE 2013****SUBJECT: HERBAL PRODUCT DEVELOPMENT AND FORMULATION (PCO 602)
(SPECIALIZATION: PHARMACOGNOSY)**

Monday, May 27, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions. All questions carry equal marks.**

✍ **Draw neat labelled-diagrams wherever necessary.**

1A. Discuss the development of monoherbal and polyherbal dermatological formulations with their merits and demerits.

1B. Outline the cGMP for the manufacture of ointments and creams.

2A. What do you mean by standardization of herbal raw materials? Describe methods used for microscopical and macroscopical standardization of herbal raw materials.

2B. Write an essay on the collection, drying and processing of herbal raw materials.

3A. Discuss the preformulation studies for tablets.

3B. Classify the excipients used in herbal formulations and discuss at least one from each category.

4A. Write an essay on the choice of solvents for the extraction of raw materials.

4B. Discuss in detail the methods used for the selection, identification and authentication of herbal raw materials.

5. **Write short notes on:**

5A. Drawbacks of nutraceuticals

5B. Compatibility studies between actives and excipients

5C. Determination of bitterness value and swelling index

5D. Supercritical fluid extraction



MANIPAL UNIVERSITY

M. PHARM. PART-I DEGREE EXAMINATION – MAY/JUNE 2013




SUBJECT: MEDICINAL PLANT BIOTECHNOLOGY (PCO 603)

(SPECIALIZATION: PHARMACOGNOSY)

Wednesday, May 29, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 100

-  All questions are compulsory.
-  Answer should be specific to the questions.
-  Draw neat labeled diagrams and chemical structures wherever necessary.

1. What are protoplast cultures and give a detailed account of isolation and purification methods. (20 marks)
2. Give the principle, types, selection, advantages and disadvantages of immobilization of plant cells. (20 marks)
- 3A. Define and give an account of the factors affecting hairy root culture. Add a note on its applications.
- 3B. Explain cryopreservation and its impact on biomedicinals. (10+10 = 20 marks)
- 4A. Discuss on spontaneous genetic variation in detail.
- 4B. Give a detailed account of plant tissue culture media. (10+10 = 20 marks)
- 5A. Write the advantages and disadvantages of plant cell cloning.
- 5B. Explain suitable methods for detecting pathogens in plants.
- 5C. Give the applications of plant tissue culture.
- 5D. Write a note on elicitors. (5×4 = 20 marks)



MANIPAL UNIVERSITY
M. PHARM. PART-I DEGREE EXAMINATION – MAY/JUNE 2013
SUBJECT: BIOLOGICAL SCREENING OF HERBAL DRUGS (PCO 604)
(SPECIALIZATION: PHARMACOGNOSY)

Friday, May 31, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions. Draw neat labelled diagrams wherever necessary.**

- 1A. Give the requirement of animal models in conducting screening of antidepressant drugs and describe in detail behavioural models.
- 1B. Describe the various signs of inflammation and add a note on paw oedema and granuloma pouch method.

(10+10 = 20 marks)

2A. Discuss the importance of following in new drug development:

- i) Placebo
- ii) Single and double blind
- iii) Cross over

2B. Describe the methods used to evaluate antidiabetic activity of herbal drug.

(10+10 = 20 marks)

3. Define and describe the various methods involved in High throughput screening of natural products.

(20 marks)

4A. Describe the oral acute toxicity study to be performed in developing a new drug.

4B. Describe the following with suitable examples:

- i) Chi-square test
- ii) Unpaired t test

(10+10 = 20 marks)

5. **Write short notes on the following:**

- 5A. Hippocratic screening for evaluation of natural products.
- 5B. List out the CPCSEA guidelines for the use of restraint equipments.
- 5C. Write short note on production of transgenic animals by DNA microinjection technique.
- 5D. How do you induce acute and chronic hypertension in rats?

(5×4 = 20 marks)

