Reg. No.															

B.Tech. DEGREE EXAMINATION, DECEMBER 2023
Sixth Semester

18BTC203J – ANIMAL BIOTECHNOLOGY
(For the candidates admitted from the academic year 2020-2021 to 2021-2022)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

	Marks	BL	CO	PO
1. Identify the single locus marker (A) AFLP (B) RFLP (C) RAPD (D) DNA finger printing	1	1	1	1,2
2. When two unrelated animals are crossed, the performance of F_1 hybrid is often superior to both its parents. This phenomenon is termed as (A) Transformation (B) Heterosis (C) Splicing (D) Metamorphosis	1	2	1	1,2
3. Mule is a resultant of (A) Intraspecific hybridization (B) Inbreeding (C) Out breeding (D) Interspecific hybridization	1	1	2	1,3
4. In IVF, $PGF_2\alpha$ (A) Induce superovulation (B) Increase follicle size (C) Maintain oestrous (D) Synchronize oestrous	1	1	2	1,2
5. Which among the following is not an economic trait? (A) Aesthetic trait (B) Behavioral trait (C) Correlated trait (D) Reproductive trait	1	1	1	1,2
6. Mating between dam to son is referred as (A) Line breeding (B) Close breeding (C) Inter breeding (D) Intra breeding	1	1	1	1,2
7. Which syndrome is seen in salers breed? (A) Hypotrichosis (B) Alopecia anaemia (C) Betaman (D) Syndactyly	1	1	2	1,2
8. The transgenic animals are those which have (A) Foreign DNA in some of its cells (B) Foreign DNA in all its cells (C) Foreign DNA and RNA in some of its cells (D) Foreign DNA and RNA in all its cells	1	2	2	1,2

9. Accumulation of lactate leads to 1 1 3 1,2
   (A) Increase in pH (B) No change in pH
   (C) No loss in cell viability (D) Reduction in pH and loss of cell viability

10. Which of the cell line originate from a mouse embryo? 1 1 3 1,3
   (A) BTK (B) BHK
   (C) 3T3 (D) HeLa

11. The total number of cells were found to be 5.4×10^6 cells/ml. the culture is diluted in the ratio of 1:54 and form this, 100 µl is seeded per well in a 96 well plate. What is the final cell density per well? 1 2 3 3
   (A) 5.4×10^4 (B) 5.4×10^5
   (C) 1×10^4 (D) 1×10^5

12. In NHB 1 – 2, 2 refers to 1 2 3 3
   (A) Generation number (B) Passage number
   (C) Clone number (D) Cell strain

13. Which of the following confers passive immunity? 1 1 4 1,2
   (A) MMR vaccine (B) Hepatitis B vaccine
   (C) Infection with measles virus (D) Hepatitis B immunoglobulin

14. Which protein has been produced in a transgenic sheep that is used for replacement therapy for individuals at risk from emphysema? 1 1 4 1,2
   (A) t-PA (B) α-antitrypsin
   (C) Casein (D) Amyloid precursor protein

15. LSU is 1 1 4 1,2
   (A) Killed vaccine (B) Live vaccine
   (C) Conjugate vaccine (D) Subunit vaccine

16. Rabies is transmitted via _____ of the infected animal. 1 1 4 1,2
   (A) Blood (B) Faeces
   (C) Saliva (D) Urine

17. Which of the following is not a probiotic? 1 1 5 1,2
   (A) *Clostridium difficile* (B) *Clostridium perfringens*
   (C) *Bifidobacterium bifidum* (D) *Streptococcus thermophilus*

18. Which hormone induces mammogenesis? 1 1 5 1,2
   (A) Glucocorticoids (B) Thyroid
   (C) Progesterone (D) Somatotrophin

19. Which of the following is not a ruminant? 1 1 5 1,2
   (A) Cattle (B) Rabbit
   (C) Sheep (D) Deer

20. Methanogens that convert formic acid and CO_2 to methane are 1 2 5 1,2,3
   (A) Halophiles (B) Facultative anaerobes
   (C) Obligate anaerobes (D) Thermos acidophiles

PART – B (5 × 4 = 20 Marks)

Answer **ANY FIVE** Questions

		Marks	BL	CO	PO
21.	Enlist various methods of producing transgenic animal.	4	2	2	1,2
22.	Describe on the method of out breeding to improve the purity of a bread.	4	1	1	1,2
23.	Tabulate any four advantages and disadvantages of serum in cell culture.	4	2	3	3
24.	What are vaccines? Classify the vaccines for animal health.	4	1	4	1,2
25.	What are the various stages of lactogenesis?	4	1	5	1,2
26.	Highlight the importance of cryopreservation of embryos and its types.	4	2	2	1,2
27.	List any four ideal characteristics of probiotics.	4	2	5	1,2

PART – C (5 × 12 = 60 Marks)

Answer **ALL** Questions

		Marks	BL	CO	PO
28. a.	Describe in detail on marker assisted selection of farm animals for breeding.	12	2	1	1,2
	(OR)				
b.	Classify the selective breeding methods and elaborate on them.	12	2	1	1,2
29. a.	Delineate the steps involved in *in vitro* fertilization. Add a note on pregnancy diagnosis.	12	2	2	1,2
	(OR)				
b.	Elaborate on molecular farming with suitable examples.	12	2	2	1,2
30. a.	Illustrate various methods of scaling up of monolayer cultures with suitable diagrams.	12	3	3	3
	(OR)				
b.	Emphasize the role of cell culture in producing valuable products with a suitable example.	12	3	3	3
31. a.	Detail on the bacterial, viral and parasitic diseases of sheep / goat along with prophylaxis.	12	3	4	1,2
	(OR)				
b.	Articulate on DNA vaccine along with its mode of action.	12	3	4	1,2
32. a.	Devise methods to manipulate rumen microbial digestive system.	12	4	5	1,2
	(OR)				
b.	Justify probiotics as growth promoters.	12	4	5	1,2

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