

S-724

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. What is in-vitro fertilization ? Describe its methodology and applications.
2. What are transgenic plants ? Describe different ways of their production.
3. What is animal cell culture ? Describe different steps for preparation of cell culture media. Explain uses of animal cell culture for mankind ?
4. Discuss the roles of different enzymes in food industry.

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 ? Describe its role in health science.
2. What is bioremediation ? What are its uses ?
3. What is cancer ?
4. What is PCR ? Describe its applications.
5. What is animal tissue culture ? What are its benefits ?
6. What is vermicompost ? How are plastics degraded with help of microbes ?
7. What are tumour cells ? Describe their properties.
8. How do microbes help in our day today life ?

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.

Choose the correct alternative :

1. The direct DNA uptake by the protoplast is stimulated by the chemical :
 - (a) Cellulose
 - (b) Sucrose
 - (c) PEG
 - (d) Mannose
2. Lycopene is an important antioxidants normally present in high levels in :
 - (a) Soyabean

- (b) Orange
 - (c) Tomato
 - (d) Capsicum
3. Which of the following bacteria is called as superbug could clean up oil spills ?
- (a) *Bacillus subtilis*
 - (b) *Pseudomonas putida*
 - (c) *Pseudomonas denitrificans*
 - (d) *Bacillus denitrificans*
4. Disintegration of cells can be achieved by :
- (a) Physical disruption
 - (b) Enzymatic digestion
 - (c) Treating with chelating agents
 - (d) All of the above
5. Accumulation of lactate leads to :
- (a) Increase in pH
 - (b) No change in pH
 - (c) Reduce in the pH of culture hence loss of cell viability
 - (d) Loss of cell viability
6. The solidifying agent normally used in culture media is :
- (a) Agar
 - (b) Silica gel
 - (c) Agar and silica gel
 - (d) None of the above

7. Cell size and cell number can be measured using :
 - (a) Hemocytometer
 - (b) Coulter counter
 - (c) Petroff housser counting chamber
 - (d) None of the above

8. The first transgenic animal was :
 - (a) Sheep
 - (b) Monkey
 - (c) Snake
 - (d) Elephant

9. Which of the following is not a source of stem cell ?
 - (a) Early embryo
 - (b) Sperm and eggs
 - (c) Certain adult tissue
 - (d) Umbilical cord blood

10. In a developing embryo stem cells can differentiate into :
 - (a) Ectoderm
 - (b) Mesoderm
 - (c) Endoderm
 - (d) All of the above