

2022**M.Sc.****2nd Semester Examination (CCAЕ)****ZOOLOGY****PAPER—ZOO-203***Full Marks : 40**Time : 2 Hours**The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.**Illustrate the answers wherever necessary.***ZOO-203.1 MOLECULAR BIOLOGY**

1. Answer any *two* questions : 2×2
- (a) What is the function of RNase H?
- (b) What do you mean by degeneracy of genetic code?
- (c) Draw primer : template junction in E.coli.
- (d) Differentiate COX II DNA and RNA.

(Turn Over)

2. Answer any *two* questions : 2×4

(a) For each of the following partial deploid genotype of *E.coli* state whether the structural genes are synthesized or inducible? Explain in each case.

(i) $\text{lac } p^- z^+ y^- / \text{lac } p^- z^- y^-$

(ii) $\text{lac } I^s p^+ o^c z^+ / i^- p^+ o^- z^+$

(iii) $\text{lac } i^{-d} p^+ o^+ z^+ / i^+ p^+ o^+ z^+$

(iv) $\text{lac } i^- p^+ o^+ z^- / i^+ p^- o^- z^+$ 1+1+1+1

(b) Why genetic code is universal? What is kozak sequence? 2+2

(c) How loaded helicases are activated in eukaryotic replisome?

(d) Mention the importance of G-U base pairs in RNA editing.

3. Answer any *one* question : 1×8

(a) Describe the mechanism of RNA editing with diagram in Trypanosomatid.

(b) How helicase loading and activation is regulated in eukaryote?

ZOO-203.2 PARASITOLOGY

4. Answer any *two* questions : 2×2
- (a) Distinguish between commensalism and mutualism with example.
 - (b) What is Glycocalyx? Mention its function.
 - (c) Write the distinctive features of blood fluke. What is Schistosomule?
 - (d) Enlist the cytoskeletal proteins found in trophozoite of Giardia. Mention the function of median bodies.
5. Answer any *two* questions : 2×4
- (a) Differentiate between classical and occult filariasis. What is Chyluria? 3+1
 - (b) Enumerate the ultrastructural features of Trematode tegument.
 - (c) "All vectors are carriers but all carrier are not vectors" — Explain. Write notes on Biological control of mosquito. 2+2
 - (d) Write notes on : Pathogenicity of lymphatic filariasis.

6. Answer any one question :

1×8

(a) Describe in brief the life cycle, pathogenecity and prophylaxis of *Paragonimus Westermani*.

5+2+1

(b) What are Hyperparasite? Give example. How microfilaria of *Wuchereria* differs from microfilaria of *Brugia*? What are biological incubation period and clinical incubation period?

2+3+3
