

# Rajiv Gandhi University of Health Sciences, Karnataka

## Sixth Semester B. Pharm Degree Examination – 24-Jun-2022

Time: Three Hours

Max. Marks: 75 Marks

### PHARMACEUTICAL BIOTECHNOLOGY

**Q.P. CODE: 5027**

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

All the Questions are compulsory.

#### LONG ESSAYS

**2 x 10 = 20 Marks**

1. Explain different types of biosensors and their applications in pharmacy and medicine.

**OR**

Describe the production of insulin by r DNA technology.

2. Describe the production of Penicillin by fermentation technology with a neat labelled flow chart.

#### SHORT ESSAYS

**7 x 5 = 35 Marks**

3. Describe the production and uses of catalase.

**OR**

What are cloning vectors? Explain the features of pBR322.

4. What are molecular scissors? Explain their role in recombinant DNA technology.

**OR**

Explain the production of antibodies from B lymphocytes.

5. Classify vaccines giving examples. Write the difference between toxins and toxoids.

6. What are monoclonal antibodies? Describe different methods of purification of MAb.

7. Describe ELISA with its applications.

8. Explain briefly, transformation, transduction and conjugation.

9. Explain different types of mutagenic agents.

#### SHORT ANSWERS

**10 x 2 = 20 Marks**

10. What is protein engineering?

11. Write any four applications of proteases.

12. What is chimeric DNA?

13. What are batch culture and continuous cultures?

14. Write any four uses of blood products.

15. Write the role of CD4 cell in immune reaction.

16. Write the different types of heavy chains and light chains in immunoglobulin molecules

17. Write the importance of Transposons.

18. Write any two enzymes and their substrates employed in ELISA.

19. What are plasmids? Give one example.

\*\*\*\*\*