W 023/004

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Winter, 2024

M.Pharm 2nd Semester End Semester Examination

ADVANCED PHARMACOGNOSY-II

Course Code: MPG202T

Full Marks – 75 **Time – 3 hours**

The figure in the margin indicates full marks for the questions.

1. Answer the following questions: **(10 × 2 = 20)**

a) Outline atleast two traditional preparations from Indian herbal remedy.
b) Give four examples of phytotoxins.
c) Outline the impact of pharmacokinetic and pharmacodynamic issues in herbal medicine.
d) Differentiate between internal and external validity of herbal drugs.
e) Outline atleast four basic sophisticated instruments required to validate and standardized the herbal extracts.
f) Distinguish between adulteration and substitution of herbals.
g) Outline four basic assays for biological screening of herbal drugs for *in vitro* antioxidant efficacy
h) Outline the impact of ethnobotany in traditional medicine.
i) What are the microbes specified and required to be tested in herbal drugs as per the WHO.
j) Give the active chemical constituent (chemical marker) of *Psoralea corylifolia* and *Coleus forskholii*.

2. Short answers (*any seven*) **(7 × 5 = 35)**

a) Write a brief note on any regulatory guidelines required to assess the safety of herbal medicines.
b) Describe the analytical profile of *Emblica officinalis*.
c) Describe the analytical profile of *Curcuma longa*.
d) Write a short note on the causes and measures of adulteration.
e) Discuss in detail the detection process of heavy metals in herbals.
f) Give a brief account on the toxicity studies outlining the OECD guidelines.
g) Discuss in details the wound healing assay taking into account the excision and incision wound model.
h) Write a brief note on ethnobotany and ethnopharmacology.
i) Discuss in details the bioprospecting tools for drug discovery.
j) Write a note on reverse pharmacology.

3. Long answers (*Any two*) **(2 × 10 = 20)**

a) Define and classify the different types of DNA fingerprinting. Discuss in detail any one of the DNA fingerprinting technique citing suitable examples. (1+3+6)
b) Define and give the significance of a Chemical marker. Discuss in detail the analytical profile of '*Andrographis paniculata*' OR '*Boswellia serrata*'. (1+2+7)
c) Write a note on *any two* of the following pharmacological assays: (5+5)
(i) Anticancer assays (ii) Anti-inflammatory assays (iii) Anti-ulcer assays