

Department of Biotechnology and Environmental Sciences

Thapar University: Patiala

End Semester Examination

BH-011 (Agricultural & Industrial Microbiology)

20.5.2007 (9.00 A.M)

Time: 3 hr

MM: 36

- 1 A** Name the organism and discuss the biochemical reaction and process involved in the production of **any two** of the following: 2
a) vinegar, b) cheese, c) yoghurt.
- B** Discuss any two human therapeutic proteins, their source and application. 1
- C** What is biofuel? Explain how they are derived and what are their advantages? 1
- D** Name any two bacteria used for the production of compounds that inhibit cell wall synthesis? 1
- E** Name any two enzymes their source and applications that are produced on an industrial scale. 1
- OR**
Name any four organic acids their source and uses.
- 2 A** In wine manufacturing what is meant by sulfiting and why it is done? 2
What is the temperature at which fermentation is carried out and why?
- B** Differentiate between white wine, red wine, champagne and brandy? 2
- C** Differentiate between lager beer and ales beer with respect to process and raw materials? 2
- D** What is malting? Explain. 2
- E** In spontaneous fermentation of grape must what is the source of yeasts? 2
- F** What do you understand by maturing of wine? What changes takes place and how it is done? 2
- 3 A** What are non-ribosomal proteins? Give example of peptides and polyketides and their source? 2
- B** What are NRPS and PKS systems and how they can produce a large variety of different compounds of clinical applications? 2
- C** How can pyruvic acid be utilized in the process of fermentation? 2
- OR**
Can microorganisms be used as insecticides? Justify.
- 4 A** How can you isolate and identify plant growth promoting rhizobacteria from soil? 2
- B** What is rapid composting? Explain. 2
- C** Differentiate between primary and secondary metabolite by giving examples? 2
- 5 A** What are the properties of an overproduction media used in industrial scale culturing of microorganisms? 2
- B** What are edible mushrooms? Give examples and what are the raw materials required for their production on commercial scale? 2
- C** What is SCP? Give examples. 2