

MODEL ANSWERS

AS-2512

B.pharm (III Sem) Examination, 2013

Pharmacognosy-I

Section A

- 1 (i) shape: lanceolate and ovate Margin: entire and serrate
- (ii) Epidermis, stomata, palisade cells, spongy parenchyma, vascular bundle, collenchyma, sclerenchymatous sheath, trichomes (any four)
- (iii) ensures uniform production, less dependency on nature, free from microbial attack, helpful in the production of such compounds whose synthesis is difficult (any two)
- (iv) Covering trichomes (unicellular and multicellular), glandular trichomes and hydathodes.
- (v) Cinchona
- (vi) Complex group of organic substances containing polyphenols containing astringent property. Present in solution form in the cell sap and also in distinct vacuoles
- (vii) As per standard chemical structure
- (viii) Nicotine and berberine
- (ix) Plants in which a foreign gene has been inserted
- (x) Mechanical, agricultural, biological and chemical
- (xi) Mechanical strength, storage of reserve food
- (xii) Refers to evaluation of drugs by colour, odour, taste, size, shape and special features. It is a qualitative in nature and depends upon our sense organs

Section B

2. Crude drugs are those products obtained from plant or animal origin in raw form as such from nature. Alphabetical classification, Taxonomical classification, Morphological classification, Chemical classification, Pharmacological classification and Chemotaxonomical classification. Examples are mandatory
3. Auxins: stimulates cell elongation, stimulates root initiation, Delays leaf senescence, delays fruit ripening, increases the rate of cell division

Application: *Mentha piperita* showed increased production of oil, effect on poppy capsules, no beneficial effect on senna

Gibberellins: stimulates stem elongation, breaks dormancy, stimulates enzyme production, causes parthenocarpic fruit, stimulate flower bud formation

Application: effect on volatile oil production, effect on alkaloid production, effect on glycoside production, effect on fixed oil

4. (i) Leaf constant should include the definition of palisade ratio, vein-islet number, vein termination number and stomatal index
 - (ii) sexual method, asexual method and other methods (layering, grafting, cutting). Include the advantages and disadvantages of all
 - (iii) undeliberate and deliberate adulterations (substitution with substandard commercial varieties, substitution with superficially similar inferior drugs, substitution with artificially manufactured substances, substitution with exhausted drugs, presence of vegetative matter, harmful adulterants, adulteration with powder). Examples are mandatory
5. Diagram should be drawn with pencil and well labeled. Lignified characters should be mentioned separately
 6. Bark: explain cork, phellogen and phelloderm. Mention different shapes such as flat, curved, recurved, quill etc with suitable examples

Collection: mention when different parts of plant should be collected

Processing: explain harvesting

Drying: different drying methods with examples

7. Glycosides are organic compounds from plants or animal sources which on enzymatic or acid hydrolysis gives one or more sugar moieties along with a non-sugar part. Give the classification in terms of chemical nature (anthraquinone, sterol, saponin etc), therapeutic activity and based on glycosidic linkage