

[Time: 3 Hours]

[Marks:70]

Please check whether you have got the right question paper.

- N.B:
1. All questions are **compulsory**.
 2. **Illustrate** answers with **sketches and structures** wherever required.
 3. **Answers to sub questions** must be **written together**.

1. (a) State **True or False** and justify all the following statements with suitable examples:- **7**
 - i) Ephedra is an example of an organized crude drug.
 - ii) Tray dryers are preferred method of drying for volatile oil containing drugs.
 - iii) Indian cinamon does not show the presence of cork cells.
 - iv) Ruthenium red is used for differentiating lignified and unlignified tissue.
 - v) Geranyl pyrophosphate leads to the formation of Volatile Oils.
 - vi) Dragendorff's reagent is used for identification of alkaloids.
 - vii) Dextran is an example of heteropolysaccharide.
- (b) Answer the following:- **8**
 - i) Give two examples of glycoside class of phytoconstituents with relevant chemical structures and therapeutic application.
 - ii) Differentiate between flax and hemp.
 - iii) Give brief account of lectin.
 - iv) With the help of suitable examples, differentiate between rhizomes and stolons.
2.
 - i) Compare and contrast alphabetical and pharmacological methods of classification of crude drugs. **4**
 - ii) Illustrate with suitable labelled diagrams, the salient histological features of monocot and dicot root. **4**
 - iii) Give the source and commercial utility of (i) malt extract (ii) TKP **3**
3.
 - i) State the principle of microwave extraction, with applications. **4**
 - ii) Write source, preparation, chemistry and commercial utility as pharmaceutical aid of "Silk". **4**
 - iii) Highlight the significance of microscopical method of evaluation of crude drugs. **3**
4.
 - i) Explain the different methods of collection of DONO with suitable examples. **4**
 - ii) Outline the general methods of extraction of alkaloids with the underlying principle. **4**
 - iii) Explain the scope of pharmacognosy in "traditional" and "complementary" system of medicine. **3**

[Turn Over]

5. i) Explain the different types of dehiscent fruits. Give examples of each type. 4
ii) Give pharmacognostic account of Gum Tragacanth. 4
iii) With the help of suitable examples, differentiate between adulteration and substitution of crude drugs. 3
6. i) Outline the biosynthetic pathway, with structures, of phenylpropanoid precursors. 4
ii) Give Sources, preparation and uses of “bromelain” and “protein hydrolysates”. 4
iii) Write a note on plant tissue culture. 3
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