

Total No. of Questions : 4]

SEAT No. :

**P3999**

[Total No. of Pages : 1

**[5246]-227**

**M.Pharmacy (Semester - I & II)**  
**INDUSTRIAL PHARMACY AND PRODUCTION**  
**MANAGEMENT**  
**(2013 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *Question number one is compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw well labeled diagrams wherever necessary.*

**Q1)** Elaborate in detail pilot plant scale-up and design for tablet and liquid oral preparations. **[10]**

**Q2)** Answer any Three : **[15]**

- a) As per the Drugs and Cosmetics Act what are the requirements related to sale of drugs?
- b) What is vendor development capacity and assessment of production rate changes?
- c) Explain what is pharmaceutical validation process for various products.
- d) Explain the safety monitoring and preventive system for industrial hazards due to chemicals and pharmaceuticals.

**Q3)** Write short notes (any Three) : **[15]**

- a) Elaborate on quality assurance and GMP considerations.
- b) Statistical design and applied optimization methods.
- c) Effluent testing and treatment: for pharmaceutical industry
- d) Material handling for various pharmaceutical products.

**Q4)** Describe in detail the mechanical, electrical and electronic parts of pharmaceutical machinery and equipments. **[10]**

OR

Explain in details the typical models of automation for solid and liquid manufacturing.

