

Mid-West University
Examinations Management Office
Surkhet, Nepal
End Semester Examinations -2078

Bachelor level/ B.Sc / 5th Semester
Time: 3 hrs

Full Marks : 100
Pass Marks : 50

Subject : Cell Biology, Genetic and Molecular Biology (ZOO 453)

Candidates are required to give their answer in their own words as far as practicable. The figures in the margin indicate full marks.

Group – A

1. **Answer the short questions (any TEN)** [10x1=10]

- Define cristae.
- Explain Histone.
- Define trisomy 21.
- Define electrophoresis.
- Explain incomplete linkage.
- Define Haplodiploidy.
- Mention any two uses of Microscope.
- Which organelle is called "suicidal bag"? Why?
- What do you mean by Euchromatin?
- What do you mean by universal genetic code?
- Give the examples of XY linked inheritance.
- Where do you find the Paranemic coils?

Group – B

Answer in brief, any EIGHT questions [8x5=40]

- Discuss the structure and functions of golgi bodies.
- Write short note on lampbrush chromosome.
- Write short note on DNA sequencing.
- Define linkage along with its significance.
- Describe different types of gene mutations.
- Write short notes on albinism and Colour blindness.
- Outline the applications of electron microscopes or microscopy.
- Discuss on human genomics and microbial genomics.
- Write short notes on PCR-SSCP.
- Describe different types of lysosomes with their functions.

Group C

Long questions (Any Five) [5x10=50]

- Describe mechanism of crossing over mention its significance and factors affecting it.
- Explain Sex determination. How sex is determined in animals.
- Describe the structure and function of Deoxyribonucleic acid (DNA)
- Explain the structure and function of Mitochondria. Mention any four mitochondrial diseases.
- Define Sex cell division. Explain the Prophase I of Meiosis cell division.
- Define Polymerase Chain Reaction (PCR). Mention the steps of PCR process and highlight the application of PCR technology .

THE END