

ONLINE MODE

B.Sc.-M.Sc. INTEGRATED PROGRAMME (BIOTECHNOLOGY)
SEMESTER V, ONLINE EXAMINATION 2021
PAPER CODE - BBT-DSE2 TH
PAPER TITLE: ANIMAL BIOTECHNOLOGY

Time: Three Hours

Maximum Marks: 75

Attempt all questions. All parts of a question must be attempted in continuation. Start answer of a fresh question on a new page. Cite examples and draw labelled diagrams wherever necessary

Question No. 1

[15 × 1 = 15]

Select the right answer

- a. 95% transgenic animals are
 - a. sheep
 - b. rabbits
 - c. pigs
 - d. mice

- b. RFLP is.....
 - a. Restriction Fragment Length Polymorphism
 - b. Restriction Fragment Low Polymorphism
 - c. Rapid Fragment Length Polymorphism
 - d. Restriction Factor Length Polymorphism

- c. The Dolly sheep was produced in.....
 - a) 1983
 - b) 1995
 - c) 1996
 - d) 2000

- d. Which committee has been set to keep a check on GM research and GM products?
 - a) IARI
 - b) GEAC
 - c) NCCS
 - d) AIIMS

- e. Various measures taken to prevent any risks to normal organisms from transgenic organisms are known as.....
 - a) biosafety
 - b) patent
 - c) bio-patent
 - d) bio-piracy

- f.in 1983 used recombinant DNA technology to produce insulin.
- a) Eli Lilly
 - b) Emily Lilly
 - c) Lilly Rose
 - d) Amy Sanger
- g. Transgenic goats have been used to produce the protein used to dissolve blood clots for ...
- a) Amyloid precursor protein
 - b) α 1-antitrypsin (AAT)
 - c) Cascin
 - d) A variety of human tissue type Plasminogen activator
- h. The first vaccine developed from animal cell culture was for _____.
- a) Hepatitis B
 - b) Influenza
 - c) Small Pox
 - d) Polio
- i. FISH stands for
- a) Fluorescence in situ hybridization
 - b) Fish in situ hybridization
 - c) Fluorescence ex situ hybridization
 - d) Flourish in situ hybridization
- j. First transgenic animal cloned for mastitis disease resistance was
- a) Pig
 - b) Cow
 - c) Buffalo
 - d) Goat
- k. BPV vectors contain
- a) BCG
 - b) Bovine papilloma virus protein
 - c) Bovine papilloma virus transforming region
 - d) Viral capsid
- l. The delivery of DNA in to cells using liposomes is called.....
- a) Liposome analysis
 - b) Lipoadhesion
 - c) Lipoinfection
 - d) Lipofection
- m. FMD virus classified under the family
- a) Poxviridae
 - b) Caliciviridae
 - c) Picornaviridae
 - d) Togaviridae

- n. Which protein is produced by transgenic goat?
- a) Human coagulation factor IX
 - b) Alpha-1-antitrypsin
 - c) rhLf
 - d) Factor IX and VIII
- o. Interferons are.....
- a) antibiotics
 - b) antivirals
 - c) antifungals
 - d) anti-protozoans

Question No. 2:

Answer any TWO of the following

[2 × 7.5 = 15]

- A. Describe different steps involved in the embryonic stem cell transfer with its applications.
- B. Describe different components of retroviral transfection system. Compare 2nd and 3rd generation retrovirus systems.
- C. Give a list of reporter or marker genes used in gene transfers in animal cells.
- D. Mention similarities and differences between Embryonic and Adult stem cells

Question No. 3:

Describe any TWO of the following

[2 × 7.5 = 15]

- A. Application of biotechnology to the control of foot-and-mouth disease.
- B. Application of biotechnology for the diagnosis and control of coccidiosis.
- C. Genetically Modified Pigs for Xenotransplantation.
- D. Knockout mice Vs transgenic mice.

Question No. 4:

Answer any TWO of the following

[2 × 7.5 = 15]

- A. Discuss the applications of embryo transfer technology.
- B. Describe artificial cloning of domestic animals.
- C. How would you cryopreserve hematopoietic stem cells?
- D. What do you understand by de-differentiation? Cite with a specific example.

Question No. 5:

Answer any TWO of the following

[2 × 7.5 = 15]

- A. Write a note on ethical issues related to transgenic animal production.**
- B. Discuss the molecular farming.**
- C. Describe the gene therapy method used for ADA-SCID with illustration.**
- D. Discuss different types of vectors used in gene therapy.**

***It should be noted that 60 minutes extra time will be provided to scan your answer sheets, build a PDF and upload it on E-mail:
biotechnologyexam2020@gmail.com***