

Exam Date & Time: 27-Nov-2019 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

### Advanced Pharmacognosy I [PCO-MPG102T]

Marks: 75

Duration: 180 mins.

#### SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Give a detailed account of Current Good Cultivation Practices. (10)
- 2) Describe the problems faced in research on marine drugs. Give the source and structure of any five marine antimicrobial drugs. (10)
- 3) Give a detailed account of Fat soluble vitamins. (10)
- 4) Give the occurrence, isolation, chemical nature and health benefits of Carotenoids. (10)
- 5) Write a detailed note on Pharmacovigilance centres for ASU drugs. Add a note on objectives of NPP. (10)

#### SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Importance of Pharmacognosy in herbal drug industry. (5)
- 7) Enlist the major sources of marine natural products with examples. Give the source and structure of three marine derived anti-inflammatory drugs (5)
- 8) Source, chemical nature and health benefits of Spirulina and Flax seeds (5)
- 9) FSSAI guidelines for nutraceuticals (5)
- 10) Carotenoids and Flavonoids as Nutraceuticals (5)

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Date & Time: 29-Nov-2019 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

**Phytochemistry [PCO-MPG103T - S2]**

**Marks: 75**

**Duration: 180 mins.**

### SECTION - A

**Answer all the questions.**

Answer the following (10 marks x 5 = 50 marks)

- 1) Discuss various sources of lead compounds from natural origin. Explain HTS in brief. (10)
- 2) Elaborate on Soxhlet and Percolation method of extraction. (10)
- 3) Give the spectral characteristics of Menthol and Nicotine. (10)
- 4) Explain GCMS technique and its applications in phytochemical analysis. (10)
- 5) Describe Shikimic acid and Isoprenoid pathways in the biosynthesis of secondary metabolites. (10)

### SECTION - B

**Answer all the questions.**

Answer the following (5 marks x 5 = 25 marks)

- 6) Explain in detail method of isolation for Quercetin and Sennoside. (5)
- 7) Applications of HPTLC in phytochemical finger printing. (5)
- 8) Give the spectral characteristics of Caffeine. (5)
- 9) What is serendipity in drug discovery? Explain protocol design for lead molecules. (5)
- 10) Give a detailed account on TLC technique for the separation of phytoconstituents. (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

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**Industrial Pharmacognostical Technology [PCO-MPG104T - S3]**

**Duration: 180 mins.**

**Marks: 75**

## SECTION - A

**Answer all the questions.**

Answer the following (10 marks x 5 = 50 marks)

- 1) Give the plant design, layout and construction for herbal tablets and capsules. (10)
- 2) Enlist the various types of audits. Discuss the steps for certification and maintaining the Certification of ISO 9000. Enlist the clauses ISO 9001:2008. (10)
- 3) Discuss in detail the determination of bitterness value and swelling index of crude drugs as per WHO guidelines. (10)
- 4) Discuss phase 3 and phase 4 clinical trials for herbal medicines. (10)
- 5) Define patent. Give the criteria and various steps involved in filing a patent in India. (10)

## SECTION - B

**Answer all the questions.**

Answer the following (5 marks x 5 = 25 marks)

- 6) Scale-up operation techniques with suitable examples (5)
- 7) Testing frequency and storage conditions for stability testing of herbal medicines. (5)
- 8) Define TQM. Add a note on Deming's principles (5)
- 9) Definition, general content, purpose and uses of Monograph (5)
- 10) Enlist the non patentable inventions as per Indian Patent Act 1970 (5)

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