BRAINWARE UNIVERSITY
Term End Examination 2018 - 19
Programme – Bachelor of Science (Honours) in Biotechnology
Course Name – GES: Zoology2: Animal Biotechnology
Course Code – BBT204A
(Semester –II)

Time allotted: 3 Hours **Full Marks: 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Question) 10 x 1 = 10

1. *Choose the correct alternative from the following*

(i) The technique used in animal biotechnology for the rapid multiplication and production of animals with desirable genotype is

a. Protoplast fusion and embryo transfer
b. Hybrid selection and embryo transfer
c. In vitro fertilization and embryo transfer
d. All of these

(ii) In humans, the baby produced by *in-vitro* fertilization and embryo transfer was popularly called as

a. *In-vitro* baby
b. Test-tube baby
c. Blue baby
d. All of these

(iii) Which of the following cells are adherent in nature?

a. Blood cells
b. Hepatocytes cells
c. Alveolar cells
d. Both b and c

(iv) Animal pharming can be defined as

a. growing animals for farming
b. programming animals to produce novel products
c. generating transgenic animals for farming
d. None of the above

(v) Transgenic goats have been used to produce which of the following protein that is used for dissolving blood clots?

a. Amyloid precursor protein
b. α_1-anti trypsin (AAT)
c. Casein
d. A variant of human tissue-type plasminogen activator

(vi) DNA into fish is injected into

a. Pronuclei
b. Cytoplasm
c. Both (a) and (b)
d. None of the above

(vii) Identify the disease that is not a canine disease where the animal should be placed in isolation

a. Leptospirosis
b. Kennel cough
c. Hepatitis
d. Calicivirus

(viii) Which of the following virus is not used in gene therapy?

a. Papillomavirus
b. Retrovirus
c. Adenovirus
d. Herpes simplex virus

(ix) Which of the following feature must be present in a cloning vector?

a. OriC site
b. Marker site
c. Restiction enzyme cut site
d. All of the above

(x) Which of the following(s) is (are) need for molecular docking software in finding the active site of protein?

a. POCKET
b. GRID
c. MMC
d. All of the above

Group – B

(Short Answer Type Questions) 3 x 5 = 15

Answer any *three* from the following

1. Explain in brief DNA microinjection? Describe its principle with a schematic diagram. 2+3
2. What do you understand by the term 'IVF'? Elucidate the limitations of IVF. 2.5+ 2.5
3. Enlists the different methods of gene transfer in animals. 5
4. Describe Transgenesis in plants and animals. 5
5. Explain briefly 'East Coast fever'. Elucidate the symptoms and treatment of Theileriosis. 2+3
6. What are the types of stem cells? 5

Group – C

(Long Answer Type Questions) 3 x 15 = 45

Answer any *three* from the following

7. (a) What technique should one adopt for embryo transfer? What is theileriosis? 6+2
   (b) What are the advantages and disadvantages of transgenesis? What are the difference between knock out and transgenesis? 4+3

8.	(a)	i) Describe animal cell culture? ii) Explain the techniques of animal cell culture. iii) Briefly describe the importance and limitations of animal cell culture.	2+3+4
	(b)	i) Explain artificial insemination in animals. ii) Describe the uses and risks of animal artificial insemination.	3+3
9.	(a)	Write short notes on Conservation biology.	5
	(b)	i) Explain the concept of molecular drug design. ii) Elucidate the mechanism and applications of molecular drug design.	4+6
10.	(a)	Enlist the various animal diseases.	3
	(b)	i) What is anthrax? ii) Explain the mechanism of pathogenesis. iii) Describe the symptoms and treatment of anthrax	2+2+2
	(c)	i) Explain the mechanism of pathogenesis for Foot and Mouth disease (FMD). ii) Highlight the symptoms and treatment of FMD.	3+3
11.	(a)	What are basic features of a vector? What is the difference between restriction enzyme type 1 and type 2?	3+3
	(b)	What is blue-white selection in cloning?	4
	(c)	What are advantages and disadvantages of cloning?	5
