

**Rajiv Gandhi University of Health Sciences**  
**First Year M. Pharm Degree Examination - May 2013**

[Time: 3 Hours]

[Max. Marks: 100]

**BULK DRUG TECHNOLOGY****(RS 2 & RS 3)****Q.P. CODE: 9203**

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

**LONG ESSAY (Answer any TWO)****2 X 20 = 40 Marks**

1. Discuss in detail the following methodology of drug production with examples.
  - a) Recombinant DNA method
  - b) Combinatorial chemistry
2. Discuss the plant design, layout and construction and probable effluent management in the production of phenobarbitone.
3. a) Discuss the Global scenario of pharmaceutical market with special reference to GATT and TRIPS agreement in Export and Import of drugs.

**SHORT ESSAY (Answer any FIVE)****5 X 10 = 50 Marks**

4. Mention the types of production License. Explain the procedure to obtain the license to start a pharmaceutical company.
5. Discuss the safe operating procedures of the chemical plant.
6. Explain the method of production of an Antibiotic by fermentation process.
7. Write the flow sheet and reaction sequence in the production of metoprolol.
8. Explain the process development and validation for the production of Diclofenac sodium.
9. Discuss the basic concept of Homeopathy formulations.

**SHORT NOTES****2 X 5 = 10 Marks**

10. Loan license.
11. Environmental Pollution control methods.

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