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SEAT No. :

P3980

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M.Pharmacy (Semester - II) (Theory)

**PHYTOCHEMISTRY AND PHYTOPHARMACEUTICALS**  
**(2013 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

**Q1)** Discuss in detail the invivo and invitro screening methods of anti-inflammatory drugs with suitable examples. **[10]**

**Q2)** Solve Any Three : **[15]**

- a) Give principle and applications of column chromatography.
- b) Discuss the new approaches in standardization of herbal drugs.
- c) Enlist various methods of extraction of essential oils with special note on modern methods of essential oil extraction.
- d) Discuss the extraction, isolation and purification of Piperine.

**Q3)** Solve any Three : **[15]**

- a) Give structural elucidation of Nicotine.
- b) Comment on Quantitative analysis of bacosides in Bacopa species by HPTLC.
- c) Discuss the screening methods for anti-asthmatic herbal drugs.
- d) Discuss the role of fractional liberation in isolation of chemical constituents from herbal extracts.

**Q4)** Solve any One: **[10]**

- a) Discuss in detail the WHO parameters used in standardization of herbal drugs.
- b) Discuss the advantages of supercritical fluid extraction technique with suitable examples. Add a note on extraction of Capsaicinoids.

