(6 Pages) **Reg. No. :** .....

Code No. : 10219 E **Sub. Code : GMZO 61**

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Zoology — Main

APPLIED BIOTECHNOLOGY

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. The separation of social suspended particles from the sewage is ————————

   (a) Screening

   (b) Sedimentation

   (c) Recycling

   (d) Land farming

2. The use of natural or transgenic plants for environmental clean up is ————————

(a) Bioremediation

(b) Biomining

(c) Phytoremediation

(d) None

3. The development of adventive roots and shoots directly from the callus is ————————

(a) Embryogenesis

(b) Organogenesis

(c) Plant regeneration

(d) Callus culture

4. ———————— is the cold tolerance fish

(a) Zebra fish (b) Goldfish

(c) Salmon fish (d) Meduka fish

5. Which one is the index of growth rate constant of the culture?

(a) K (b) N

(c) X (d) Z

6. (CH_2) – CH_3 with side chain-R belongs to the penicillin ————————

(a) Penicillin K (b) Penicillin F

(c) Penicillin G (d) Penicillin X

7. Beta galactosidase in synthesised from ————————

(a) Bacteria (b) Fungi

(c) Yeast (d) All of these

8. If antibodies are used in an affinity sensor, the sensor is known as ————————

(a) Thermal biosensor

(b) Optical biosensor

(c) Immuno sensor

(d) Immobilized cell biosensor

9. The separation of mRNA from a sample is carried out by ————————

(a) Northern blotting

(b) Southern blotting

(c) Western blotting

(d) None

10. When was the first bio-weapon used?

(a) 1763 (b) 1797

(c) 1875 (d) 1944

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Brief waste water treatment by primary treatment.

Or

(b) Give an account on bioteaching.

12. (a) Write a note on nod and nif genes.

Or

(b) Give an account on sub-culture of callus.

13. (a) Write notes on airlift biorectors.

Or

(b) Brief the commercial products obtained from bioprocess technology.

14. (a) Write the nomenclature of enzymes based on substrate and also based on reaction.

Or

(b) Write enzyme biosensor and its principle.

15. (a) What is meant by human genome project and list its goals?

Or

(b) Write an account on gene therapy for cancer.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Waste water treatment using secondary treatment with special focus on anaerobic filters.

Or

(b) Explain in detail about the super bug and its application.

17. (a) Explain in detail somatic hybridization technique.

Or

(b) Enumerate in detail about the appliances required in a plant tissue culture laboratory.

18. (a) With schematic representation write the commercial production of penicillin.

Or

(b) Discuss the biotransformation of ethanol.

19. (a) Industrial application of microbial enzymes.

Or

(b) Explain the principle and types of biosensor.

20. (a) Write elaborately the major contributions of human genome project.

Or

(b) Write an essay on bio-Weapens.

———————