SH-V/ZOO-501/C-11/19

B.Sc. 5th Semester (Honours) Examination, 2019-20

ZOOLOGY

Course ID : 52611 **Course Code : SH/ZOO-501/C-11**

Course Title: Molecular Biology

Time: 1 Hour 15 Minutes **Full Marks: 25**

The figures in the right hand side margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable

1. Answer *any five* of the following: 1×5=5

(a) Write down the chemical names of adenine and cytosine.

(b) What is major groove?

(c) State the function of sigma factor.

(d) What is alternative splicing?

(e) State the function of photolyase.

(f) Differentiate between activators and repressors.

(g) What is Shine-Dalgarno sequence?

(h) What is DNA Probe?

2. Answer *any two* of the following: 5×2=10

(a) Briefly describe the process of NER. State the function of Mut S and Mut L. 4+1=5

(b) Describe the process of rho independent termination of transcription in prokaryotes. 5

(c) What is Post-transcriptional modification? How it is achieved in eukaryotes? 1+4=5

(d) Define insulator and mediator. State the function of guide RNA with suitable illustration. 1+1+3=5

3. Answer *any one* of the following: 10×1=10

(a) What is replication fork? What do you mean by bi-directional replication? Briefly describe the structure and function of DNA polymerase-III. 2+2+6=10

(b) What is negative repressible operon? How attenuation is achieved *E. coli*? What is the positive control of Lac Operon? What is gratuitous inducer? 2+4+2+2=10

———————