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# INTRODUCTION TO BIOTECHNOLOGY BASED INDUSTRIES

Max. Marks: 70

**Q.1 Fill in the blanks by choosing correct alternatives given below.**

14

- Page 1 of 2

- 11) Process control is carried out \_\_\_\_\_.
  - a) during production
  - b) before production
  - c) after production control
  - d) during supply of raw material
- 12) The initials GMP stand for \_\_\_\_\_.
  - a) Good Manufacturing Procedure
  - b) Good Manufacturing Practice
  - c) Great Manufacturing Procedure
  - d) General Manufacturing Process
- 13) API stands for \_\_\_\_\_.
  - a) Active Pharmaceutical Inspection
  - b) Active Pharmaceutical Ingredient
  - c) All Pharmaceutical Ingredients
  - d) Active Product Inspection
- 14) GMP are \_\_\_\_\_.
  - a) Optional
  - b) Applicable only to meats
  - c) Mandated to ensure the safety and wholesomeness of processed food supply
  - d) Applicable only to antibiotics

**Q.2 A) Answer the following questions. (Any Four) 08**

- 1) Give any four functions of HR of company.
- 2) Write down roles and responsibilities of Food Safety and Standards Authority of India.
- 3) Define and Give importance of CAPA.
- 4) Define GMP principles.
- 5) Enlist Biotechnology based companies in India.

**B) Answer the following questions. (Any Two) 06**

- 1) Explain biology and biotechnology based research and development activities of CSIR.
- 2) Write note on industrial safety.
- 3) Write down roles and responsibilities of Environmental Protection Act.

**Q.3 A) Answer the following questions. (Any Two) 08**

- 1) Explain downstream processing in fermentation industry.
- 2) Explain GMP guidelines for raw materials and equipments in industry.
- 3) Write note on quality assurance.

**B) Answer the following questions. (Any One) 06**

- 1) Write down SOP for any two laboratory instruments.
- 2) Store and purchase department of industry.

**Q.4 A) Answer the following questions. (Any Two) 10**

- 1) Explain V-model of validation programme.
- 2) Write down roles and responsibilities of ICAR.
- 3) Batch manufacturing record of company.

**B) Answer the following questions. (Any One) 04**

- 1) Explain production of any bio-fertilizer and its importance.
- 2) Explain any national fellowship scheme for Biotechnology students.

**Q.5 Answer the following questions. (Any Two) 14**

- a) Explain production and application of probiotics.
- b) Explain general organizational structure of any biotechnology based industry.
- c) Write note on quality control department in industry.