

P. P. SAVANI UNIVERSITY

Third Semester of M.Sc. Examination

December-2021

SSBT8070-Pharmaceutical Biotechnology

08.12.2021, Wednesday Time: 09:00 a.m. to 011:30 a.m. Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Make suitable assumptions and draw neat figures wherever required.
3. Use of scientific calculator is allowed.

Section-I

Q.1 Very Short Questions (Attempt any five) [10]

- 1.1 What are red, white, green and blue branches of biotechnology?
- 1.2 Give the significance of sequencing for the development of the product?
- 1.3 Explain thiofusion expression system
- 1.4 Which are the different recombinant DNA products can be produced?
- 1.5 What are the advantages of using yeast as a expression system?
- 1.6 Which are the common components of growth media for animal cell culture?

Q.2 Write Short Notes (Attempt any two) [06]

- 2.1 Differentiate between pharmacokinetics and pharmacodynamics.
- 2.2 Give outline for the upstream processing.
- 2.3 Explain fungal expression system.

Q.3 Detail questions (Attempt any two) [14]

- 3.1 How animals used as a expression system for the production of therapeutic proteins.
- 3.2 Explain various types of toxicity in detail
- 3.3 Write an account on microarray techniques.

Section-II

Q.1 Very Short Questions (Attempt any five)

- 1.1 Brief various cell disruption methods.
- 1.2 What are the medical consequences of various impurities in final product?
- 1.3 What is the generalized process for Water for Injection?
- 1.4 Differentiate diafiltration and ultrafiltration.
- 1.5 Which tests are performed on the product for the analysis?
- 1.6 How immunological approaches to are used for the detection of contaminants?

Q.2 Write Short Notes (Attempt any two)

[06]

- 2.1 Give the overview of downstream processing.
- 2.2 Write a note on various chromatography techniques along with basis of separation.
- 2.3 What is blank run approach?

Q.3 Detail questions (Attempt any two)

[14]

- 3.1 Give an account on HPLC for the purification of biopharmaceutical.
- 3.2 How altered form of product can be removed from the product preparation?
- 3.3 What are endotoxin and other pyrogenic contaminants?