

Roll No. ....

**ZO-552**

**Animal Biotechnology**

M. Sc. Zoology (MSCZO-12)

Second Year, Examination, 2018

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

**Section-A**

**(Long Answer Type Questions)**

**Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Describe in detail about the positive and negative aspects of biotechnology for human welfare.
2. Name some biotechnologically important micro-organisms. Explain in detail, about the use of micro-organism in waste water treatment.

**(B-73) P. T. O.**

3. Describe about animal cell line and animal tissue culture. Explain in detail about the different steps involved in preparation of media for animal cell culture.
4. Explain in detail about the procedure involved in degradation of plastic by biological means.

### Section-B

#### (Short Answer Type Questions)

**Note :** Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. What are stem cells ? Explain their uses.
2. What is *in-vitro* fertilization ?
3. How is biotechnology can be used for agricultural advancement ?
4. What are cell lines ? Explain the method for cell line propagation.
5. What is laminar air flow ? Explain its uses.
6. Name different enzymes and their uses in agricultural and food industry.
7. What is DNA fingerprinting and its uses in forensic science ?
8. What is vermicompost ? Define its uses in agriculture.

### Section-C

#### (Objective Type Questions)

**Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

1. Which of the following would be considered differentiated ?  
(a) Blastomere

- (b) Fibroid tissue
  - (c) Myotome of the cell
  - (d) Muscle cell
2. What structure exchange nutrients and waste between the mother and embryo ?
- (a) Amniotic sac
  - (b) Toxima
  - (c) Placenta
  - (d) Umbilical cord
3. Which bacterium is capable of withstanding does of radiation that are several times higher than human cell can tolerate ?
- (a) *S. aureus*
  - (b) *Deinococcus radiodurans*
  - (c) *Escherichia coli*
  - (d) *Sachraromyces cerevisiae*
4. Which is not an indigenous microbe used for bioremediation ?
- (a) *Piscirickettsia salmonis*
  - (b) *E. coli*
  - (c) *Phanerochaete sordid*
  - (d) *Pseudomonas aeruginosa*
5. Which of the following condition is used for sterilization of glasswares in autoclave ?
- (a) Boiling at 110°C
  - (b) 121°C, 15 psi, 20 min.
  - (c) 190°C, 1 hr. any pressure
  - (d) Simply boiling in water

6. Cancer cells are :
  - (a) BHK
  - (b) Vero
  - (c) H 1-8
  - (d) Hela cells
7. Reason of lung cancer is :
  - (a) Coal mining
  - (b) Cement factory
  - (c) Air pollution
  - (d) All of the above
8. A patient is suspicious of having breast cancer. Which type of test Willa physician conduct to diagnose the cancer ?
  - (a) Blood cell
  - (b) Pap test
  - (c) CT scan
  - (d) Mamography
9. Which one was first cloned animal ?
  - (a) Snake
  - (b) Sheep
  - (c) Elephant
  - (d) Dog
10. Which of the following gene is involved in the conversion of proto-oncogenes into oncogenes causing cancer ?
  - (a) metastatis gene
  - (b) angiogenesis genes
  - (c) transposons
  - (d) tumour suppressor genes