PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2023
(Sixth Semester)

Branch – **ZOOLOGY**

BIOTECHNOLOGY – II

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 1 = 10)

1. Small pieces of tissues excised from the body of an animal, for animal tissue culture are called
   (i) Explant culture (ii) Organ culture
   (iii) Cell culture (iv) all of these

2. Cell lines are also known as
   (i) Continuous cell lines (ii) Established cell lines
   (iii) Both A and B (iv) none of these

3. Erythropoietin is used to treat
   (i) Tumor (ii)Anaemia
   (iii) Diabetes (iv) Bleeding disorder

4. Molecular markers are used to construct the
   (i) Chromosome maps (ii) Cytogenetic maps
   (iii) Physical map of chromosomes (iv) All of these

5. Transgenic plants with BT toxin is a
   (i) Herbicide resistant plants (ii) Insect resistant plants
   (iii) Virus resistant plants (iv) Bacterial resistant plants

6. The explant noculte flasks are kept in a constant temperature room or incubator for a considerable time
   (i) Callus (ii) Plant regeneration
   (iii) Sub-culture (iv) Incubation

7. During cold storage, _____ is an ideal cryogen/cryoprotectant
   (i) DMSO (ii) PEG (iii) PEO (iv) Glucose

8. Vitamin B12 is first isolated from the
   (i) Liver cell (ii) Bone marrow
   (iii) Pancrease (iv) Spleen

9. *Bacillus coagulans* produced
   (i) Pencillinase (ii) Pencillin acylase
   (iii) Pullulanase (iv) α-Amylase

10. Polyacrylamide is mixed with an enzyme, which forms thread like matrix around the enzyme
    (i) Physical adsorption (ii) Encapsulation
    (iii) Enzyme entrapment (iv) Liposome entrapment

Cont...

SECTION - B (35 Marks)

Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

11. a) Comment on the primary cell culture.

OR

b) Write a note on dry air sterilization method.

12. a) List out the types of molecular markers.

OR

b) Point out the uses of VNTRs.

13. a) Describe about callus formation and enlist their requirements.

OR

b) Explain the major steps are involved for isolation of protoplast from enzymatic method.

14. a) What is cryopreservation? And state their advantages.

OR

b) Discuss about the basic design of typical fermenter.

15. a) Justify the Spirulina is a SCP and discuss their nutritional value.

OR

b) Elucidate the mass culture, processing and preservation of yeast.

SECTION - C (30 Marks)

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16. Give an account on animal bioreactor with suitable example and mention their application.
17. Write an essay on Transgenic animal and their advantages.
18. Give an account on stages of micropropagation techniques in plant tissue culture.
19. Explicate the cryopreservation of animal cell.
20. Enumerate the immobilization of enzymes and its methods to be adapted with neat illustration.

Z-Z-Z END