

SL.NO:2007

SUBJECT CODE:38121E01

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- APRIL -2022
BIOTECHNOLOGY

FUNDAMENTALS OF BIOTECHNOLOGY

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions
Part-A (10 x 2 =20 Marks)

- 1 Write the branches of biotechnology
- 2 List the top Biotech industries in India
- 3 Explain about steps involved in PCR.
- 4 What is the principle of FISH technique?
- 5 How does marine pollution affect humans?
- 6 Infer about pollutants with examples.
- 7 Classify an Enzyme.
- 8 List the function of protease.
- 9 Explain Bt-potato.
- 10 Illustrate Biofuel.

Answer **Any FIVE** questions
Part-B (5 x10 =50 Marks)

- 11 a. Explain in detail about the conventional Biotechnology with their advantages.
OR
b. Discuss in detail about Biotech policy.
- 12 a. Outline the world strategies of gene cloning.
OR
b. Explain in detail about molecular scissors used in Biotechnology with example
- 13 a. Paraphrase an essay on FISH technique.
OR
b. Elaborate the cell culture techniques with their advantages.
- 14 a. Describe how oil waste causes pollution in marine environment.
OR
b. Examine about major biological indicators in marine environment.
- 15 a. Predict the adverse effects in future due to pollution in marine environment.

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OR

b. Summarize the use of PCR in clinical diagnosis.

16 a. Apply recombinant technology for the production of Insulin

OR

b. Examine the role of monoclonal antibodies

17 a. Explain in detail about SCP production.

OR

b. Classify the sustainable and ecofriendly technologies to control pest

18 a. Identify bio-weapons

OR

b. Interpret on alpha lacta albumin and lectoferrin in milk.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Outline about modern biotechnology advantage and disadvantage.

OR

b. Interpret the steps involved in PCR and ELIZA .

20 a. Demonstrate different methods of Biodegradation of natural and synthetic waste materials.

OR

b. Make use of edible vaccines.

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VINAYAKA MISSION'S RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- APRIL - 2022
COMMON TO ALL BRANCHES
PHYSICAL SCIENCES

(Candidates admitted under 2021 Regulations-SCBCS)

Time : 1 1/2 Hours

Maximum Marks:50 Marks

PART A - ENGINEERING PHYSICS

Answer **ALL** questions

Part-A (5 x 2 =10 Marks)

- 1 Recognize the characteristics of laser.
- 2 Schedule any two applications of holography.
- 3 Tell about the characteristics of graded index multimode fiber.
- 4 Express about piezo-electric effect.
- 5 Schedule the Industrial applications of ultrasonic waves

Answer **Any FIVE** questions

Part-B (2 x12 =24 Marks)

- 6 a. Predict the applications of laser in communication, military and chemical fields.
OR
- b. Express the various types of fibers based on refractive index profile.
- 7 a. Practice obtaining the expression for velocity of SONAR.
OR
- b. Interpret the biological and chemical applications of ultrasonics.

Answer **ALL** questions

PART-C (1 x 16 = 16)

- 8 a. Tell about holography. Illustrate the construction and working of holography with neat diagram.
OR
- b. Demonstrate piezo- electric effect? Explain with a neat circuit, the generation of ultrasonic using a piezo- electric oscillator.

PART B - ENGINEERING CHEMISTRY
(Candidates admitted under 2021 Regulations-SCBCS)

Time : 1 1/2 Hours

Maximum Marks:50 Marks

Answer **ALL** questions
Part-A (5 x 2 =10 Marks)

- 1 What is EDTA? Write its structure?
- 2 How calgon conditioning is superior than other methods?
- 3 Define electrochemical series.
- 4 State pilling bed worth rule.
- 5 Recall cetane number.

Answer **Any FIVE** questions
Part-B (2 x12 =24 Marks)

- 6 a. How is exhausted resin regenerated in an ion-exchanger? What are merits and demerits of ion-exchange method?

OR

- b. List out the various water quality parameters for the drinking water.

- 7 a. Discuss about electrochemical series and their applications.

OR

- b. What is power alcohol? Explain its manufacture, properties of power alcohol.

Answer **ALL** questions
PART-C (1 x 16 = 16)

- 8 a. How is internal treatment of boiler water carried out using phosphate, Carbonate, Sodium aluminate and calgon conditioning?

OR

- b. Explain Otto-Hoffman's by product oven method for manufacture of metallurgical coal.
