

Total No. of Questions :6]

SEAT No. :

[Total No. of Pages :2

**P3092**

**[5036] - 11**

**M.Sc.**

**BIOTECHNOLOGY**

**BT - 11 : Advanced Biological Chemistry**

**(2008 Pattern) (Semester - I)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) *Question no 1 is compulsory.*
- 2) *Answer any four from the remaining Questions.*
- 3) *Figures to the righth indicate full marks.*

**Q1)** Briefly describe any four of the following: **[4×5=20]**

- a) Give the principle of UV - Visible spectroscopy along with its applications.
- b) Discuss the fates of Pyruvate.
- c) Give a brief account on protein folding and explain its significance.
- d) Explain applications of metabolic flux analysis.
- e) Describe pharmacological activities of phenolics.

**Q2)** a) Enlist various types of centrifugation techniques? Explain in detail density gradient centrifugation. **[7]**

b) Describe principle & applications of protein microarray. **[8]**

**Q3)** a) Describe in detail principle and applications of NMR. **[8]**

b) Enlist various methods used in extraction of secondary metabolite? **[7]**

**Q4)** Answer the following

- a) What are salient features of  $\alpha$  - helix structure of proteins. **[5]**
- b) Comment on manipulation of Metabolic pathway at enzyme level. **[5]**
- c) Comment on temporal & spatial variation of species of secondary metabolites. **[5]**

**P.T.O.**

- Q5)** a) Explain shikimic and pathway. [8]  
b) Explain allosteric regulation with suitable examples. [7]

**Q6)** Enlist methods associated with analysis of secondary metabolites? Explain any one in detail. [15]

