

- N.B :** 1. All questions are compulsory.  
2. Draw structure and diagrams wherever necessary.

1. Answer the following : 20
- (1) With suitable example of formulation mention two applications of lecithin.
  - (2) Define a Marker compound & its source.
  - (3) With suitable example of dosage form give two sources of natural colourants.
  - (4) Name any two derivatives of taxol.
  - (5) Give biological source & probable constituent of a nutraceutical used as hepatoprotective.
  - (6) Name any two qualitative chemical test.
  - (7) With suitable examples name any two Morphological parameters useful in authentication of a Bark.
  - (8) Name any one plant immunoglobulin with its application.
  - (9) Name any two crude drugs official in Indian herbal phamacopoeia.
  - (10) Name any two types of cellulose with their applications.
2. (a) Describe in detail large scale extraction of opium alkaloids. 4  
(b) Discuss in detail drug discovery, SAR, & derivatives of camphothecin. 4  
(c) Write a short note on alginates. 4
3. (a) Give an overview of carragenans as phamaceutical excipients. 4  
(b) Discuss significance of chemotoxonomy & DNA-finger printing in herbal drug research. 4  
(c) Discuss Natural fragarant with respect to source, preparation & composition. 4
4. (a) Discuss large scale extraction of sennosides. 4  
(b) Discuss different approaches to plant selection for herbal drug research. 4  
(c) Write the source, application & chemistry of galactomannans. 4
5. (a) Write a note on nutraceutical & their role as Antihyperglycemics. 4  
(b) Discuss salient features of any one herbal drug monograph mentioned in pharmacopoeia. 4  
(c) Enumerate in detail drug discovery, SAR & derivatives of Artemisinin. 4
6. (a) Discuss cellulose ethers with respect to their source, properties & pharmaceutical applications. 4  
(b) Elaborate significance of Natural products derived combinatorial libraries in getting leads. 4  
(c) Discuss large scale extraction of lemon grass oil. 4
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