

Total No. of Questions :5]

SEAT No. :

[Total No. of Pages :2

**P408**

**[5115] - 42**

**F.Y.B.Sc. (Vocational)**

**INDUSTRIAL MICROBIOLOGY**

**Industrial Processes and Products (Paper - II)**

**(Theory) (2013 Pattern)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) All questions are compulsory.*
- 2) Figures to the right indicate full marks.*
- 3) All questions carry equal marks.*
- 4) Draw neat and labeled diagrams wherever necessary.*
- 5) Scientific calculators are allowed.*

**Q1)** Answer the following:

**[16]**

- a) What is seed investment?
- b) Enlist different criteria required for fulfillment of patent.
- c) Explain need of inoculum in fermentation process.
- d) Name any two products manufactured by using fermentation technology.
- e) Write examples of organisms which are considered as GRAS.
- f) Write any two examples of microbial culture collections.
- g) Explain the term 'Venture capitalists'.
- h) Name any two antibiotic producer microorganisms.

**Q2)** Attempt any four of the following:

**[16]**

- a) Explain the concept of Biodeterioration with the help of suitable examples.
- b) Write role of 'marker' in recombinant DNA technology.
- c) Justify, 'successful biotechnology companies must combine scientific creativity with market need'.

**P.T.O.**

- d) Explain the role of board of directors in managing Biotechnology Company.
- e) Differentiate between batch fermentation process and continuous fermentation process.
- f) Explain the concept of 'Secondary screening'.

**Q3)** Write short note on any four of the following: **[16]**

- a) Enzymes used in plant juice production.
- b) Competitive intelligence.
- c) Bioremediation.
- d) Due diligence.
- e) Bioinsecticide.
- f) Capital cost.

**Q4)** Answer any two of the following: **[16]**

- a) Comment on starch processing enzymes.
- b) Explain various factors affecting design and optimization of fermentation system.
- c) Write a note on industrial nitrogen sources.
- d) Justify the need of a business plan with the help of a suitable example.

**Q5)** Answer any one of the following: **[16]**

- a) Discuss in detail the targets of strain improvement program.
- b) Discuss the industrial applications of bulk microbial enzymes with the help of suitable examples.

