

**Q.P. Code :32294**

**[Time: Three Hours]**

**[ Marks:70]**

Please check whether you have got the right question paper.

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

- Q.1 a) Correct the statements if required & justify all the statements with significant reasons or examples. 07
- i) Agar is an example of dried latex.
  - ii) Altitude is an important parameter affecting cultivation of medicinal plants.
  - iii) Aleurone grains are found in collenchyma cells.
  - iv) Flavonoids are biosynthesized via shikimic acid pathway.
  - v) Hexane is the solvent of choice in microwave-assisted extraction of crude drugs.
  - vi) Lycopodium spore method is applied for identification of calcium oxalate crystals.
  - vii) Flax is a lignocellulose fibre.
- b) Answer briefly: 08
- i) Give the morphological and histological differences between allied species of brahmi.
  - ii) Give two examples of lipid-based drugs with structures of relevant phytoconstituents & applications.
  - iii) Give source, preparation & uses of malt.
  - iv) Give source, preparation & uses of serratiopeptidase.
- Q.2 i) Discuss the significance of pharmacognosy in modern day medicine. 03
- ii) With the help of suitable illustrations, explain the morphological & histological features of a typical dorsiventral leaf. 04
- iii) Write a detailed note on alginic acid and its derivatives. 04
- Q.3 i) Explain supercritical fluid extraction with suitable examples. 03
- ii) Write a note on physical methods of evaluation of crude drugs. 04
- iii) Compare & contrast absorbent & non-absorbent cotton. 04
- Q.4 i) Write a note on morphological method of classification of crude drugs. Give its merits & demerits. 03
- ii) With the help of suitable examples, explain the role of collection in maintaining quality of crude drugs. 04
- iii) Outline the general method of extraction of glycosides & tannins. Explain the principle involved therein. 04

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- Q.5
- i) Give source, constituents & commercial utility of acacia & isapgol. 03
  - ii) Give detailed biosynthetic pathway with structures, for steroids. 04
  - iii) With respect to WHO guidelines, explain the relevance of any 2 microbiological tests for quality control of DONO. 04
- Q.6
- i) Give sources, preparation & uses of protein hydrosates & pepsin. 03
  - ii) Write a note on subterranean stem modifications. 04
  - iii) Write a note on micro propagation of plants. 04