

Time: 3 Hours

Total Marks: 80

N.B.:

1. All questions are compulsory.
2. Draw structures & diagrams wherever necessary.

Q1. Answer the following

(20M)

- i. Lanatosides are preferred over purpurea glycosides; justify.
- ii. Give the specific chemical test and observation for tropane alkaloid.
- iii. Define glycoproteins with suitable example.
- iv. Mention chemical test to identify flavonoids. Draw structure of nucleus of isoflavone.
- v. Define marker compounds with suitable example.
- vi. With suitable example state two parameters for herbal drug analysis as per I.P.
- vii. Write any two differences between Ayurvedic and Proprietary medicines.
- viii. Mention two challenges in preparation of Herbal tablets.
- ix. Give the specific chemical test and observation for triterpenoidal glycosides.
- x. Write Biological source and give structure of an alkaloid derived from ornithine.

Q2. Answer the following

(12M)

- i. Discuss life cycle and chemistry of an alkaloid obtained from fungal source.
- ii. Write biosynthetic pathway for emetine.
- iii. Draw the chemical structure and give any two spectroscopic parameters for Citral.

Q3. Answer the following

(12M)

- i. Classify saponin glycosides with suitable examples. Write a note on Dioscorea mentioning commercial applications.
- ii. Write a note on isothiocyanate glycosides.
- iii. Write a note on stability testing of herbal medicines with respect to marker compound.

Q4. Answer the following

(12M)

- i. Give source, chemistry and therapeutic applications of any two drugs containing Piperidine alkaloids.
- ii. Write a note on source, chemistry and biopotential of Coumarins.
- iii. Discuss pharmacokinetics of herb – drug interactions with two suitable examples.

Q5. Answer the following

(12M)

- i. Write biological source, extraction, identification and uses of phytoconstituents of Liquorice.
- ii. Write source, isolation, identification and analysis of Aloe emodin.
- iii. Discuss monograph of any one excipient of natural origin mentioned in U.S.P.

Q6. Answer the following

(12M)

- i) Write biological source and one marketed formulation of the following-
 - a) An alkaloid used as bronchodilator
 - b) An alkaloid used for glaucoma.
 - c) An alkaloid from herb used for hay fever.
 - d) A steroidal saponin used for diabetes.
- ii) Write a note on schedule T.
- iii) Discuss a novel herbal formulation with suitable example.