



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 2nd Semester Examination, 2019

ZOOACOR04T-ZOOLOGY (CC4)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.*

1. Answer any **eight** questions from the following: 2×8 = 16
 - (a) What is flip-flop movement?
 - (b) Give an example of biomolecules synthesized in peroxisomes.
 - (c) What is Viroid? Name one disease caused by it.
 - (d) Name one RNA virus and one DNA virus.
 - (e) What are cell cycle check points?
 - (f) State the differences between nucleoid and nucleus.
 - (g) What is Zonula Occludens? State its function.
 - (h) Name one microfilament and one microtubule with their function.
 - (i) Name two components of extracellular matrix (ECM).
 - (j) What is MPF? State its function.
 - (k) What are MTOC and Kinetochore?
 - (l) Write two functions of Mitochondria.

2. Answer any **three** questions from the following: 3×3 = 9
 - (a) Differentiate between light and gap junctions with proper diagrams.
 - (b) How DNA is packed in a nucleosome? What is a linker DNA?
 - (c) Write a note on endosymbiotic theory of organelles.
 - (d) Explain in brief how prions cause diseases with suitable examples.
 - (e) Differentiate between protooncogene, oncogene and tumour suppressor gene.

3. Answer any **three** questions from the following: 5×3 = 15
 - (a) Differentiate between lytic and lysogenic cycles of virus. Mention their importance as infections strategy. Give an example of viral oncogene. 3+1+1
 - (b) Differentiate between intrinsic and extrinsic pathways of apoptosis. Mention the functions of caspases in this process. 3+2
 - (c) Discuss briefly how proteins are synthesized, modified and secreted through GERL system. 5
 - (d) Discuss the role of cAMP as second messenger in cell signal transduction. 5
 - (e) Describe in brief the most accepted model of plasma membrane with a proper diagram. Name the scientist(s) who proposed the model. 2+2+1

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