MANIPAL UNIVERSITY

FIRST YEAR M. PHARM. DEGREE EXAMINATION - MAY 2017
SUBJECT: ADVANCED PHARMACOGNOSY AND PHYTOCHEMISTRY (PCO 601T)
(SPECIALIZATION: PHARMACOGNOSY)
(2014 REGULATION)
Thursday, May 18, 2017 (10.00 - 13.00 Hrs.)

Duration: 180 mins.

Marks: 100

Answer ALL the questions.

1)	Give a detailed account of various diseases affecting plants.	(10)
2)	Discuss the role of Adsorption Chromatography techniques used in separation of Phyto-constituents.	(10)
3)	What are Cardiac Glycosides? Describe their occurrence, chemistry, method of extraction and test for identification.	(10)
4)	Give an overview of *intrinsic* factors that control cultivation of crude drugs.	(10)
5)	Describe the source, constituents and uses of any four phyto-constituents used as Hepato-protective drugs.	(10)
6)	Elucidate the structure of Citral and Atropine.	(10)
7)	Describe the biogenesis of Tropane alkaloids.	(10)
8)	What are Terpenes? Classify them with examples? Add a note on the isolation of Terpenoids.	(10)

Write short notes:

9A)	Marine anti-inflammatory agents.	(5)
9B)	DNA Hybridization technique in Chemotaxonomy.	(5)

Write briefly on the following:

10A)	IUCN classification of endangered species with examples.	(5)
10B)	Mineral anti-oxidants.	(5)

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FIRST YEAR M. PHARM. DEGREE EXAMINATION - MAY 2017
SUBJECT: HERBAL PRODUCT DEVELOPMENT AND FORMULATION (PCO 602T)
(SPECIALIZATION: PHARMACOGNOSY)
(2014 REGULATION)
Saturday, May 20, 2017 (10.00 - 13.00 Hrs.)

Marks: 100 **Duration: 180 mins.**

Answer ALL the questions.

1)	Discuss pharmacovigilence for herbal drugs.	(10)
2)	Describe the effective application of spectroscopy in standardization of plant extracts.	(10)
3)	Discuss in detail the various excipients with their role used in herbal formulations.	(10)
4)	Give a detailed account of pre-processing of herbal raw materials.	(10)
5)	Enumerate with a detailed note on types of packaging and labeling of finished herbal preparations.	(10)
6)	Evaluation of herbal extracts with a special emphasis for their physical and chemical standardization parameters with suitable examples.	(10)
7)	Discuss the development of herbal formulations used in various skin diseases with their merits and demerits.	(10)
8)	Explain cGMP for the manufacture of herbal liquid dosage forms.	(10)

Write short notes:

9A)	Role of Phyto and Pharma equivalence studies.	(5)
9B)	Different types of Maceration techniques.	(5)

Write briefly on the following:

10A)	Commonly used herbs in Nutraceuticals.	(5)
10B)	Dissolution test with its significance.	(5)

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FIRST YEAR M. PHARM. DEGREE EXAMINATION - MAY 2017
SUBJECT: MEDICINAL PLANT BIOTECHNOLOGY (PCO 603T)
(SPECIALIZATION: PHARMACOGNOSY)
(2014 REGULATION)
Tuesday, May 23, 2017 (10.00 - 13.00 Hrs.)

Duration: 180 mins.

Marks: 100

Answer ALL the questions.

1)	What are protoplast cultures and give a detailed account of isolation and purification methods.	(10)
2)	Define and give an account of the factors affecting hairy root culture. Add a note on its applications.	(10)
3)	Explain cryopreservation and its impact on biomedicinals.	(10)
4)	Discuss on spontaneous genetic variation in detail.	(10)
5)	Give an account of screening methods and selection of high yielding cell lines.	(10)
6)	Give a detailed account of biotransformation in pharmacy with special reference to culture methods and precursors.	(10)
7)	Give the types, techniques and nutritional requirements for plant tissue culture.	(10)
8)	Write historical perspectives and prospects of medicinal plant biotechnology.	(10)

Write short notes:

9A)	Give the applications of cellular totipotency.	(5)
9B)	Describe the methods of gene identification.	(5)

Write briefly on the following:

10A)	Write a note on transgenic plants.	(5)
10B)	What are the general requirements for embryogenesis?	(5)

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FIRST YEAR M. PHARM. DEGREE EXAMINATION - MAY 2017
SUBJECT: BIOLOGICAL SCREENING OF HERBAL DRUGS (PCO 604T)
(SPECIALIZATION: PHARMACOGNOSY)
(2014 REGULATION)
Thursday, May 25, 2017 (10.00 - 13.00 Hrs.)

Marks: 100 **Duration: 180 mins.**

Answer ALL the questions.

1)	Give a detailed account of OECD guidelines for toxicity studies using staircase method.	(10)
2)	Discuss various in vitro models for evaluation of anticancer activity.	(10)
3)	What are Transgenic animals? Give the methods for their production and maintenance.	(10)
4)	Suggest screening protocol for Anti-Alzheimer's drug using appropriate in vitro and in vivo models.	(10)
5)	What do you understand by parametric data? Suggest and justify suitable statistical tests for a group of parametric data.	(10)
6)	Give an overview of Phase II clinical trial.	(10)
7)	Explain different in vivo methods applied for screening of drugs for nephroprotective activity.	(10)
8)	Give an overview of natural drug screening, explain the application of High Throughput screening in natural drug screening. Discus its importance.	(10)

Write short notes:

9A)	Discuss the *in vitro* anti diabetic assays in brief.	(5)
9B)	DPPH anti-oxidant assay.	(5)

Write briefly on the following:

10A)	Brief outlook of CPCSEA guidelines.	(5)
10B)	One way ANNOVA.	(5)