F.Y.BSc.

Semester I Examination

Zoology Paper II

USZO102

VCD - 28/11/19

Course II

All Questions are compulsory.
Figures to the right indicate full marks.
Draw neat and labelled diagrams wherever necessary.

Time: 3 hours **Total marks: 100**

Q.1. a) Fill in the blanks. **(5 Marks)**

1. Temperature is one of the basic physical quantities of _____. (Celsius, Kelvin, thermodynamics, freezing point)
2. The term biotechnology was coined by _____. (Karl Ereky, J.P.Christine, William Kelvin,Mikhail Tswett)
3. DNA fingerprinting is also called as _____(DNA profiling, cloning,electrophoresis,forensic science)
4. _____ is the Planck's constant. (°C, h, K, %)
5. _____ is used to make gel in PAGE.(Acrylamide,Agarose, Calcium carbonate, Water)

b) Match the column **(5 Marks)**

1. Activity coefficient	a. Compound microscope
2. Objective lens	b. Chymosine
3. Recombinant renin	c. Most frequent value
4. Mode	d. Nuclear transplantation
5. Cloned animals	e. pH meter

c) Write true or false **(5 Marks)**

1. The molar unit is one of the most frequently used chemical unit of measurement.
2. Corrosive chemicals can be handled with bare hands.
3. Transgenic salmon is produced by overproduction of Growth hormone.
4. Dolly was first cloned sheep.
5. Gene therapy is used to treat SCID.

d) Give one word for **(5 Marks)**

1. Short stretches of DNA sequences repeated several times.
2. Proteins which are indicators of particular disease.
3. Technique used to transfer DNA to Nylon membrane.
4. Vaccines synthesized through genetic engineering.

5. Sampling done by dividing whole population in small clusters.

Q.2. A) Answer the following. (Any one) **(10 Marks)**

1. Decsribe in detail-any two safety symbols.
2. Define mean, median and mode and explain each with an example.

The observations of length (in cm) of 10 fishes are 26, 22, 37, 24, 29, 33, 19, 24, 36, 38. Calculate the arithmetic mean of fish length (in cm).

Q.2. B) Answer the following. (Any two) **(10 Marks)**

1. Define Normality. How would you prepare 1 litre of 2 N NaOH solution?
2. Personal hygiene in laboratory
3. Define and give conversions of the three scales of measuring temperature.
4. What is random sampling? State the significance.

Q.3. A) Answer the following (Any one). **(10 Marks)**

1. Explain various methods of transgenesis.
2. Give applications of Biotechnology in the field of animal husbandry and Fishery.

Q.3. B) Answer the following (Any two). **(10 Marks)**

1. In SCID which enzyme does not work properly?
2. Enlist five applications of DNA finger printing
3. What are green genes? State one application of it.
4. Define transgenesis and mention any two transgenic animals.

Q.4. A) Answer the following (Any one) **(10 Marks)**

1. Describe the components of a compound microscope giving function.
2. Explain the principle of centrifugation and add a note on its application.

Q.4. B) Answer the following. (Any two) **(10 Marks)**

1. Write the applications of Colorimeter
2. Explain applications of Agarose gel electrophoresis.
3. What is pH? Describe Applications of pH meter.
4. Describe Agarose gel electrophoresis

Q.5. Write a short note on (Any four) **(20 Marks)**

1. applications of compound microscope
2. Ethical issues in cloning
3. Scope of biotechnology
4. Chemical hazards in a laboratory
5. Biotechnology in medicine
6. Describe principle of colorimeter
7. Bar diagram
8. Recombinant DNA in Medicine