

**Rajiv Gandhi University of Health Sciences, Karnataka**  
**IV Year B.Pharm Degree Examination - Mar 2013**

**Time: Three Hours****Max. Marks: 70 Marks**

**INDUSTRIAL PHARMACOGNOSY**  
**(Revised Scheme – 3)**

**Q.P. CODE: 2620**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)****2 x 10 = 20 Marks**

1. Explain the methods of isolation, identification and estimation of the following:  
a) Glycyrrhizin. b) Andrographolides.
2. Explain the importance of standardization of raw materials, extracts and formulations with suitable examples.
3. Describe in detail production of streptokinase and urokinase.

**SHORT ESSAYS (Answer any Six)****6 x 5 = 30 Marks**

4. What are nutraceuticals? Give two examples.
5. Give brief account of herbal drug industry.
6. What is direct gene transfer? What are the methods of direct gene transfer in plants?
7. Explain the isolation, preparation and uses of bromelain.
8. Explain the role of HPLC & HPTLC for the evaluation of drugs and extracts.
9. What is immobilization? Explain Immobilizations of enzymes and give their applications.
10. Explain the methods for isolation and estimation ephedrine.
11. Explain various methods of estimation of alcohol content in asava and arista.

**SHORT ANSWERS****10 x 2 = 20 Marks**

12. Give the source and uses of asiaticoside.
13. Give the source, chemical constituent and uses of gokhru.
14. Give the source, chemical constituent and uses of shankapushpi.
15. What is mutation?
16. Explain the procedure involved in preparation of bhasma.
17. Explain Homeopathy system of medicine.
18. What is breeders right?
19. Give the source, chemical constituents and uses of soapnut.
20. Give the structure of digitoxin.
21. Name the marker compound of curcuma and kalmegh.

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