

PAPER-1 ANIMAL BIOTECHNOLOGY

SEMESTER-IV, INTERNAL-I

- 1) Green biotechnology applied to [a]
a) Agricultural b) Industry c) Medicine process d) None of the above
- 2) Father of Biotechnology [b]
a) Louis Pasteur b) Karl erekey c) William Harvey d) Edward Jenner
- 3) Spermatogenesis takes place in [a]
a) Seminiferous tubules b) germinal cells c) Testis d) None
- 4) Biological material materials are preserved at _____ temperature [c]
a) 80⁰C b) 45⁰C c)-196⁰C d) 100⁰C
- 5) Cryoprotectant have [c]
a) Low molecular weight b) high solubility c) a & b d) None
- 6) Micro injection method was developed by [a]
a) Jordon & Ruddle b) Pasteur c) a & b d) None
- 7) First transgenic animal is [a]
a) Rat b) Cow c) Super mouse d) None
- 8) Transgenic fish is obtained by [c]
a) SCNT b) Retroviral method c) Micro injection d) None
- 9) Enzyme produced in salivary gland of pig [a]
a) Amylase b) phytase c) Lipase d) None
- 10) Dolly the sheep was born on [d]
a) 5th July 1996 b) 8th September 1997 c) 19th August 1996 d) 20th December 1996
- 11) What is the primary role of genetically modified animals in research? [c]
a) To produce pharmaceuticals b) To improve food quality
c) To study disease mechanisms and develop treatments d) to create sustainable agriculture
- 12) What is the process of introducing foreign DNA into an organism called? [c]
a) Cloning b) Gene editing c) Transfection d) Transgenesis
- 13) What is the purpose of using recombinant DNA technology in animals? [d]
a) To clone animals b) To produce genetically modified organisms
c) To enhance disease resistance d) All the above
- 14) What animal was the first mammal to be cloned successfully? [b]
a) Dog b) Sheep c) Mouse d) Cow
- 15) Which of the following is an application of animal biotechnology in medicine? [c]
a) Production of GM crops b) Cloning pets c) Development of vaccines d) Generating biofuels

- 16) What is the purpose of animal cloning? [a]
a) To create identical copies of an organism b) To alter the genetic code of animals
c) To produce hybrid species d) to increase biodiversity
- 17) Which cloning technique is used to clone the whole organism? [b]
a) Therapeutic cloning b) Reproductive cloning c) DNA cloning d) Gene cloning
- 18) Which technology is used for monoclonal antibody production? [b]
A) DNA fingerprinting b) Hybridoma technology c) r DNA technology d) Gene cloning
- 19) Dolly-the sheep was cloned by which technique? [d]
a) Embryo splitting b) Embryo twinning c) Genetic engineering d) Somatic cell nuclear transfer
- 20) The Latin word **yacca** means? [d]
a) Bull b) Buffalo c) Camel d) Cow

II. Fill in the Blanks.

- 1) **Dolly** is the first transgenic Mammal.
- 2) White biotechnology is applied to **industrial processes**.
- 3) At the end of spermatogenesis **four** sperms are formed.
- 4) The cytoplasm of the oocyte is rich in **yolk**.
- 5) **ICSI** Process involves direct injection of sperm into eggs.
- 6) **Louis brown** was the 1st child successfully born by IVF treatment.
- 7) SCNT **Somatic cell nuclear transfer**.
- 8) Transgenic cow are made to produce **human** protein in milk.
- 9) **Glycerol** is used as cryoprotectant for the storage of blood cells.
- 10) **Rewarming** is the process of warming the biological samples.
- 11) The middle piece of sperm is formed by cytoplasm and **mitochondria**.
- 12) FSH stands for **Follicle stimulating hormone**.
- 13) **Haemocytometer** is use for quantification of the cells.
- 14) Continuous cultures are considered **immortal** in culture.
- 15) Cell separation also commonly referred to as **cell sorting**.
- 16) Fuse enriched plasma cells with myeloma cells to produce **hybridomas**.
- 17) IVF stands for **Invito fertilization**.
- 18) ICSE stands for **Intra cytoplasmic sperm injection**.
- 19) Lower portion of the egg called as **vegetal pole**.
- 20) Progesterone secreted by **corpus leutem**.

III. Answer the following questions.

1) Cloning?

A - It is the process of creating a genetically identical copy of an organism or cell.

2) IVF?

A - In vitro fertilization involves fertilizing an egg outside the body and then implanting embryo into women uterus.

3) Cryopreservation?

A - It is the process of preserving biological material at low temperatures to maintain its viability for future use.

4) Transgenesis?

A - Process of introducing a foreign gene into the genome of organism to produce transgenic organism.

5) SCNT?

A - Technique where nucleus of somatic cell is transferred to an enucleated egg cell.

6) Seed bank?

A - It stores seeds as a source for planting in case seed reserves are destroyed.

7) Viability?

A - Percentage of total cells in the isolated sample those are live.

8) Slow freezing method?

A - Tissue is slowly frozen at a slow cooling rate of 5 degree per minute.

9) Thawing?

A - It is usually carried out by plunging the frozen samples into a warm water temperature bath.

10) Cell culture?

A - It is a process by which cells are grown under controlled conditions.